World Asterisms Project

An Introduction to the Sky Cultures of the World

Volume One: World Asterism Handbook

Version 2025.6

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Dedication:

This handbook is dedicated to Nairn Robertson.

In August of 2015 the Sunshine Coast Centre of the RASC received a phone call from Tina Robertson. She told us her 19-year-old son Nairn had just been given a telescope by the *Make a Wish Foundation* (Meade LX90 10" Schmidt Cassegrain with all the accessories: about $4000 worth of observation gear). "Would you teach him how to use it," she asked? Nairn had not eaten in five years at the time of that call: he'd been fed through an intravenous drip. Since his 5th year Nairn's insides had been overproducing things that were damaging his innards.

Nairn was the most impressive young man. Always positive and motivated. Never a word of complaint, even though you *knew* he was constantly in pain. Always a smile on his face. His family had been told he'd not live beyond his 5th year. Nairn was a fighter: He wasn't going down without a fight. Nairn was an accomplished pianist and poet. Nairn was the best volunteer the animal rescue centre ever had. He was ardent about astronomy. The RASC gave Nairn a free membership.

Nairn not only learned to use the Meade LX 90, he became qualified to use the 16" Celestron EdgeHD Schmidt Cassegrain at our SCC Observatory. He was absolutely thrilled to be searching the skies on his own.

Then, a few months later… Nairn went back into Sechelt Hospital. We all thought, "It's just a setback. We'll get him back." Every month our Centre brought an astrophysicist or cosmologist to the Sunshine Coast to speak to our members and the public, and we told every one of them "You're not leaving the Coast until you've seen Nairn." We brought them to the hospital where they did presentations and discussions in his hospital room. Months passed. Nairn came out and tried to build up his strength to return to observing the skies.

But then Nairn went back into hospital. We received the news that Nairn was being sent to the University of Calgary to receive a transplant operation: They were going to transplant his entire intestines, this pancreas, and his spleen. We all held our breath… Nairn survived the operation, but this along with years of fighting this chronic condition finally proved too much. A few weeks later, exactly two weeks past Nairn's 20th birthday, he passed away.

We were honored to attend the family's First Nations memorial service. I got to hold the eagle feather and address the two First Nations present, telling them of Nairn's passion for astronomy, and our desolation at the loss of such a fine young man.

Nairn's family donated the telescope to the Sunshine Coast Centre. Nairn's telescope, bearing a memorial plaque, is available to youth visiting our observatory so that they can explore the skies and experience Nairn's passion.

A few years later, on the anniversary of Nairn's passing, we've learned that Nairn's uncle Dean got a star named for him. The star Nairn can be found at:

- RA 1h 21m 19.09s
- DEC +58° 19' 54.8"

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RASC World Asterisms Project:

Foreword:

It is my hope that this World Asterisms Project will eventually give the average member of the Royal Astronomical Society of Canada (and everybody else out there) access to all the world's sky cultures.

The RASC Inclusivity and Diversity Committee, which I cofounded in 2018 with Heather Laird, decided to take this project on in 2021. We knew that there were other perspectives of the sky out there. The Halifax Centre of the RASC had already been collaborating with the Mi'kmaq First Nations to create presentations on their sky lore. The RASC was already selling a Native Skywatchers Planisphere with Dakota/Lakota/Nakota, Ininew, and Ojibwe sky cultures. And so, in June 2021 I began digging through literature and the internet seeking those sky cultures, collecting research papers, textbooks, and observing logs. We started working with other First Nations to recover sky lore. So far, I've found over 17,000 asterisms from over 590 sky cultures, and I know that there are more out there.

When I started this project, the Royal Astronomical Society of Canada didn't have any sort of asterism observing program, and I realized that part of this World Asterisms List was going to be asterisms that could not be viewed with the unaided eye. I entered a discussion with RASC Observing Committee members, some of whom quickly responded that they liked telescopic asterisms. I understand this: I was introduced to telescopic asterisms like Kemble's Cascade and Brocchi's Cluster by Danny Sklazeski of the Sunshine Coast Centre of the RASC (who is a contributor to the lists in this handbook). Asterisms can be a lot of fun and are popular at outreach events. I started with a PDF listing 112 telescopic asterisms that someone had shared with RASC members years earlier which turned out to be an Astronomical League Asterism Observing Program from 2016. My RASC colleagues also gave me a short list of large-scale asterisms: I was assured that these were asterisms that "everyone in the world knows about" and I am sure that they believed it. I immediately recognized many of these asterisms, as over the years I'd seen my colleagues using them, and I'd used them myself. However, once I got a couple of weeks into the research that followed, I had some revelations about these initial lists. Some of the objects on this initial list were indeed found repeatedly in various forms in the skies of other cultures: Examples included Orion, the Square of Pegasus, the W of Cassiopeia, and the Fishhook of Scorpius. However, some of those supposedly ubiquitous asterisms only showed up in a handful of places, and *some didn't show up anywhere else*. At the same time, I noticed that there were asterisms not on that initial list that showed up *repeatedly* amongst the asterisms I found around the world. Some of these were in the southern hemisphere, and it became clear that original lists had been compiled by Western observers in the northern hemisphere who were unfamiliar with anything in the skies of the southern hemisphere. However, some of these global asterisms were from northern sky cultures and it was obvious that they were being either disregarded or dismissed for some reason.

My RASC colleagues will undoubtedly smile when they recognize some of these asterisms, but some will probably scratch their heads when other asterisms they expect to see there only show up once in the big list of all the world's asterisms. Some will probably also raise their eyebrows at some asterisms that they are not familiar with. One senior member of the RASC Observing Committee initially seemed overwhelmed when he realized the size and scope of this project as he thought that this was an "observing program" involving thousands of asterisms. "How can you say that you've observed them all?" he asked me. I explained that on this list of world asterisms you'll find ploughs, wagons, wains, carriages, carts, chariots, wheels, bears, bears being chased by hunters or animal predators, elk, camels, bison bulls, lizards, caribou, herons, coyotes, wolves, forelegs of bulls, loons, oxen, otters, broody hens with chicks, crustaceans, rabbit nets, salmon weir, backsides of snakes, big headed men, revolving men, men shot (for stealing snares), thieves, lost hunters, shepherds, oxherds, birth women,

blue women, brothers, sisters, girls, boys, sons, godmothers, grandfathers, spirits, buddhas, sages, boats, rowboats, canoes, rudders, canes, buckets, dippers, ladles, saucepans, butcher's cleavers, cactus hooks, cradles, bows and arrows, fishers, burning briars and shields and the one thing that all these asterisms have in common is that they are all the same seven stars in Ursa Major: The Big Dipper. People from different places on this planet see different things even if they're looking at the exact same thing you are because they come from different social, educational, and cultural backgrounds. This is an ethnoastronomical project, a cultural project, not specifically an observing project, though I would encourage the reader to view these stars to see if you can see the same patterns these people from other places on our planet have seen.

This World Asterism Project is a massive challenge involving many different languages, alphabets, dialects, translations (which don't necessarily agree with one another), and sources (which don't necessarily agree with one another). Some of the earliest sources date back to before we had archeologists (we called them antiquarians then) and certainly before anyone had thought of ethnoastronomy. Some of those early sources are obviously interpreting what they report through racist lenses. Their standards of reporting in those early days often left a lot to be desired, partially because their knowledge of the subject was limited, partially because their means of communicating their discoveries with each other was limited compared to what we have now, and partially because there were no standard star charts before the IAU standardized them in 1922. Some of my information comes from archeoastronomical research which mostly looks at solar, lunar, planetary and stellar alignments of structures and not necessarily at what the cultures that built those structures called these objects in the sky or what those stellar alignments represent: This can't be helped for the oldest structures, which date to prehistoric times. Some researchers can only report that a certain star, such as Sirius or Canopus, or a star cluster, such as the Pleiades, was in use as part of a culture's calendar, but not what the people who used it called it, nor whether they associated it with anything. Some researchers report tantalizing lists of names of asterisms but have no information at all on where these asterisms are in the sky: Sometimes this is because these peoples no longer remember their ancestor's skies. I have included all asterisms on my asterism list whether we can locate them in the sky or not: 308 at present. We hope that further research will lead to us filling in this missing information. As ethnoastronomical research continues, more discoveries will be made, and this list of asterisms will grow.

Many of the antique celestial charts depict the constellations as if viewed from outer space looking down at our Earth. Abd al Rahman al Sufi had charts depicting both the view from below and above in his *Book of Fixed Stars*, and this may have been an influence. Some include the geographic map as a background, making it even harder to separate out the constellations. Of course, this "outer space" view reverses the constellations, so to use it you must reverse the pattern in your mind to match it to the stars overhead.

We're trying to list all the different perspectives of the sky, what culture they came from (as precisely as we can) and if possible, who created or recorded them. It is a mistake to assume that you can trace sky lore in any culture back to some "golden age" when everyone in a particular culture agreed on what was in their sky. Such an age never existed at any time in history. In every age in every society that has ever been you've had differences of opinion and perspectives. Variations occur within cultures as storytellers and knowledge keepers with different styles pass on the stories from one generation to the next. You frequently see variations in the sky cultures within a given society, varying from location to location even though it is the same people. You only have to look at the history of the IAU constellations or the changing names of some of the star clusters and nebula out there to see this. Our skies are constantly

evolving as new perspectives are applied to it, and perspectives vary from place to place. You will find many examples below of how people used the sky to honor patrons or notable people which are not recognized in neighbouring lands, and which became obsolete when later generations rejected or replaced them.

I've done my best to list the descriptive names of each asterism alphabetically under an English translation that will make them accessible to most of the members of the RASC, along with whatever names given to them by the culture that used them. The exceptions are:

- Where I don't have an English translation, in which case I list the asterism alphabetically under the name I have from the culture that uses it, or
- Where the name of the asterism is the name of a place, person, figure, or being.

I've listed all these asterisms with their name in the original language and alphabet of that culture if I can find it along with any variations in spelling the names of these asterisms that I've encountered to enhance the reader's ability to find them. I have not grouped asterisms by sky culture because by listing them alphabetically by subject you can more easily see the themes that cross cultures. In each instance I do identify the sky culture where the asterism originated if I can: Sometimes these get passed along through different generations and cultures far beyond their point of origin. For the oldest asterisms we can only identify a culture that they came from. For the newest ones we can often identify the person who first described them. If I don't have a specific source, I just list the sky culture as "Western", because I know that amateur astronomers in modern Western cultures use it.

I do my best to organize the listings under each title in chronological order to make it easier to see how names and descriptions evolve.

Because most ethnoastronomical research papers and many older sources use the Bayer classification system to describe stars I've used this where possible. To make it easier for the reader who is not familiar with the Greek alphabet I've included the name of each star along with the Greek letter assigned to that star, so you don't have to find a table of the Greek alphabet to look it up: I've always been frustrated by having to find a table in a star chart to decipher Greek letters. Flamsteed is used where there is no Bayer classification, and where neither is applicable, I use the HIP and HD catalogues, and most recently the Gaia DR3. Recent additions from other sources such as the IAU's NameExoWorlds campaign do include some stars from other catalogues.

The tables for all these asterisms (see Volume 2) give their location in the sky (right ascension and declination). If the asterism is more than one star, I pick a central or brightest star as an easy location point. When I can, I describe in detail the stars and the lines they create or the expanse of dark nebulae that some of them are made up of to help the observer locate them. In a few cases, we know basically which IAU constellation the asterism resides in, but not precisely which stars are involved: In those few cases I list the IAU constellation(s) that they are to be found in.

Most of these asterisms are quite easy to find with the unaided eye in a dark sky, it is simply a matter of understanding how perspectives in other cultures make them appear different to those cultures. For example, to someone at my latitude (49˚ north), Orion can be interpreted as a human figure, but for those closer to the equator, Orion is often viewed from a sideways perspective relative to mine, and so many cultures at that latitude see this group of stars as a plough or a spear trap. People in the southern hemisphere orient themselves 180 degrees in the opposite direction to the way we do in the northern hemisphere, viewing the stars in the sky as moving from right to left rather than left to right as northern dwellers do. People in the southern hemisphere also do not have a polar star, so

everything in the sky moves. This results in quite different views of the sky: Not only different stars in each hemisphere but a “mirror image” of the sky when you compare the two hemispheres.

I have done my best to list the peoples of these sky cultures under the names that they would prefer to be known by and not some exonym assigned to them by colonial powers.

This is a massive undertaking and a work in progress as ethnoastronomers across the world continue to unearth new information and recover lost information. If a reader has corrections or additions, I welcome them.

Respectfully, Charles Ennis

RASC List of World Asterisms

An asterism is simply a pattern or group of stars in the night sky. The oldest depiction of an asterism is a representation of Orion on a mammoth ivory carving found in a cave in the Ach valley in Germany in 1979 which is believed to be 32,000 years old. The oldest collection of asterisms is a sky map in a cave in Armintxe, Spain, which archaeologists estimate to be between 12,000 and 14,000 years old and which depicts horses, ibex, bison, and a river. Some of the earliest written records of asterisms are recorded in the ancient Indian astrological text *Veddanga Jyotisha* (1400 – 1200 B.C.E.) and the MUL.APIN tablets of the Babylonians (c. 1000 B.C.E.).

The word "asterism" comes from the Greek "asterismos" ("marking with stars")", which is derived from their word for a star, "aster" and doesn't show up in the English language until the 1590s. Many cultures around the world identified asterisms in their skies, though some cultures in places like China and Korea used systems of hundreds of "official asterisms" instead (more on this below). In ancient times there was no distinct difference between asterisms and constellations in Classical skies: In his book *Naturalis Historia*, Pliny the Elder (23 – 79 C.E.) lists 72 asterisms, not constellations. Hipparchus (c. 190 – 120 B.C.E.) created a list of 48 constellations and Claudius Ptolemy (c. 100 – 170 C.E.) developed these in his *Mathēmatikē Syntaxis* (Μαθηματικὴ Σύνταξις; Latin *Syntaxis Mathematica*), later titled *Hē Megalē Syntaxis* (Ἡ Μεγάλη Σύνταξις, *The Great Treatise*; Latin: *Magna Syntaxis*). A 12th century Latin translation of an earlier Arabic translation of Ptolemy's work called the *Almagestum* or the *Almagest* listed these 48 constellations which eventually became some of the modern IAU constellations.

The word "constellation" is derived from the Latin word for star, "stella". The word *constellacioun* first appeared in English in the early 14th century, from the Old French *constillacion* ("conjecture of (planets)") and directly from the Latin *con* ("with", "together") + the past participle of *stellare* ("to shine", from *stella*, "star"). That entry was in Geoffrey Chaucer's *Wife's Prologue*, c. 1386: "I folwed ay myn inclinacioun/By vertu of my constelacioun." Chaucer also wrote *A Treatise on the Astrolabe* in 1391.

The difference between asterisms and constellations today is that constellations have become formally mapped out regions of the sky and all the celestial objects within that region. In 1922 the International Astronomical Union (IAU) adopted the 48 Ptolemaic constellations and another 40 that were created for the Southern hemisphere by astronomers and uranographers (celestial cartographers) such as Johann Bayer (1572 – 1625) and Abbé Nicolas Louis de Lacaille (1713 – 1762) for use in professional astronomy, and in 1928 the IAU adopted official constellation boundaries dividing up the entire sky. Those constellations are the constellations an amateur astronomer finds on a star map today. The IAU has a page describing these official constellations: https://www.iau.org/public/themes/constellations/

If you are new to astronomy, or if you are venturing into a hemisphere of our skies that you are unfamiliar with, or if you are unfamiliar with the genitive terms that I will be using to describe stars throughout this handbook, you will find all 88 IAU constellations and their locations in this list of World Asterisms.

One of the aspects of colonialism was a view that the people that had been conquered were "primitive" and that their views of the world and the sky were not scientific. The *African Heritage New Dictionary of Cultural Literacy* defines Cosmology as: *A system of beliefs that seeks to describe or explain the origin and structure of the universe. A cosmology attempts to establish an ordered, harmonious framework that investigates time, space, the planets, stars, and other celestial phenomena. In so-called primitive societies, cosmologies help explain the relationship of human beings to the rest of the universe and are therefore closely tied to religious beliefs and practices*. You'll find that the sky cultures that we describe

here are scientific if viewed from this perspective. There was a time when people in our Western culture were convinced that the Sun revolved around the Earth and actively persecuted anyone who believed anything different. We've since accepted that this is not the case, but we still don't completely understand many things about our universe and are constantly updating our theories. Examining the world's asterisms, you'll find this happening everywhere.

Asterisms and constellations are always snapshots of the culture that put them there. If you examine Ptolemy's 48 patterns from the *Almagest*, you'll see animals, mythological figures, and even scientific instruments (the triangle) that were familiar to his people in his time. If you examine the 40 additional constellations added in the 1920s by the IAU, you'll find air pumps, engraving tools, a compass, a sextant, a microscope, and a telescope, all of which were familiar to people of that time. As you read through the asterisms listed in this handbook, you'll certainly get glimpses into the culture of the peoples who put them there. To understand a people's skies, you must understand their culture. You need to understand what the basis of their existence is, how their societies work, how they feed themselves and defend themselves and get along in the world. Their sky cultures are a reflection of their society.

In ancient times before the printed page, people used the sky as:

- A calendar, and/or
- A divination system, and/or
- A navigational tool, and/or
- A weather prediction system, and/or
- A place to honor:
    - Their deities
    - Their ancestors, or
    - Their culture.

This is a practice that continues to this day.

Many of the official IAU constellations contain asterisms which are regularly used by amateur astronomers to navigate the night sky. In modern usage, asterisms do not have officially recognized boundaries or names and can often cross the boundaries of two or more IAU constellations or star clusters. For the purposes of this book, any time I refer to a constellation, it means one of these official IAU constellations unless otherwise stated. Between the 12th and early 20th century European astronomers often created new "constellations" to honor royalty or the achievements of notable persons: Unless these later became IAU constellations (and some did), I refer to these as asterisms as well. For some asterisms I use the name that culture uses to describe them, such as ziqpu (a Babylonian term), nakshatra (a Vedic term), gyukar (a Tibetan term) or xing guan (this being the Chinese term for their star patterns).

Ancient astronomy was conducted without telescopes. To the ancient astronomer asterisms were large-scale structures of bright stars that one could view with the unaided eye. Some of the larger scale asterisms can be easily identified across multiple cultures, such as the asterism known as the Big Dipper, the Wain, or the Plough in European cultures. Patterns of stars that we now call the constellations Ursa Major, Cassiopeia, Orion, Scorpius, Crux and Centaurus appear in the sky maps of multiple cultures, and I will go into this in much more detail below. These large-scale asterisms are very useful today to the beginning amateur astronomer as they provide markers in the sky that allow

them to “star hop” to objects such as globular clusters, nebulae, and galaxies (and even smaller asterisms).

With the advent of telescopes, astronomers started identifying patterns beyond the ability of the unaided eye to see them. Many asterisms visible to the unaided eye consist of stars within open star clusters, examples being the Pleiades cluster (Messier 45) and the Hyades cluster (NGC 2169). The difference between a star cluster and an asterism is that stars in a star cluster are all close to one another in space. An asterism is simply a pattern of stars where the stars may be aligned so that they appear to form a group, but in fact the stars may be greatly separated in space and unrelated. Some popular asterisms overlap star clusters. Some groups of stars were originally thought to be star clusters by early astronomers as their parallax measuring methods were not precise enough. Many of these star clusters have been downgraded to “asterisms” once the distances to the various stars were remeasured using more precise instruments utilizing satellites: I’m not going to list such asterisms on this list unless they have specific patterns that observers have identified and named.

With the advent of astrophotography, even more patterns were identified in the skies, and these discoveries of course generated a whole new series of telescopic asterisms with names.

One of the things that you’re going to discover using this handbook is that cultures the world over have viewed the same bright stars and have come up with different interpretations of what they saw. Over the years astronomers from different eras and cultures have repeatedly renamed asterisms, so many asterisms on my list are known by multiple names. Different generations within each culture came up with new names for the same patterns. For example, NGC 2301, an open cluster in the IAU constellation Monoceros discovered by William Herschel in 1786, became known as “Copeland’s Golden Worm” in the 19th century, named by English astronomer Ralph Copeland (1837 – 1905). Later, it became the “Great Bird” or “Sea Bird Cluster”. More recently, when fans of J. K Rowling’s *Harry Potter* series viewed the sky, it was renamed “Hagrid’s Dragon”.

If you are hoping to see exactly the same patterns in the sky that your ancient ancestors saw, I am afraid that you are in for a disappointment. There are three reasons for this.

The first is that ALL stars move. This isn’t something that you’re going to notice in your lifetime, because those movements on the vast scales involved appear to be quite slow. However, over thousands of years these movements become very noticeable. The patterns recorded in records like the Babylonian MUL.APIN tablets are simply not in those same locations today. There is a Korean star map, the Cheon-Sang-Yeol-Cha-Bun-Ya-Zi-Do, which was carved on stone in 1395 C. E. but was based on a map made 2,000 years earlier. It represents 1,467 stars in about 190 asterisms. Many of these star patterns no longer match up with the sky we view today. When and where the stars of IAU constellations appear in the sky changes over the years. For example: The stars of Hydra lay along the celestial equator 4,600 years ago, but now they are inclined more than 30 degrees away from the celestial equator. There are two parts to this:

One problem is precession: 7,500 years ago, the vernal equinox was in the IAU constellation Gemini, 4,500 years ago it was in the IAU constellation Taurus, and 3,000 years ago in the IAU constellation Aries. It moved from Aries to the IAU constellation Pisces about the time Hipparchus discovered the precession of the equinoxes. It recently moved to Aquarius. Axial precession causes the axis of the earth to describe a circle in the sky over 25,700 years, meaning that a succession of stars becomes the pole star, the 14 stars being:

- Alpha (α) Cephei (Alderamin) in the IAU constellation Cepheus
- Alpha (α) Cygni (Deneb) in the IAU constellation Cygnus

- Alpha (α) Draconis (Thuban) in the IAU constellation Draco
- Alpha (α) Lyrae (Vega) in the IAU constellation Lyra
- Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor
- Beta (β) Cephei (Alphirk) in the IAU constellation Cepheus
- Beta (β) Ursae Minoris (Kochab) in the IAU constellation Ursa Minor
- Delta (δ) Cygni (Fawaris) in the IAU constellation Cygnus
- Gamma (γ) Cephei (Errai) in the constellation Cepheus
- Iota (ι) Cephei in the IAU constellation Cepheus
- Iota (ι) Draconis (Edasich) in the IAU constellation Draco
- Iota (ι) Herculis in the IAU constellation Hercules
- Kappa (κ) Draconis in the IAU constellation Draco
- Tau (τ) Herculis in the IAU constellation Hercules

The other problem is relative proper motions. Ursa Major looked more like a bear 125,000 years ago. 4,000 years ago, Alpha (α) Boötis (Arcturus) was located near the center of the IAU constellation Boötes and not at its southern tip as it is now. Between the 4th and 2nd millennium B.C.E. Alpha (α) Draconis (Thuban) was the northern pole star. About 14,000 years ago Alpha (α) Carinae (Canopus) was within 10 degrees of the southern celestial pole. Today the southern pole star is Sigma (σ) Octantis.

Ethnoastronomers are constantly calculating the positions of stars in ancient skies to check out sight lines of ancient observatories or accounts of ancient asterisms. Your grandchildren's grandchildren are not going to be able to see the sky you are viewing today: They'll have fresh patterns to interpret.

The second reason is that the large-scale patterns in the sky that make up most of the reading in this book are no longer visible to many modern observers: Two thirds of the world's population can no longer see these stars from their location on Earth due to the local misuse of artificial light at night. Unless you seek out one of the shrinking dark sky areas on the face of the Earth or use some wide field optics and filters, you're simply going to be unable to see the fainter stars involved. For our own health and safety and the welfare of the denizens of ecosystems the world over, we need to change the way we use artificial light. Doing so would not only save us billions of dollars, but we'd also be able to clearly see those star patterns once more.

The third reason is the damaging effects of colonialism. Invaders tend to try to replace the culture of the conquered peoples with their own. It wasn't until very recently that efforts were made to recover Belarussian, Macedonian, Romanian, Basque, and Sardinian sky cultures. Residential school systems in North America were specifically designed to erase First Nations culture and language, and that included sky lore. It was only recently that much of the wayfaring knowledge of the Hawaiians and other peoples of the Pacific was recovered. Much of the sky knowledge of the Aztecs and Mayans was lost due to the efforts of Spanish conquest. Some conquerors and priests did create codices which recorded such knowledge and brought these codices back to Europe, but these codices were often disregarded and many lost. For example, the *Paris Codex* (*Codex Peresianus* or *Codex Pérez*), one of three pre-Columbian Mayan books dating to between 900 – 1521 C.E., was long forgotten until in 1859 the priest Leon Rosny found it in a chimney corner of the National Library of Paris: It had suffered substantial damage, and much was lost. As a result, some of the skies of the peoples I describe seem rather empty, and that may give you the impression that these people were unimaginative and didn't have much up there. This is not the case.

This corrosive colonial behaviour destroyed trust in these cultures for any outsiders, and this presents a challenge for ethnoastronomers hoping to record this knowledge. Many of these cultures are initiatory and the knowledge is not meant to be carelessly shared outside of the clan or tribe involved. Many of these peoples do not have anyone who can act as a spokesperson or knowledge keeper for their sky culture: Various elders have pieces of the puzzle, but no one has the whole story. Ethnoastronomers and researchers gather these pieces from these elders over the years and attempt to reassemble their lost skies. For example, we have the names of over 300 asterisms on this list but do not yet know precisely where they are located in the sky.

While I hold enormous respect for the sky-cultures that I describe in this handbook, I fully realize that my understanding of these hundreds of cultures and their stories or dreamlines is limited: It would take a lifetime's work to fully understand even a handful of these sky cultures. I do not presume to be able to present their stories as one of their knowledge keepers would. Mi'kmaq elder Albert Marshall created the learning concept of "Etuaptmumk" or "Two-Eyed Seeing" in 2004. This is learning to see using the strengths of both cultures. The RASC Halifax Center has for many years developed a working relationship with the Mi'kmaq peoples using this "Two Eyed-Seeing" approach: The astronomers of the Halifax Centre tell the public about the stars involved, and the Knowledge Keepers of the Mi'kmaq tell their stories of the asterisms. Following their lead, while I describe the stars involved in these asterisms in this handbook and give as many details as possible of what they are seen to be and what names they are known by, I do not attempt to give more than a few details of what stories lay behind these asterisms. For the stories you must go to the internet and seek out the stories told by their Knowledge-Keepers, many of which are available on YouTube, or the websites of the cultures involved. Volume Three, the *World Asterism Sky Cultures Resource List*, will be useful in giving you access to many of these. If these cultures don't have knowledge keepers or spokespeople to present these sky cultures at present, it is my hope that this World Asterisms Project will help them to recover their sky cultures and that someday someone will step in to become the caretaker of their sky knowledge and act as a spokesperson. Until that time, I'll do the best I can to be a steward of this information.

All cultures have their own names for the stars, and throughout this handbook you'll see me repeatedly using the modern translations of the 1025 Arabic names for stars that one sees on modern star maps. Many of these names were corrupted when translated from Arabic into Latin in the early 12th century, sometimes extremely. This often changed their meaning or left the name meaningless. Other names were mistakenly transferred from one star to another, so that a name might now refer to a different Greek or Arabic constellation entirely rather than the one of the star's origins. For example, we have no idea whether Betelgeuse is the original name of the star that currently bears that name in the IAU constellation Orion, and we don't even know for sure how it is meant to be spelled or even pronounced (I've seen four different opinions on pronunciation). It wasn't until 2015 that the International Astronomical Union created a Working Group on Star Names to standardize names in common use for stars: This had to happen as not only were many of those traditional names associated with multiple star systems, but more and more exoplanets were being discovered and people wanted names for them. This led to their creation of the NameExoWorlds Campaign in which they assigned each country of the world a star with only a catalogue name which had a confirmed exoplanet and asked them to name these. This resulted in a wonderful collection of themed names. I have included all the official IAU star names in this list and if that star has a named exoplanet, that name is listed under the listing for that star.

This is a list of asterisms, not a star catalogue. That said, many of these sky cultures involve story lines or dream lines which involve collections of asterisms of all sizes and include individual stars. Some sky cultures use few, if any, "connect-the-dots" asterisms and rely on individual named stars to tell their

stories. As the entire pattern of asterisms in each grouping is also a pattern with a particular theme or story, and as the names of these stars are part of that pattern, representing characters or concepts in these stories, these single star names must be included.

Some cultures utilize asterisms exclusively, such as the Chinese, Koreans, and Japanese, whose asterisms have similar origins and resemble one another in shape, positions, and names, so I should take a moment here to describe how those systems work.

The earliest xing guans come from the systems created by Wuxian (巫咸) of the Shang Dynasty (16th century B.C.E. - 1046 B.C.E.), Gan De (甘德) and Shi Shen (石申) of The Warring States Period (475–221 B.C.E.). Chen Zhuo (陈卓) summarized the xing guans of Wuxian, Gan De, and Shi Shen in the Three Kingdoms period (220 – 280 C.E.). The earliest complete Chinese star map is the DunHuang star map (8th century). Pan Nai (潘鼐) restored the xing guans from the Xinyixiangfayao Star Map from the Song Dynasty in his *The History of Stellar Observation in China*. Qi Rui (齐锐) and Wan Haoyi (万昊宜) also restored the xing guans of the Song Dynasty in the book *Roving China Heavens.* The xing guans listed below for the 3 Kingdoms to Ming Dynasty are from the Huangyou star map of 1052 C.E.

The Chinese kept detailed observations of the sky prior to the 18th century, when Western astronomy brought into China by Catholic missionaries such as Ferdinand Verbiest (1623 – 1688) began to be adopted instead. The Chinese use asterisms they call xing guan (Chinese: 星官; pinyin: xīngguān). The 300 Chinese xing guans I have listed under the plain heading “Chinese” come from Yixiangkaocheng (Chinese: 儀象考成; pinyin: yíxiàngkǎochéng), an imperial record of astronomy finished in 1756, which is the major reference to the traditional Chinese xing guans and star names used today. The difference between a xing guan and a constellation is that while constellations define areas of the sky, a xing guan only refers to a pattern of stars. Unlike asterisms, xing guans have official status in Chinese sky lore.

The Chinese named stars by combining the name of their xing guan with a number, usually reflecting the star's position within this Xingguan. When fainter stars were observed with better instruments in the era of Yixiangkaocheng, they were named by combining the name of the xing guan this star was nearest to with an augmentation number. Yixiangkaocheng lists 3,083 stars. Although modern Chinese astronomers now use IAU constellations, traditional Chinese star names are still in common usage today, even more common than Bayer/Flamsteed designations.

The number of Xing guan varies in different eras of Chinese history. New Xing guans were made when fainter stars were observed, and some old Xing guans were abolished when the pattern could no longer be observed (mainly due to proper motions). The earliest xing guan system is that created by the 3rd century astronomer Chen Zhuo (陈卓). He linked the Shi’s, Gan’s and Wuxian’s Xing Guans into one Xing Guan System of 1464 stars and 283 Xing Guans.

The four Xiangs (象, “view”, “show”, “appeared”) are large xing guans representing mythical animals:

- Zhuque (朱雀), a red bird or phoenix representing the power of fire, the south, the back, and the summer.
- Xuanwu (玄武), a combination of snake and turtle, representing the darkness, the power of water, the north, the front, and the winter.
- Qinglong (青龙), the blue dragon, representing the east, the right, and the spring.
- Baihu (白虎), the white Tiger, representing the west, the left, and the autumn.

Korean asterisms first appear in the *Records of the Grand Historian* (史記) in the Han dynasty describing the Xia dynasty in about 2000 B.C.E. The Cheon-Sang-Yeol-Cha-Bun-Ya-Ji-Do star map of the Chosun Dynasty, carved in stone, depicts the sky between the 1st centuries B.C.E. and C.E.

The Korean asterisms are organized into three won (三垣; 3 borders) and 28 su (二十八宿, that is, 28 asterism groups). The three won have 3 "villages" (or "cities") which contain each group of asterisms:

- TaeMiWon (太微垣; Big low border): 19 asterisms, 78 stars.
- ZaMiWon (紫微垣; Violet low-border): 37 asterisms, 165 stars.
- CheonShiWon (天市垣; Sky market border): 19 asterisms, 91 stars.

Their 291 asterisms and 1466 stars are divided into four groups related to deities of the cardinal points and each has 7 asterism groups:

- CheongRyong (青龍; blue-dragon, deity of east): 48 asterisms, 186 stars.
- Gaak (角): 11 asterisms.
- Haang (亢): 7 asterisms.
- Zeo (氐): 11 asterisms.
- Baang (方): 8 asterisms.
- Shim(心): 2 asterisms.
- Mi(尾): 6 asterisms.
- Ki(箕): 3 asterisms.
- BaekHo (白虎; white-tiger, deity of west): 56 asterisms, 301 stars.
- Gyu (奎): 9 asterisms.
- Ru (婁): 6 asterisms.
- Wii (胃): 7 asterisms.
- Myo (昴): 9 asterisms.
- Pil (畢): 15 asterisms.
- Zaa(觜): 3 asterisms.
- Saam (參) 7 asterisms.
- ZuZak (朱雀; red-phoenix, deity of south): 46 asterisms, 240 stars.
- Zeong(井): 21 asterisms.
- Kui (鬼): 7 asterisms.
- Ryu (柳): 2 asterisms.
- Seong (星): 5 asterisms.
- Zaang (張): 2 asterisms.
- Ik (翼): 2 asterisms.
- Jin(軫): 8 asterisms.
- HyeonMu (玄武; black-turtle, deity of north): 66 asterisms, 405 stars.
- Duu (斗): 10 asterisms.
- Wuu (牛): 11 asterisms.
- Yeo (女): 8 asterisms.
- Heo (虛): 10 asterisms.
- Wii (危): 11 asterisms.
- Shil (室): 11 asterisms.
- Byeok (壁): 5 asterisms.

The earliest Japanese star map is the Kitora star map, painted between the 7th and 8th centuries C.E. The Japanese have lunar mansions like the Chinese and Koreans but did not adopt extensive systems of asterisms as the Chinese and Koreans did.

The Postclassic Paris Codex (755/6 C.E.) is the best evidence of thirteen Mayan "zodiacal" constellations. They also appear in the Madrid Codex, but not in a formal zodiacal sequence as in the Paris Codex. The following table shows how the Mayans paired constellations. There are three birds in this list of zodiacal asterisms, one of which is probably the muan bird ("bird 2"- a type of owl). There is one asterism whose identity is unclear. Note that these Mayan constellations are like the K'iche' ones and some are beyond the relatively narrow band of the ecliptic.

Date	**Dawn Set & Longest Visibility**	**Dawn Rise & First Visibility After Conjunction**
10 November	Rattlesnake (Pleiades)	Bird 1 (Libra)
8 December	Turtle (Orion)	Scorpion (Scorpius)
5 January	Muan Bird (Gemini)	Fish-Snake (Sagittarius)
2 February	Frog (Cancer)	Bird 3 (Capricorn)
1 March	Peccary (Leo)	Bat (Aquarius)
29 March	? (Virgo)	Skeleton (Pisces)
26 April	Bird 1 and ? (Libra and Virgo)	Ocelot (Aries)
24 May	Scorpion (Scorpius)	Rattlesnake (Pleiades)
21 June	Fish-Snake (Sagittarius)	Turtle (Orion)
19 July	Bird 3 (Capricorn)	Muan Bird (Gemini)
16 August	Bat (Aquarius)	Frog (Cancer)
13 September	Skeleton (Pisces)	Peccary (Leo)
11 October	Ocelot (Aries)	? (Virgo)

Asterisms range from simple shapes of just a couple of stars to much more complex collections of large numbers of stars and even asterisms nested within larger asterisms. Star clusters inside nebulae are an example of this. Many of the large-scale asterisms listed below consist of bright stars visible to the unaided eye of the observer in a dark sky, covering large areas of the sky above, while the small-scale asterisms listed below generally consist of stars of similar brightness viewed at the telescope eyepiece, making them stand out against a background of fainter stars. I've described all these asterisms, large and small scale, in detail below and listed their locations in Volume 2.

When exploring other sky cultures of the world one discovers that many of them, particularly those in the southern hemisphere, don't just include patterns of stars, star clusters, galaxies such as the Andromeda Galaxy and the Magellanic Clouds, and nebulae such as the Orion Nebula or Lagoon Nebula. They include dark or "empty" patterns of the sky. A telescopic example from Western culture is the Horse Head nebula (Barnard 33). An example from Arab culture is their manzil (moon station) Al-Baldah, which is the empty area of sky between their moon stations Al-Naayem and Saad Al-Thabih (see Ostriches and Slaughter Prevailed, below). Many of the peoples of the Southern hemisphere use the Coal Sack Nebula beside the IAU constellation Crux in their sky lore. The Coal Sack Nebula did not appear in earlier catalogues such as the New General Catalogue (NGC) or Index Catalogues (IC), but it does appear in the Caldwell Catalogue of Sir Patrick Caldwell-Moore (1923 – 2012), as Caldwell 99, and it certainly appears in the sky lore of multiple cultures of the southern hemisphere. The Quechua of the central Andes identify dark clouds (yana phuyu) in the Milky Way as a snake, a toad, a tinamou, a mother llama with her baby, and a fox pursuing llamas and stars only appear in one of these (Alpha (α)

Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) being the mother llama's "eyes"). One way of looking at these "dark asterisms" is figures outlined against a background of stars, which makes them asterisms.

Many star clusters and nebulae such as the Lagoon Nebula (Messier 8) are visible to the unaided eye in a dark sky. Many of these have been named and some repeatedly. Some are star nurseries full of stars that form a part of the image which inspired the names they have been assigned, others are the remnants of novae that left a white dwarf and an interesting pattern which inspired a name. NOTE: Some star clusters and nebulae such as the Eta (η) Carinae nebula or Omega (ω) Centauri globular cluster have names descriptive of their location and not anything people might have imagined while viewing them. I don't include those names in this list of the world's asterisms. This is true for galaxies too: Most galaxies are telescopic asterisms. Quite a few are named for the IAU constellation that they are found in, and I don't include most of those types of names here. I do include those with such names that are visible to the unaided eye. All the galaxies with names that indicate a cultural influence are included in this list. I've included names of telescopic objects that were named for the persons who discovered them, as this is one of the purposes of asterisms: To commemorate people.

All the cultures that I describe below have their own names and stories for our Milky Way. I did not originally intend to list all those names: When I started putting together this list of world asterisms, I didn't think of something as large as our galaxy as an asterism. Then I discovered not only asterisms that cover the entire sky, like the Tailed Man of the Dene, but I discovered the aforementioned dark nebulae silhouetted against the Milky Way as well as discovering that the Milky Way was an inseparable part of the stories behind their asterisms alongside it. So, you'll find Appendix One dedicated to names for the Milky Way in this handbook, over 460 so far.

The world's sky cultures all have names and stories for the Sun, the Moon, and the planets, and those are listed in Volume 4 (*Solar System Objects Handbook*) and Volume 5 (*Solar System Objects List*). These are included in this fashion as although they are not asterisms, they are part of the stories and dreamlines of the sky cultures involved, and planets such as Venus were originally thought to be wandering stars. I include Lunar Mansions, Stations of the Moon, and Nakshatra in the first three volumes as they are all, of course, asterisms related to the Moon's passage across the sky.

Lunar Mansions, Stations of the Moon, Nakshatra, Ziqpu, and Zodiacs:

In the modern Western world familiar to the members of the RASC, we are used to a solar calendar with leap years to keep it in synchronization with the seasons and with a zodiac divided into twelve parts or signs related to time, each an IAU constellation located on the ecliptic.

The Chinese have a zodiac with twelve parts also, but their cycle corresponds to years, not months, and is represented by twelve animals, where in the modern Western zodiac only some of the constellations represent animals, despite the word zodiac coming from the ancient Greek zōdiakòs kýklos (ζῳδιακός κύκλος), meaning "cycle or circle of animals". The Chinese zodiac has been adopted in other cultures including Cambodian, Cham, Gurung, Japanese, Korean, Thai, Myanmar, Mongolian, Bulgar, and Vietnamese systems.

Each sign of the Chinese zodiac is linked to a month of the solar year, therefore also linked to a season. So, each Chinese lunar month can approximately be associated with one or more of the signs of the Western zodiac. However, these Chinese zodiacal signs are not asterisms, so you won't find them listed in this handbook.

Many of the world's sky cultures used lunar calendars as well or instead of the solar ones. This resulted in them mapping lunar stations in the sky to keep track of their lunar calendars. These lunar stations appear in multiple cultures around the world, including Chinese, Indian, Arabian, Cambodian, Persian, Thai, Manchurian, Japanese, Mongolian, and Egyptian sky cultures.

Babylonian star charts such as MUL.APIN list culminating asterisms called ziqpu stars ("upright stars"). These pass overhead in sequence during the night to serve as a timekeeping system. The Babylonian sky cultures also list asterisms which they described as "Gods who stand in the path of the Moon, through whose region the Moon during a month [passes repeatedly] and keeps touching them", which is a form of lunar stations. They also group asterisms and stars into Tikpi stars, Masu stars, and Lumasi stars.

The ancient Egyptians had a system of 36 decans (ˈdɛkənz; Egyptian bꜣktw or baktiu, "[those] connected with work"). These appeared first appeared in the 10th Dynasty (2100 B.C.E. on coffin lids and in The Fundamentals of the Course of the Stars, a text in the Orireion complex (New Kingdom, 19th Dynasty, Seti I, c. 1300 B.C.E.). These were asterisms used to divide the 360-degree ecliptic into 36 parts of 10 degrees each, both for theurgical and heliacal horological purposes. The decans each appeared, geocentrically, to rise consecutively on the horizon throughout each daily earth rotation. The rising of each decan marked the beginning of a new decanal "hour" (Greek hōra) of the night, and they were used as a sidereal star clock beginning by at least the 9th or 10th Dynasty (c. 2100 B.C.E.). Because a new decanic star group reappears in the eastern sky at dawn right before the Sun rises, the ancient Greeks called them dekanoi (δεκανοί; pl. of δεκανός dekanos) or "tenths". Prior to the Old Kingdom the Egyptians used a lunar calendar and if the heliacal rising of Sirius occurred in the last eleven days of the lunar calendar their priests added an intercalary month to bring the calendar back into synchronization with the solar calendar.

Thirty-six decans appear in the Dodekaoros system described by the astrologer Teucrus (1st century B.C.E.) and Byzantine astrologer Rhetorius (600 C.E.). This is a disk whose inner band has two concentric disks depict the sun (sol) as Apollo and moon (luna) as Phoebe. The outer band depicts the Greek zodiac, dividing the disk into 12 segments. This system appears in the *Daressy Zodiac* of the Roman Imperial Period, a marble plaque discovered by Georges Daressy in a Cairo antiquities shop in Cairo before 1901. On the *Daressy Zodiac* includes the Dodekaoros system, with each sign of the zodiac is divided into 3 paranatellonta, as well as twelve dodecatemories ("twelve memories"). The paranatellonta are non-zodiacal constellations that rise and set at the same time as zodiacal

constellations which could be used to keep track of time: This system appeared between 85 – 165 B.C.E. (Thompson 2019).

This Dodekaoros system also appears on the Planisphaerium Bianchini or Tabula Bianchini, named by 18th century Italian philosopher Francesco Bianchini: This is an astrological dicing board dating to the 3rd century C.E. This has five concentric circles, the innermost depicting the twelve animals of the Dodecahōros Chaldaikē or Chaldean Zodiac, the next two depicting the Greek signs of the zodiac, the next the 36 decans, and the outer the prosōpa, facies ("faces/persons") representing planetary deities or rulers associated to them. Of the 36 decans only the figures of eight have survived on recovered fragments.

The paranatellonta and decans appear in two principal constellation systems of the Graeco-Roman world: the Sphaera Graecanica ("Greek Sphere") and the Sphaera Barbarica ("Barbarian Sphere"), the latter name referring to its Babylonian and Egyptian sources. Nigidius Figulus (1st century B.C.E.) mentions the Sphaera Barbarica in his *Sphaera*. Its influence appears in Vedic and Western astrology. Teukros, Antiochus, and Vettius Valens all mention Egyptian constellations on the Sphaera Barbarica, and Figulus, Varro, Manilius, and Maternus mention Babylonian constellations (Thompson 2019). The Sphaera Graecanica is mentioned by Critodemo, Cicero, Nigidius, Dorotheos, Manilius, Maternus, Asclepiades, Valens, Antiochos, and Teucrus (Thompson 2019).

Decans eventually gave way to lunar stations but continued to be used in medieval Islamic astrology, Renaissance astrology, and 19th century Theosophy, and in cosmology, astrology, theurgy, and hermeticism.

In early Arabic culture there was a calendar of "rain stars" called naw (plural anwa' or anwa'a): These are stars who's rising or setting shortly before sunrise signals the onset of rains or other events. Qutrub (d. 821 C.E.) recorded the name of the rain star and a line of rhymed prose (saj'a) which describes it and a shorter list of lunar stations including a list of ten Auspicious Asterisms (as-su'ud). The earliest complete extant list of anwa' is *Kitab al-azmina wa talbiyat al-jahiliya* (*The Book of Seasons and the Consecrating Prayers of the Age of Ignorance*) by the Persian philologist and Qur'anic commentatory Qutrub. (d. 821 C.E. whose complete name is Abu 'Ali Muhammad b. al-Mustanir), which includes multiple calendars of his day. The most extensive surviving list of anwa' is the *Kitab al-anwa' (The Book of Rain Stars)* of Persian philologist and grammarian Ibn Qutayba (d. 889, whose complete name is Abu Muhammad 'Abdallah b. Muslim al-Dinawari). Ibn Qutayba listed astronomical knowledge and avoided adopting foreign (especially Greek) sciences. In later Arabic culture the zodiac was known as the "Girdle of the Castles" (Dorn 1829).

Later this was expanded into "stations of the moon" ("Manazilu ʾl-Qamar" منازل القمر) or "manzil". The earliest record of the stations of the moon appears in the works of Abd al-Malik Ibn Habeeb (d. 852) on the authority of Malik ibn Anas (d. 795). This is a system of 28 asterisms: All but one manzil has 13 days, the last, Al-Jabah, having 14 days to add up to 365 days. Each manzil locates the moon in the sky during its 28-night cycle. This system was adopted by the Arabs in the pre-Islamic period, prior to the 7th century C.E. Each manzil starts at the setting of one of the stars or asterisms, which compose a moon mansion in the west at dawn and the rising of its opposite moon mansion, at the same time, in the east. The manzil is given the name of the setting moon mansion. *The Book of Anwa'a* by Ibn Qutaybah (828 – 889) lists the detailed descriptions of each Manzil or Anwa'a and the times of their heliacal rising.

Bedouins used the same system but simplified it by having their year cycle begin with the heliacal rising of al-Thurayyā, the Pleiades, in the beginning of summer, and then using 13 days for each station

of the moon, except for al-Ǧabhah, to which they assigned 14 days. They also used the monthly Moon/Pleiades conjunction and other stars for keeping time.

In Hindu and Indian astronomy, one finds lunar mansions called “Nakshatra” (Sanskrit: नक्षत्रम्): Brennand spells this “nacshatra” in his *Hindu Astronomy* in 1896. These divide the ecliptic into 28 sectors. Their names are related to a prominent star or asterisms in or near the respective sectors. Some systems use the asterism Kritika (the Pleiades) as a starting point, others use Chitrā (the star Alpha (α) Virginis - Spica) in the asterism Ashvini (see below).

In classical Hindu scriptures such as the *Mahabharata* and *Harivamsa*, Daksha is said to have created the nakshatras. In Hinduism, Daksha (Sanskrit: दक्ष, literally "able, dexterous, or honest one") is a divine king-rishi (“sage”) who is one of the Prajapati, the agents of creation. He is also a Manasputra, mind created son of the creator god Brahma. The nakshatra are personified as daughters of Daksha and as wives of Chandra the Hindu Moon God, or alternatively the daughters of the Vedic sage Kashyapa. Chandra has a mansion for each of his 27 wives and spends time in each of them as he traverses the sky.

In the older *Atharvaveda* a list of only 27 stars or asterisms was adopted because when you map the ecliptic in equal divisions this way, you get segments of 13˚ 20’ instead of 12˚ 51.43’. This left the nakshatra Abhijit out. This older version inspired lunar mansions in other neighboring cultures, as you will see below. Later they adopted 28 lunar mansions as they do in Chinese, Korean, and Japanese systems, which meant that the nakshatra were no longer equally spaced.

Nakshatra stars form opposing pairs in the lunar path across the sky, revolving around celestial north, marking the hours of the night and he seasons of the year and dividing the year into 12 luni-solar months, each of which contains roughly 3 nakshatras. The each nakshatra is related to the first stars visible near the new moon at sunset. In this system, the Moon rises two nakshatra further on each month. Unadjusted, this system would require 19 years for the moon to realign with the stars, requiring the addition of an extra month about every three years to maintain the alignment. In Northern calendars the luni-solar month is determined by the full moon, and in the Southern calendar by the new moon.

Vedic astronomy also had a version of signs of the zodiac, called Rashi.

In Meitei (Manipuran) culture, these lunar mansions are known as Apaknga.

In Chinese, Korean, and Japan-ese sky cultures, these 28 moon stations were known as lunar mansions (Chinese: 宿) or “xiù” (typically spelled “Sieu” in older English textbooks). The earliest complete list in Chinese sky lore dates to a tomb dating from 433 B.C.E. The Chinese and Koreans grouped these into three enclosures shown in the table below for comparison. The Japanese called these lunar stations sei shuku.

Culture	Enclosures		
Chinese	Purple Forbidden Enclosure (Zǐwēiyuán (紫微垣))	Supreme Palace Enclosure (Tàiwēiyuán (太微垣))	Heavenly Market Enclosure (Tiānshìyuán (天市垣))
Korean “Villages” (Won (“borders”-	Violet Low Border (ZaMiWon (紫微垣))	Big Low Border (TaeMiWon	Sky Market Border (CheonShiWon

三垣)		(太微垣))	(天市垣))

Chinese, Korean, and Japanese lunar mansions were divided into four categories related to mythical "talismanic" animals, with each category containing seven Luminaries. This table shows the similarities between the three cultures:

Associations	Lunar Mansions		
	Chinese	Korean (su - 二十八宿)	Japanese
East, Spring, Azure/Blue Dragon (Chinese Dōngfāng Cānglóng (东方苍龙), Korean CheongRyong (青龍), Japanese Seiryuu (**青龍**))	Jiǎoxiù (角宿) Horn	Gaak (角) Dignity of King	Su Boshi (horns)
	Kàngxiù (亢宿) Neck	Haang (亢) Neck of Dragon	Ami Boshi (Neck)
	Dīxiù (氐宿) Root	Zeo (氐) House of Queen	Tomo Boshi (Root)
	Fángxiù (房宿) Room	Baang (方) Royal Hall	Soi Boshi (Chamber)
	Xīnxiù (心宿) Heart	Shim (心) Seat of Emperor	Nakago Boshi (Heart)
	Wěixiù (尾宿) Tail	Mi (尾) Yard for Empresses	Ashitare Boshi (Tail)
	Jīxiù (箕宿) Winnowing Basket	Ki (箕) Winnow	Mi Boshi (Basket)
North, Winter, Black Tortoise, Black Warrior (Chinese Běifāng Xuánwǔ (北方玄武), Korean HyeonMu (玄武), Japanese Genbu (**玄武**))	Dǒuxiù (斗宿) Dipper	Duu (斗) Officer for Jewel	Hikitsu Boshi (Dipper)
	Niúxiù (牛宿) Ox	Wuu(牛) Cow Leading Man	Inami Boshi (Cow)
	Nǚxiù (女宿) Girl	Yeo (女) Court Lady	Uruki Boshi (Woman)
	Xūxiù (虛宿) Emptiness	Heo (虛) Empty House	Tomite Boshi (Emptiness)
	Wēixiù (危宿) Rooftop	Wii (危) Warehouse of Sky	Umiyame Boshi (Rooftop)
	Shìxiù (室宿) Encampment	Shil (室) Palace of Emperor	Hatsui Boshi (Room, Encampment)
	Bìxiù (壁宿) Wall	Byeok (壁) Eastern Wall	NanameB oshi (Wall)
West, Fall, White Tiger (Chinese Xīfāng Báihǔ (西方白虎), Korean BaekHo	Kuíxiù (奎宿) Legs	Gyu (奎) Armory	Tokaki Boshi (Stride)
	Loúxiù (娄宿) Bond	Ru (婁) Watchtower	Tatara Boshi (Hill)
	Wèixiù (胃宿)	Wii (胃) Stomach of	Ekie Boshi (Stomach)

(白虎), Japanese Byakko (**百虎**))	Stomach	Tiger	
	Mǎoxiù (昴宿) Hairy Head	Myo (昴) Ear and Eye of Sky	Subaru Boshi (Stopping Place)
	Bìxiù (毕宿) Net	Pil (畢) General of Border	Amefuri Boshi (Net)
	Zīxiù (觜宿) Turtle Beak	Zaa (觜) Son	Toroki Boshi (Turtle Snout)
	Shēnxiù (参宿) Three Stars	Saam (參)Three Stars	Kagasuki Boshi (Investigator)
South, Summer, Red/Vermillion Bird/Phoenix (Chinese Nánfāng Zhūquè (南方朱雀), Korean ZuZak (朱雀), Japanese Suzaku (**朱雀**))	Jǐngxiù (井宿) Well	Zeong (井) Eastern Well	Chichiri Boshi (Well)
	Guǐxiù (鬼宿) Ghosts	Kui (鬼) Eye of Sky	Tamahome Boshi (Ogre)
	Liǔxiù (柳宿) Willow	Ryu (柳) Officer of Kitchen	Nuriko Boshi (Willow)
	Xīngxiù (星宿) Star	Seong (星) Capital of Sky	Hotohori Boshi (Stars)
	Zhāngxiù (张宿) Extended Net	Zaang (張) Officer of Tomb	Chiriko Boshi (Stretched Net)
	Yìxiù (翼宿) Wings	Ik (翼) Wing of Red Bird	Tasuki Boshi (Wings)
	Zhěnxiù (轸宿) Chariot	Jin (軫) Chariot of Emperor	Mitsukake Boshi (Chariot Cross-Board)

You'll note that while the stars involved in these lunar mansions in the three sky cultures match (with minor variations), the translations of the names often match between the Chinese and Japanese versions, but not necessarily with their Korean counterparts.

The Tibetans had 27 lunar houses called rGuy sKar Ner brGyad ("twenty-eight running stars") or gyukar, influenced by older *Atharvaveda* sky lore, and by the Chinese lunar mansions in that their asterisms were relative to the ecliptic and not the celestial equator. These lunar houses were called gyukar and unlike the Vedic system they only use one star, like the yogataras from Indic sky lore: The rest of the asterisms are ignored. Their names are listed in the text *Ornament of Stainless Light*. The Tibetans recognized twelve zodiacal asterisms ("khyim"), many of which resemble Ptolemy's.

The Barmar people of Myanmar used a system heavily influenced by Vedic and Hindu astronomy, and like the Vedic system, used the twelve signs of the Western zodiac, and lunar mansions they called yathi (ရာသီ [jàðì]). They have 27 lunar mansions called nekkhat ((နက္ခတ် [nɛʔkʰaʔ]) and unlike the

Vedic system, the nekkhat use varying widths (between 5˚ - 26˚) for each. They also recognize a "lost" 28th nekkhat, Abizi (အဘိဇိ; Sanskrit: Abhijit).

The Mongolians had a lunar calendar that had an animal to represent each year in a similar fashion to the Chinese calendar. They assigned each animal a star in the Big Dipper asterism in Ursa Major, which is a variant of the old Seven Buddha Sutra (see Seven Buddhas, below).

Another version of lunar stations is found in the Celtic Sequani Calendar, which was first discovered on 2nd century bronze tablets found in a well at the headwaters of the Seine near Coligny in 1897. Other examples have since been found. It is a sophisticated 19-year cycle using intercalary time to periodically bring it back into synchronization just like modern calendars use leap years. Without going into a great deal of detail, this Gaulish calendar designates a first magnitude star or stars rising on the Eastern horizon at sunrise and setting on the Western horizon at sunset called "PRIN" or "Prinni" ("guiding stars"). Each month starts at the first quarter moon as this will be visible in the afternoon and when the moon becomes full this will place it close to these guiding stars and their position in relation to the phases of the moon were used as part of this calendar. These PRIN are listed below. Many asterisms were referred to as Prinnios, which according to Boutet (2001) is derived from the Gaulish "Prennes" ("trees" or "wood") and can also be translated as "destiny" or "divining".

Among the K'iche', certain constellations become the "sign of the night" as they move into a position opposite to the Sun and become visible for the longest period of time, in other words, when they cross the meridian at midnight:

- In December their sign of the night is the IAU constellation Orion,
- In mid-January their sign of the night is the IAU constellation Gemini
- In late February their sign of the night is the star Alpha (α) Leonis (Regulus) in the IAU constellation Leo,
- In mid-March their sign of the night is the Big Dipper asterism in the IAU constellation Ursa Major, and
- In early April their sign of the night is the star Alpha (α) Crucis (Acrux) in the IAU constellation Crux.

The World's Asterisms:

This is a list of over 15,000 asterisms identified by more than 590 sky cultures examined. Some of them are identical to modern IAU constellations, others are quite different, and some are portions or combinations of modern constellations. They are all listed in a table with their locations (right ascension and declination) in Volume 2. As previously mentioned, moon stations/mansions from the world's sky cultures are included. All the asterisms listed here are large-scale asterisms that can be viewed with the unaided eye except in the cases where I have noted that they are "telescopic", meaning you need to use binoculars or a telescope to view them: these telescopic asterisms are indicated by a name in **bold** characters in the list in Volume 2 and by the word **telescopic** in **bold** in the descriptions in this handbook: **Telescopic** asterisms listed here have magnitudes greater than 6, which is the limit for unaided viewing (over 4,000 so far).

2:

There are two **telescopic** "2" asterisms:

- One is the cluster Collinder 367 in the IAU constellation Sagittarius. Size 37' X 37'. René Merting on the *Faint Fuzzies* website describes this as "a 2, in the north a somewhat too narrow arc that inclines south, to the south is a star line that marks the straight line of the 2, which is not quite upright but at 45° to the west is inclined- a good 15 stars form the 2". Size 30'.
- This telescopic asterism is the HII region Messier 17 (NGC 6618, SH 2-45, RCW 160, LBN 60, Cr 377, Ced 161) in the IAU constellation Sagittarius. It was discovered in 1745 by Swiss astronomer Philippe Loys de Chéseaux and catalogued by French astronomer Charles Messier in 1764. John Herschel's General Catalogue of 1864 lists it as GC 4402. American astronomer Dave Mitsky describes it as "an elongated number 2". Size 25'. It is also known as the Horseshoe Nebula, the Checkmark Nebula, the Duck, the Goose, the Omega Nebula, Swan Nebula, and Lobster Nebula.

3:

There are three **telescopic** "3" asterisms:

- One is Greg's 3, which is made up of nine stars in the IAU constellation Leo. This is a rather angular number "3" which also could be interpreted as a number "7". It includes the stars HIP 47211 and HIP 47233A. This was discovered by English amateur astronomer Greg Parker in the spring of 2013. German astronomer René Merting lists it on the *Faint Fuzzies* website. Size 16' X 12'. This can also be seen as a Sigma (Σ).
- One, Pakan's 3, is made up of 8^{th} to 9^{th} magnitude stars 3 degrees southwest of the open cluster Messier 50 in the IAU constellation Monoceros that looks like a backwards number "3". This was listed in Edmonton RASC member Randy Pakan's *Midnight Ramblings IA* logbook in February 1989 and again in March 1989. In his *Midnight Ramblings 1A* logbook entry for 24 February 1988 he calls it "Managé a Trois", but on most telescopic asterism lists it is listed as "Pakan's 3". American astronomer and author Phil Harrington describes it as a "McDonald's M" after the restaurant chain logo and made it Harrington 18 on his list. This is Lorenzin 15 on American astronomer Tom Lorenzin's list. John Chiravalle calls it the "Tooth". Size 28' X 17'.
- One is in the IAU constellation Puppis and is Ennis 72 on the observing list of Canadian astronomer Charles Ennis. Size 80' X 50'. This is ~ twelve 5^{th} – 9^{th} magnitude stars including HIP 37089, double star HIP 36961, double star HIP 36817B, Gaia DR3 5615389982535032960, SAO

174044, Gaia DR3 5618286783353998336, HD 60123, HIP 36667, HIP 36721, and HD 60496. This includes stars of Corder 1369 on Jeffrey Corder's list.

3D Christmas Light Ball:

This **telescopic** asterism is the globular cluster NGC 5139 (Caldwell 80) in the IAU constellation Centaurus. It is listed in the *General Catalogue* of 1864 as GC 3531 and in John Herschel's catalogue as h 3504. It is also known as "Omega Centauri" (see below), the Ice Cream Cone (see below), the Snowball (see below), and the "Star in the Cloud on the Horse's Back" (see below), which was how it was described by Ptolemy (c.100 – c.170). South African astronomer Pierre de Villiers describes it as a "3D ball of flickering Christmas lights (white)" in his observations in 2016 in the Bonnievale SSP (Night Sky Caravan Park). Size 30'.

4-H Cluster:

This **telescopic** asterism is the open cluster NGC 1664 in the IAU constellation Auriga. It was discovered by English astronomer William Herschel in 1786, who listed it as "VIII 59" in his catalogue. It is GC 907 in the *General Catalogue* of 1864. It is also known as the Four-Leaf Clover (see below), and the Kite (see below).

7:

There are six **telescopic** "7" asterisms:

- One, also known as the Lucky 7, is located at the border between the IAU constellations Perseus and Cassiopeia. It is made up of thirteen stars of 5th to 7th magnitude, including the stars 1 and 2 Cassiopeiae and HIP 113498 and 112998. This is listed in *Asterisms: Small Star Patterns for Telescopes and Binoculars* by Dutch astronomer Demelza Ramakers in 2011, on Bruno Alessi's BDCC 7.6 list, is listed as "1-2 Cas" by John Raymond, and Corder 4805 by Jeffrey Corder. Size 125'.
- One is from a list of asterisms by American astronomer and author Phil Harrington. You'll find it between the IAU constellations Hercules and Serpens, halfway between the stars Gamma (γ) Herculis and Gamma (γ) Serpentis. The top corner of the "7" is the star Kappa (κ) Herculis next to 8 Herculis and the base of the "7" is the star 48 Serpentis.
- One is Kernya 5, listed by Hungarian astronomer Gábor János Kernya, which is in the IAU constellation Hercules. Kernya describes it as "a chain made up of 7.5 – 11 magnitude stars, resembling a distorted number '7', its extent close to 1 degree."
- One is Corder 3806 in the IAU constellation Lyra and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 60' X 45'. This includes the stars HIP 94852, 94680, 94677, 94671, and 94630.
- One is in the IAU constellation Leo and is Ennis 51 on the observing list of Canadian astronomer Charles Ennis. Size 25'. This is six 8th – 9th magnitude stars staring at HIP 46761 and running through SAO 117753, and SAO 117754 to Gaia DR3 587792319139786752 then across through SAO 117759 to SAO 117765.
- One is in the IAU constellation Ursa Major and is Ennis 56 on the observing list of Canadian astronomer Charles Ennis. Size 10'. This is six 9th – 10th magnitude stars starting at SAO 15888 and running up to SAO 15887 and across through two stars . This is also known as Corder 2399 (see Hook, below).

9:

This **telescopic** asterism "Star Nine" is from the asterism list of American astronomer John Davis resembles a number "9" and is made up of stars in the IAU constellation Delphinus. A loop of stars forms the top of the number "9" including the stars HIP102206A, 102188, 102131A, 102077, and 102147. From HIP 102147 a line of 9th magnitude stars forms the rest of the number "9".

37:

This **telescopic** asterism resembling the number "37", also known as the Shopping Cart Cluster or Little Pleiades, is in open cluster NGC 2169 in the IAU constellation Orion. It was discovered by William Herschel in 1784 who listed it as "VIII 24" in his catalogue. It is GC 1361 in the General Catalogue of 1864. It includes the stars HIP 29106, 29126A and B, 29127, and 29121. American astronomer Steve Coe (1949 – 2018) noted that "what is bizarre is that the cluster members form the numerals '3' and '7'. It is a shame that this is not M-37, you couldn't miss it." This is O'Meara 33 in astronomer Stephen James O'Meara's *Hidden Treasures Catalogue* (2007). NOTE: The Pleiades cluster is also often referred to as the "shopping cart", and as this asterism resembles the Pleiades, it also resembles a shopping cart. It is also known as the Sorority Cluster (see below).

83:

This **telescopic** asterism is the open cluster NGC 6811 in the IAU constellation Cygnus. It was discovered by English astronomer John Herschel in 1829 who listed it as h 2044. It is GC 4505 in the *General Catalogue* of 1864. South African astronomer Magda Streicher writes in the DOCdb database that "it forms the letter [sic] 83 with an asterism of five stars going out from the letter [sic] 8". It is also known as the Hole in a Cluster, Nefertiti's Headpiece, the Smoke Ring, the Bicycle, or the Reliquary.

A:

This **telescopic** asterism, also known as Weisman 1, is in the IAU constellation Sextans. This was discovered by Bram Weisman of the Houston Astronomical Society. It includes double star HIP 50622A at the bottom corner of the "A".

Aa:

This Polynesian star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major and is the zenith star for Tahiti and Fiji.

A-Sah:

This Egyptian decan "A-Sah" was in the IAU constellation Gemini (Belmonte 2016). In later Hellenistic texts it was named "Phu-hor". In the Testament of Solomon, it became "Kourtael" or "Kurtaêl", Aristobulus of Paneas called it "Parquia", in Greek Hermeticism it became "Pepisoth", in Latin Hermeticism "Azuel", Roman astrologer Julius Firmicus Maternus called it "Tepis" or "Atosoae", Cosmas of Maiuma (d. 760) called it "Praxidike", French scholar Joseph Justus Scaliger (1540 - 1609) called it "Tepisatosoa" and German Jesuit astronomer Athanasius Kircher (1602 – 1680) called it "ᴛɪᴛᴀɴ" ("Titan"). This has been depicted as a crowned, winged woman holding thunderbolts in her right hand and a flask in her left.

Aaron:

This German asterism is made up of stars of the IAU constellations Grus and Phoenix and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures. This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "S. Aaron al Grus &

Phenix". German poet Philip von Zesen (1619 – 1689) also listed it under this name. It later appears in Edward Sherburne's *Sphere of Marcus Manilius* in 1675 and in John Hill's *Urania* in 1754.

Aaron's Staff:

This Finnish asterism "Aaronin sauva" is the Belt of Orion asterism in the IAU constellation Orion.

Aba al-Sihil:

This Bedouin star "Aba al-sihil" (أبا السهل) is Alpha (α) Eridani (Achernar) in the IAU constellation Eridanus.

Abakukas' Star:

This Lithuanian asterism "Abakuko žvaigždė" is the IAU constellation Cassiopeia.

Abantiades:

This Greek asterism "Abantiades" is the IAU constellation Perseus as listed in R. H. Allen's *Star Names* in 1899 and relates to the grandfather of Perseus.

Abdomen of the Fish:

See Belly of the Fish, below.

Abel:

This German asterism "Abel the Just" is a combination of the stars of the IAU constellations Dorado and Volans and the Large Magellanic cloud and was listed by German poet Philipp von Zesen (1619 – 1689) and by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures. This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "S. Abel Al Piscus Volant, Doradus, Nubec minor".

Abhrayanti:

This Vedic star from the *Taittiriya Brahmana* is 23 Tauri (Merope) in the IAU constellation Taurus as listed by Leitz in 2019. It is part of their asterism Krttika (see Cutters, below).

Abiding Assemblage of Sirius:

This Polynesian asterism from the Tuamotu Archipelago "Muihanga-hetika-o-Takurua" is the IAU constellation Canis Major.

Abigail:

This German asterism is the IAU constellation Andromeda. John Hill lists this in his *Urania* in 1754, attributing it to "Hartsdorf", which would be German poet, jurist, and translator Georg Philipp Harsdörffer (1607 – 1658). Edward Sherburne lists it in his *Sphere of Marcus Manilius* in 1675 and also attributes it to Harsdörffer. However, it was the German poet Philipp Von Zesen (1619 – 1689) who gave this name to Andromeda. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 attributes this to "the Mosaicists", specifically German astronomer Wilhelm Schickard (1592 – 1635).

Aborted Ullucu:

The stars of this Quechua asterism, “Sullu Ullucu” are unidentified at present (Urton 1981). An Ullucu is a type of tuber (Ullucus tuberosis).

Abrachaleus and Aphellan:

This asterism is the IAU constellation Gemini. This name is listed in Johann Bayer’s *Uranometria* (1603) as “Abrachaleus & Aphellan seu Auellar“ (“Abrachaleus and Aphellan or Auellar”).

Abraham and Isaac:

This German asterism is the IAU constellation Centaurus and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the “pagan” names of constellations with Biblical and early Christian figures (Stevenson 1921). This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as “Abraham and Isaac al Centaurus”. This asterism later appears in Edward Sherburne’s *Sphere of Marcus Manilius* in 1675 and in John Hill’s *Urania* in 1754 and is listed by R. H. Allen in his *Star Names* in 1899.

Abraham’s Children:

This German asterism “Asellos Abrahamum” is the open cluster Messier 44 (NGC 2632) in the IAU constellation Cancer. This asterism is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

Abraham’s Ram:

This German asterism is the IAU constellation Aries and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the “pagan” names of constellations with Biblical and early Christian figures. Edward Sherburne lists it in his *Sphere of Marcus Manilius* in 1675 but attributes it to Schickard and expands the name to “Abraham’s Ram offered in the Room of Isaac”. “Aries Abraha” is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch. “Abraham’s Ram” appears in John Hill’s *Urania* in 1754.

Absalom’s Hair:

This German asterism is the IAU constellation Coma Berenices and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the “pagan” names of constellations with Biblical and early Christian figures. “Crines Absalomi” is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch. It appears in John Hill’s *Urania* in 1754. Edward Sherburne lists it as “Absolom’s Head of Hair” in his *Sphere of Marcus Manilius* in 1675, which he attributes to German poet, jurist, and translator Georg Philipp Harsdörffer (1607 – 1658).

Absalom’s Mother:

This asterism “Absalomi Matrum” is the IAU constellation Andromeda and is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

Absolutno:

This telescopic asterism is Czech star XO-5 in the IAU constellation Lynx. It was given this name in the IAU NameExoWorlds campaign (magnitude 12.13). Absolutno is a fictional miraculous substance in the

sci fi novel *The Factory of the Absolute* by Czech writer Karel Čapek. It has an exoplanet named Makropulos, which comes from Čapek's play the *Markopulos Affair*.

Absorbed Arm:

This Coptic lunar station "Upeuritôs" is made up of stars in the IAU constellations Capricorn and Aquarius and was listed by Yeats in *A Vision* in 1917, which was derived from German Jesuit astronomer Athanasius Kircher's *Lingua Aegyptiaca Restituta* in 1636, in which Kircher described it as "Sive Brachium Absorptum" ("the absorbed arm") and "Beatitudo" ("happiness"). R. H. Allen lists it as "Upeuritos" in his *Star Names* in 1899 and translates this as "discoverer".

Absyrthe:

This French asterism is the IAU constellation Auriga as listed by French astronomer Joseph Jérôme Lefrançois de Lalande (1702 – 1807). Absyrthe is the young brother of Medea in Greek myth.

Abt's Star:

This telescopic asterism is the double, rotating variable star HIP 55106 (HD 98088) in the IAU constellation Crater (magnitude 9.4). It is named for German American astrophysicist Helmut Abt.

Abundant Harvest:

This Hebrew asterism "Bethūlah" is the IAU constellation Virgo. Edward Sherburne lists it as "Bethula" in his *Sphere of Marcus Manilius* in 1675, and John Hill lists it as "Bethula" in his *Urania* in 1754. . R. H. Allen lists it as "Bethūlah" in his *Star Names* in 1899.

This Syrian asterism "Bethulta". is the IAU constellation Virgo as listed in R. H. Allen's *Star Names* in 1899. It is listed as "Bethulo" in John Hill's *Urania* in 1754.

Abundant One:

This Babylonian star from the MUL.APIN tablets, "Hengallayu", is Alpha (α) Boötis (Arcturus).

Abundant One of Ursa Major:

This **telescopic** asterism "Opimus Úrsae Majóris" is the spiral galaxy NGC 3938 in the IAU constellation Ursa Major. It was discovered in 1788 by William Herschel who listed it as "I 203". It became GC 2597 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of the "many magnificent outer arms".

Academy Star:

This Chinese Chenzhuo xing guan "Panxing" is the star Theta (θ) Draconis in the IAU constellation Draco. It is part of their xing guan Purple Forbidden East Wall.

Acamar:

See River's End, below.

Accompanied by Two of Boötes:

This **telescopic** asterism "Bicomitátus Boótis" is the edge-on intermediate spiral galaxy NGC 5529 in the IAU constellation Boötes. It was discovered in 1785 by William Herschel who listed it as "III 414". It became GC 3822 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because the galaxies NGC 5527 and MCG+6-31-87 are companions of NGC 5529.

Accurate Scale Beam:

This modern Arabic asterism " Al Mīzān al Ḥakk" is the Belt of Orion in the IAU constellation Orion. Compare this to their asterism Scale Beam, below.

Acerra:

This Greek asterism is the IAU constellation Ara, and John Hill lists it in his *Urania* in 1754, attributing it to Festus, who is likely the Roman procurator Porcius Festus (d. 62 C.E). An acerra (λιβανωτρίς) was a Greek incense box used during sacrificial rites and according to Festus was a small altar placed before the dead, on which incense was burnt.

Acetes:

This asterism is the IAU constellation Delphinus as listed by French astronomer Joseph Jérôme Lefrançois de Lalande (1732 – 1807) and Italian astronomer Giovanni Battista Riccioli (1598 – 1671). Acetes was a pirate-pilot who protected Bacchus on his voyage to Naxos.

Acheron:

This Greek asterism "Acheron" or "Acheront" is made up of stars of the IAU constellations Sculptor, Horologium, Dorado, and perhaps Hydrus as listed by the 8th century B.C.E. poet Homer (Mosenkis, date n/k). In Greek mythology this was a river in Hades. Mosenkis writes that this name is Phoenician in origin.

Acherousia:

This Greek asterism is possibly the Large Magellanic Cloud as listed by the 8th century B.C.E. poet Homer (Mosenkis, date N/K). This is a lake or swamp in Hades.

Achird:

This star is Eta (η) Cassiopeiae in the IAU constellation Cassiopeia. It was first listed under this name in the *Skalnate Pleso Atlas of the Heavens (Atlas Coeli Skalnaté Pleso*), created for the Czechoslovak Astronomical Society in 1948 by Czech astronomer Antonín Bečvář and published in 1950. The IAU Working Group on Star Names approved the name Achird for Eta (η) Cassiopeiae A in 2017.

Accumulated Water:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is the star 71 Geminorum in the IAU constellation Gemini.

This Chinese xing guan "Jīshuǐ" (积水) is the star 65 Aurigae in the IAU constellation Auriga.

This Chinese Chenzhuo xing guan "Jishui" is the star 71 Geminorum in the IAU constellation Gemini.

Achernar:

See River's End, below.

Achieved Equilibrium of Eridanus:

This **telescopic** asterism "Aequilibráta Erídani" is the elliptical galaxy NGC 1172 in the IAU constellation Eridanus. It was discovered in 1785 by William Herschel who listed it as "II 502". It became GC 636 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Acrab:

See Scorpion, below.

Acrisioniades:

This Greek asterism "Acrisioniades" is the IAU constellation Perseus as listed in R. H. Allen's *Star Names* in 1899 and relates to the father of the mythological hero Perseus.

Acrux:

This star is Alpha (α) Crucis in the IAU constellation Crux. This is an American name for the star that emerged in the 19th century and was commonly used by the mid-20th century. Illingworth, Valerie, ed. *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985 lists this star as "Acrux". The IAU Working Group on Star Names approved the name Acrux for Alpha (α) Crucis Aa in 2016.

Active of Aries:

This **telescopic** asterism "Actuósus Aríetis" is the spiral galaxy NGC 972 in the IAU constellation Aries. It was discovered in 1784 by William Herschel who listed it as "II 211". It became GC 560 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). They gave it this name due to its "intense star formation activity".

Activity:

This Kaykavian asterism "'Agneci" is the IAU constellation Aries.

Actor:

This Latin star "Becrux Mimosa" is Beta (β) Crucis in the IAU constellation Crux. The modern name "Becrux" is a contraction of this. *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists "Mimosa" for this star. The IAU approved the name Mimosa for Beta (β) Crucis.

Acubens:

See Claws, below.

Acute Angle of Virgo:

This **telescopic** asterism "Oxygónia Vírginis" is the lenticular galaxy NGC 5084 in the IAU constellation Virgo. It was discovered in 1785 by William Herschel who listed it as II 313". It became GC 3491 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by

astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “there is a slight difference of inclination between the bright inner disk and the fainter outer disk.”

Adam:

This English asterism is the IAU constellation Hercules as described by English author and amateur astronomer Frances Rolleston (1781 – 1864). She may have been influenced by the asterism Ramus Pomifer (see Apple Branch, below).

Adam and Eve:

This German asterism is the IAU constellation Gemini.

Adam’s Bull:

This asterism is the IAU constellation Taurus as listed in R. H. Allen’s *Star Names* in 1899. He does not specify the source.

Adam’s Former Concubine:

This asterism “Adami olim Concubina” is an alternate name for the asterism “Medusa’s Head” (see below) in the IAU constellation Perseus and is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

Adam’s Staff:

This Finnish asterism “Aatamin sauva” is the Belt of Orion asterism in the IAU constellation Orion.

Adera:

This star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major. Richard A. Proctor’s *A New Star Atlas* (1887) appears to list this name for Sirius in “Table V- Star Names”.

Adhafera:

See Braid, below.

Adhara:

See Virgin, below.

Adhil:

See Tail, below.

Aditi:

Aditi, whose name means “boundless”, “limitless”, or “innocence”, is a Vedic Goddess of motherhood, unconsciousness, the past, the future, and fertility. She is the mother of Indra, Varuna, Parjanya, Mitra, Ansh, Pushan, Dhatri, Aryaman, Surya, Bhaga, Vishnu, Savitr, and Lord Varama. There are two stars associated with this Vedic Goddess:

- One is Alpha (α) Geminorum (Castor) in the IAU constellation Gemini.
- One is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus (Ivanković 2021). This is described in the Rig-Veda as “Aditer anīkam” (“Aditi’s Face”).

Adjacent to Canes Venatici:

This **telescopic** asterism “Affínis Cánum Venaticórum” is the lenticular galaxy NGC 4111 in the IAU constellation Canes Venatici. It was discovered by William Herschel in 1788. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “this galaxy is situated close to the border of the constellations Canes Venatici and Ursa Major”.

Administrative Centre:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a curve of six stars in the IAU constellation Ursa Major:

- 23 Ursae Majoris: “Shangjiang” (“Great General”),
- 29 Ursae Majoris: “Cijiang” (“Second General”) or “Shangshu” (“Royal Secretary”),
- Phi (ϕ) Ursae Majoris: “Guixiang” (“Distinguished Premier”) or “Taichang” (“Minister of Justice”),
- Theta (θ) Ursae Majoris: “Silu” (“Deified Judge of Rank”) or “Sizhong” (“Deified Judge of Disaster”) or “Sili” (“Senior Judge”),
- 15 Ursae Majoris: “Siming” (“Deified Judge of Life”) or “Siguai” (“Deity in Charge of Monsters”) or “Taishi” (“Court Historian”). This is the determinative star in this asterism.

This Chinese xing guan “Wénchāng” (文昌) is a curve of stars in the IAU constellation Ursa Major: Upsilon (υ), Phi (ϕ), Theta (θ), 15, and 18 Ursae Majoris.

This Chinese Chenzhuo xing guan Wenchang (文昌) is a “U” shaped line of stars in the IAU constellation Ursa Major: Starting at Omicron (ο) Ursae Majoris (“Shangjiang” (“Great General”) it runs through Tau (τ) Ursae Majoris (“Cijiang” (“Second General”), 23 Ursae Majoris (“Shangshu” (“Royal Secretary”), Nu (ν) Ursae Majoris (“Sizhong” (“Deified Judge of Disaster”), and Theta (θ) Ursae Majoris (“Siguan” (“Deity in Charge of Monsters”)), to 15 Ursae Majoris (“Dali” (“Minister of Justice”).

Adorned with Sapphires of Hydra:

This **telescopic** asterism “Sapphirátus Hýdrae” is the galaxy ESO 565-11 (PGC 26918) in the IAU constellation Hydra. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of “the beautiful inner ring of bright blue dots around the nucleus of this galaxy resembling a string of sapphires”.

Adrenedepha:

See Adra, above.

Admired of Antlia:

This **telescopic** asterism “Mirándus Ántliae” is the spiral galaxy NGC 2997 in the IAU constellation Hydra. It was discovered in 1793 by William Herschel who listed it as “V 50”. It became GC 1923 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Admonisher of Draco:

This **telescopic** asterism "Mónitor Dracónis" is the interacting spiral galaxy NGC 6786 in the IAU constellation Draco. It was discovered by Lewis Swift. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "this galaxy… is in the company of a smaller playful looking galaxy UGC 11415. With a little bit of fantasy the big galaxy with its extended arm pointing to the smaller one could be interpreted as a superintendent admonishing his pupil".

Advance Guard:

This Korean asterism "Eodeubaenseu Gadeu" (어드밴스 가드) is a line of five stars in the IAU constellations Draco and Hercules: Iota (ι) Herculis and Gamma (γ) Draconis, Beta (β) Draconis (Rastaban), Nu (ν) 2 Draconis, and Xi (ξ) Draconis.

Adze:

This Anutan asterism "Toki" is the IAU constellation Delphinus. The head of the adze is the three stars Gamma (γ) 2 Delphini, Delta (δ) Delphini, and Alpha (α) Delphini (Sualocin), with the two stars Beta (β) Delphini (Rotanev) and Epsilon (ε) Delphini forming the "handle".

This Barasana asterism "Sioruhu" is the belt and sword of Orion in the IAU constellation Orion (Hugh-Jones 2006). Compare this to the Tukano asterism "Sioyahpu" (see Adze Handle, below).

This Egyptian asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Gingerich 1983, Krupp 1997, Hardy 2003). This adze was used to touch the mouth of the deceased pharoah in a ceremony called Opening the Mouth, which was meant to restore life to his Ka in the afterlife.

Adze Handle:

The Tukano asterism "Sioyahpu" or "Cabo do Enxó" (literally – "instrument to carve wood") is made up of stars in the IAU constellation Orion (Cardoso 2007): The belt of Orion (Cardoso 2015, Cardoso 2016) plus the stars Alpha (α) Orionis (Betelgeuse) and Gamma (γ) Orionis (Bellatrix). The Tukano also call this "Circulo de Dança" (see Circle dances, below). Compare this to the Barasana asterism "Sioruhu" (see Adze, above). Another variation listed by Bucur (2022) is the "fish net".

Aesacus:

This Greek asterism is the IAU constellation Ophiuchus. In Greek mythology Aesacus was the son of King Triam of Troy. His lover Hesperia is killed by a snake and in his grief, he is turned into a diving bird in the sky.

Aesculapius:

There are two Greek asterisms named "Ἀσκληπίος" ("Asklipíos" or "Asclepios") or "Oesculapius" for the mythical physician Aesculapius:

- One is the IAU constellation Draco. Aesculapius was the son of Apollo and God of Medicine. This is a reference to the Staff of Aesculapius, a rough branch with a snake wrapped around it, which is the symbol of the medical profession today. Compare this to Snake Climbing a Tree (below).
- One is the IAU constellation Ophiuchus, who is the Snake Bearer (see below) and so is naturally associated with Aesculapius and his staff.
    - *Dele Stelle Fisse* ("Of the Fixed Stars") by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this

constellation as “Di quell che tiene il serpe da I piu detto Esculapio”. The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.
    - Johann Bayer’s *Uranometria* (1603) lists the name “Aesculapius” for Ophiuchus.
    - The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Aesculapius” as an alternate name for Ophiuchus.
    - The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch gives “Aesculapii” as an alternate name for Ophiuchus.
    - This is listed in John Hill’s *Urania* in 1754 as Asclepius.
    - English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Esculapius”.

Africa:

This **telescopic** asterism is reflection nebula NGC 1999 (vdB 46, LBN 979, Ced 55i) in the IAU constellation Orion. This was discovered by English astronomer William Herschel in 1785 who listed it as “IV 33” in his catalogue. It is GC 1202 in the *General Catalogue* of 1864. American astronomer Paul Alsing (2006) at the McDonald Observatory wrote “many observers said it looked like Africa”. It is also known as the Thirteenth Pearl Nebula (see below) and the Rubber Stamp Nebula (see below), and the Black Eye Nebula.

African Buffalo Horns:

This **telescopic** asterism is two connected chains of 7th magnitude stars curving around reflection nebula Messier 78 in the IAU constellation Orion, reported by the Stellar Society of Bulgaria. This nebula was discovered by French astronomer Pierre Méchain in 1780 and included in Charles Messier’s list that same year. From HIP 27510 two lines run out to form the “horns”:

- One from 27510 through 27545 to 27452
- One from 27510 through 27423 to 26893

After the Bride:

This Latin asterism “Persis Bridemis” is the IAU constellation Lupus.

- Johann Bayer’s *Uranometria* (1603) lists the name “Persis Bridemis” for this constellation.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Persis Bridemis”.

Agala:

This asterism is the IAU constellation Ursa Major as listed in John Hill’s *Urania* in 1754: Hill describes this as an Arabic name for this constellation, but we have found no Arabic names that match this.

Agena:

This star is Beta (β) Centauri (Hadar) in the IAU constellation Centaurus as listed by American uranographer Elijah Burritt (1794 – 1838). The meaning is obscure, but American astronomer Donald Howard Menzel suggests that it is a combination of the Greek letter Alpha (α) and the word “γόνυ” (“gónу” or “gena”), which means knee. This is a similar process by which the name Bungula (see below) was probably formed for Alpha (α) Centauri.

Agenor:

This Latin asterism "Agenoreus" is the IAU constellation Taurus and refers to Agenor, the father of Europa, who was seduced by Zeus in the form of a bull. Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists "Agenor" as an alternate name for this constellation.

Agha:

This Vedic asterism from the *Rig Veda* is the stars Alpha (α) Leonis (Regulus), Eta (η) Leonis, Gamma (γ) Leonis, Zeta (ζ) Leonis, and Epsilon (ε) Leonis. The *Brhat Samhita* lists only five stars (Leitz 2109).

Agitator:

This asterism is the IAU constellation Auriga: Agitator was a common name for the IAU constellation Auriga as late as the 16th century:

- It is listed as "Agitator" in editions of the 8th century *Revised Aratus Latinus*.
- The *De ordine ac positione stellarum in signis* ("*On the order and position of the stars in the signs*") in the Salzburg compilation (810 – 818) of Abbot Arno of Salzburg (785 – 821) lists "Agitator"
- "Agitator is listed in the 11th century *De signis caeli ("of the signs of heaven*").
- The Oxford Laud 644, Padua 27 and Venice VIII 22 manuscripts of *De signis caeli* depicts him riding in a chariot, holding a shield in front of him. The Oxford 644 and Padua 27 editions show him holding a spear and looking over his right shoulder. The Klosterneuberg 685, Paris BN 5239, Paris BN 5543, Vat lat 643, and Zwettl 296 manuscripts of *De signis caeli* depict Auriga in a chariot. The Klosterneuberg 685, Paris BN 5239, Paris BN 5543, Vat lat 643, and Zwettl 296 manuscripts of *De signis caeli* depict him holding a single thong flail in his raised right hand and a cap on his head and two small goats stand on his left arm with a larger goat standing in front of him. The Laon 422 and Rouen 26 manuscripts of *De signis caeli* depict Agitator without a chariot and horses and without a goat: He is holding two animals on his outstretched left arm that resemble rabbits. The Montecassino 3 manuscript of *De signis caeli* depicts Agitator kneeling to the right, with the Kids on his outstretched left arm and a goat standing in front of him. The Freiburg im Breisgau 35 manuscript of *De signis caeli* depicts Agitator in a biga holding a two-thong flail and omits the kids.
- The "Nuremburg Maps" *(Die Karte des Nördlichen Sternenhimmels* inv.-Nr. Hz 5576), a pair of celestial hemispheres made in 1503 by Conrad Heinfogel depicts "Agitator" as a nude bearded male as viewed from behind, kneeling on his left knee with a goat on his left shoulder and reins and harness in his right hand.
- Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts "Agitator" as a fully armoured knight walking away from us to our right holding a three thong whip in his right hand and having a goat perched on his left shoulder.
- In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicted "Agitator sive Auriga vel Erichthonius" ("Agitator or Auriga or Erichthonius") as a nude bearded male, running to our right, with a goat perched on his left shoulder.
- A work by Gerard de Malynes (1585 – 1627), an independent merchant who was the English commissioner in the Spanish Netherlands, listed this asterism as "Agitator".
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Agitator" as an alternate name for Auriga.

- The name “Agitator” is listed as an alternative name for Auriga in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
- Giovanni Paolo Gallucci’s *Theatrum Mundi, et Temporis* (1614) labels this constellation “Aeritonio” (“Erichthonius”), “Agitator”, “Auriga”, and “Heniochus” and depicts him as a nude bearded male viewed from behind kneeling on his left knee with a got sitting on his left shoulder.

Aglaea of Coma Berenices:

This **telescopic** asterism “Aglaéa Cómae Bereníces” is the barred spiral galaxy NGC 4314 in the IAU constellation Coma Berenices. It was discovered in 1785 by William Herschel who listed it as “I 76”. It became GC 2881 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): Aglaea is the latinized name of one of the Three Graces.

Agni:

There are two Vedic stars named for their God of fire (indeed, his name means “fire”):

- One is Beta (β) Tauri (Elnath) in the IAU constellation Taurus. R. H. Allen lists it as a “Hindu” name in his *Star Names* in 1899. W. Brennand lists “Agni” in his *Hindu Astronomy* in 1896.
- One is Zeta (ζ) Orionis (Alnitak) in the IAU constellation Orion (Vahia 2014).

Aguti:

This Carib asterism “Akuliyuman” or “Akuli” represents the Aguti (Dasyprocta aguti), a rodent native to Central America. This constellation should rise under that of the Awara Palm along with the asterism “Akusiwei”, representing an aguti eating the fruits of this tree (Magaña, and Jara, 1982). Its location is unknown at present.

Ahirbudhnya:

This Vedic asterism is Gamma (γ) Pegasi and Alpha (α) Andromedae (Alpheratz) as listed by the maharshi Parasara (Leitz 2019). The *Taittiriya Bramhamana* and *Atharvaveda Parisistha* list four stars, probably including the entire Square of Pegasus, and in the *Brhat Samhita* eight stars are listed (Leitz 2019).

Ain:

See Eye, below.

Ainalrami:

See Eye of the Archer, below.

Ainu House on Posts:

This Ainu Nociw (“asterism”) is made up of stars of the IAU constellation Cancer. The quadrilateral formed by Delta (δ) Cancri, Gamma (γ) Cancri, Eta (η) Cancri, and Theta (θ) Cancri is the “house” with the open cluster M 44 inside. Lines from Delta (δ) Cancri to Alpha (α) Cancri (Acubens) and from Theta (θ) Cancri to Beta (β) Cancri (Tarf) are the stilts.

Aiolos:

This Greek star "Aiolos" is the A type star HD 95086 in the IAU constellation Carina (magnitude 7.36). It received this name in the IAU's NameExoWorlds competition in 2022. Ailos (Αίολος) is a mythological keeper of the winds. It has an exoplanet, HD 95086B, "Levantes" (Λεβάντες) which is a name for easterly winds.

Air Pump:

This German asterism "Luft Pumpe" is the IAU constellation Antlia as listed by German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820).

Airplane:

There are two **telescopic** "airplane" asterisms:

- One is Cseh 5 listed by Hungarian astronomer Viktor Cseh, which is in the IAU constellation Serpens. Cseh describes it as a "faint group of stars whose five members form a small plane flying towards the south. It measures just 3' X 2'".
- One is Harrington 12 on the asterism list of American astronomer Phil Harrington: It is also known as the Party Balloon or the Arrow Cluster. It is made up of eight 7 — 8th magnitude stars in the IAU constellation Cassiopeia 40 arcminutes northwest of open cluster Messier 52 (which it appears to be dive bombing). Size 70' X 70'.
    - Five stars form the front of the "fuselage" and "wings": 4 Cassiopeiae, HIP 115218, HIP 115245, HIP 115141 and HIP 114904A, and
    - The "tail" is formed by nine stars including HIP 114227, 114212A, and 113947.

Airy Trigon:

This astrological asterism is the IAU constellations Aquarius, Gemini, and Libra. R. H. Allen lists this in his *Star Names* in 1899.

Aja:

This Hindu asterism is the IAU constellation Aries as listed in R. H. Allen's *Star Names* in 1899.

Akakaaga:

This Bahima asterism is the Pleiades cluster in the IAU constellation Taurus.

Akh of Meskhetyu:

This ancient Egyptian star "Akh" or "Ak" is Eta (η) Ursae Majoris (Alkaid) in the IAU constellation Ursa Major (Belmonte 2016) and is part of their asterism "Meshketyu" (see Bull's Foreleg, below). This was found in the temple of Hathor in Dendera (Hoffmann 2017). It was used as a reference point in the sky in a ceremony called Stretching the Cord (Krupp 1983). NOTE: We currently don't know what "Akh" means.

Akiri-doge:

This Bororo asterism is the Pleiades cluster in the IAU constellation Taurus.

Akusiwei:

This Carib asterism “Akusiweiyuman” or “Akusiwei” rises under the constellation of the Awara Palm along with the asterism “Aguti” (Magaña, and Jara, 1982). Its location is unknown at present.

Al-Faras al-A’zam:

This Arabic asterism “al-Faras al-A’zam” is the IAU constellation Pegasus as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

Al Jawza’:

This Arabic asterism is the IAU constellation Orion, who they saw as a female giant in the sky. She appeared in the poetry of Muhalhil (d. 531 C.E.). This is how she is described:

- Her “head” is the stars Lambda (λ) and Phi (ϕ) 1 and 2 Orionis, and these latter two stars are called the Circular Mark.
- Her “shoulders” are the stars Alpha (α) Orionis (Betelgeuse) and Gamma (γ) Orionis (Bellatrix),
- The three stars of the belt of Orion are a string of pearls (see String of Pearls, below),
- Her “feet” are the stars Kappa (κ) Orionis (Saiph) and Beta (β) Orionis (Rigel).
- Her “left hand” is the star Xi (ξ) Geminorum and in it she is holding a bow (see Bow of Al Jawza’, below).
- Her “right hand” is the star Pi (π) 3 Orionis and in it she is holding hair braids (see Hair Braids of Al Jawza’, below).

Al-Jawza is a proper name for a woman: This is a female figure in the sky, but its origins are obscure. The modern Arabic word “jauzah” means walnut, and this has led to some interesting theories on how the name originated or even what it is a name for. For example, English Admiral Henry William Smyth writes that “Jauza” is a name for the Pleiades, “the wall-nut” in his *Bedford Catalogue* in 1844, and elsewhere translates it as “al-jaúzá, the belted sheep”. There is an ancient Arabic story about how Al Jawza’ was promised to a man named Suhayl, represented by the star Canopus (see Glorious, below). Suhayl lives across the “river” (the Milky Way) with his two sisters, represented by the stars Alpha (α) Canis Majoris (Sirius) and Beta (β) Canis Majoris (Gomeisa), who become their asterisms the Teary-Eyed Woman (see below) and the Bleary-Eyed Woman (see below). On the morning of the wedding something awful happens, and Al Jawza is found dead, so Suhayl flees across the river, and one of the sisters also crosses to comfort him. In the 8th century when Arabic astronomers translated Greek texts, Al Jawza was transferred to the IAU constellation Gemini, as they interpreted the name as meaning in the middle of something and this seemed to fit being in the middle of the twins. They interpreted the Greek constellation Orion as “al-jabar” (“the giant”), although Orion’s bow is on the opposite side of the asterism from their original asterism Al Jawza and the female figure Al Jawza disappeared from the sky (Adams 2018):

- “al-Jauzā’” was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- A 14th century Christian Spanish astrolabe #4560 lists “al jawzā” (King 2002).
- “Geuze” and “Algauza” are listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
- John Hill gives the name “Giauza” as an Arabic name for the IAU constellation Gemini in his *Urania* in 1754.

This Bedouin (Western Saudi Arabia) asterism “al-Ǧawzā”, “al-Jawza”, or “al-Ǧawā” (الجوزا) is the IAU constellation Orion. This name was later latinized to “Elgeuze”, “Geuze”, and “Jeuze”

- Dutch lawyer Hugo Grotius (1583 – 1645) listed it as “Geuzazguar”.
- Johann Bayer’s *Uranometria* (1603) lists “Elgeuze” and “Geuze”.
- Robert Hues lists “Elgeuze” as a name for Orion and for Gemini in his *A Learned Treatise of Globes* in 1659.
- NOTE: Some Bedouin groups give this name to the belt of Orion only.

Al-Ma’refa:

This Arabic asterism “Al-Ma’refa” is the IAU constellation Lyra as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

Al-Mjaidih:

The Bedouin (Tayef region) star “al-Mğaidiḥ” (المجيدح) is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus.

Al-Muqil:

This Arabic star is Beta (β) Centauri (Hadar) in the IAU constellation Centaurus.

Al-Saidaq:

This Arabic star “Al-Saidaq” is Zeta (ζ) Ursae Majoris in the IAU constellation Ursa Major as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

Al-Shitā’:

This Arabic star “Al-Shitā’” is Zeta (ζ) Ursae Majoris in the IAU constellation Ursa Major as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

Al Sufi’s Cluster:

The open cluster Collinder 399 in the IAU constellation Vulpecula was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010): He described it as being between the ninth star of Aquila and the constellation Sagitta and that it contained stars of the 4th, 5th, and 6th, magnitude. This is now more commonly known as the “Coat Hanger” asterism (see Coat Hanger, below). Italian astronomer Giovanni Battista Hodierna “rediscovered” it in 1654. While this asterism is typically listed in the West as a **telescopic** asterism, it was originally discovered with unaided eye observations in dark skies.

Al Ruzam:

This Arabic star “Al Ruzam” is Gamma (γ) Orionis (Bellatrix) in the IAU constellation Orion as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of Fixed Stars*. The meaning is uncertain.

Al Sahja:

This Arabic star is 80 Ursae Majoris in the IAU constellation Ursa Major as listed by Robert H. West in *Popular Astronomy* in January 1895. West was a professor at the Syrian Protestant College in Beirut. R. H. Allen lists this in his *Star Names* in 1899. Compare this to the Arabic asterism Al Ṣadāk (see Test, below).

Al-Subeh:

This Arabic asterism "Al-Subeh" is the IAU constellation Lyra as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

Al Taḥāyī:

This Arabic star "Al Taḥāyī**"** is Lambda (λ) Orionis in the IAU constellation Orion as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of Fixed Stars* and listed by R. H. Allen in his *Star Names* in 1899.

Al-'Uqāb:

This Arabic asterism is the IAU constellation Aquila as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

Aladdin's Lamp:

This **telescopic** asterism is in the IAU constellation Cassiopeia and was listed in *Pattern Asterisms* by American astronomer John A. Chiravalle. Jeffrey Corder lists it as Corder 401. The "lamp's flame" is Iota (ι) Cassiopeiae. The "lamp" includes the stars HIP 12821, 12641, 12297, 11984, and 12132. Size 50' X 35'.

Aladfar:

See Talons, below.

Alarevo:

This asterism is the IAU constellation Scorpius as listed in John Hill's *Urania* in 1754: He describes this as "the Syriac name" of this constellation.

Alarm Clock:

This Romanian asterism "ceas deşteptător", also known as the "Three Balls" (see below) is the Hyades cluster in the IAU constellation Taurus (Lite, Lodina, and Ignat 2018).

Alasia:

This **telescopic** Cypriot star is HIP 90004 (HD 168746) in the IAU constellation Serpens, which was given the ancient name of Cypress in the IAU NameExoWorlds campaign in 2019. It is magnitude 7.95. It has an exoplanet named Onasilos, which is the name of the oldest recorded doctor in Cyprus, recorded on the 5th century B.C.E. Idalion tablet.

Alava:

This star is Eta (η) Serpentis in the IAU constellation Serpens. It is listed under this name in Stellarium.

Albaldah:

See Town, below.

Albahor:

This English star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major as listed by English author Geoffrey Chaucer (c.1340s – 1400) in his *Treatise on the Astrolabe*. This name was widely used on medieval astrolabes. The Constance Celestial Globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists it as "Albahor Sirius".

Albania:

This asterism "Albania" was made up of stars of the IAU constellation Coma Berenices by German astronomer Erhard Weigel (1625 – 99) who produced his *Astrocopium Orbi Europaeo Sacrum* chart in 1661, 1681 and 1688 in which he tried to replace existing constellations a new system based upon the heraldry of the nation states and principalities of seventeenth century Europe, as well as of its principal hierarchies and social classes. It represents Albania and is depicted as crossed armoured arms with each hand holding what looks like a fan.

Albali:

See Swallower, below.

Albino Butterfly Nebula:

This **telescopic** asterism is planetary nebula is NGC 2440 in the IAU constellation Puppis, which was discovered by English astronomer William Herschel in 1790 who listed it as "IV 64" in his catalogue. It is GC 1567 in the *General Catalogue* of 1864. This is O'Meara 38 in Stephen James O'Meara's *Hidden Treasures Catalogue* (2007). It is also known as the Burning Ember Nebula, the Bat Nebula, the Kiss Nebula, and the Little Lips Nebula.

Albireo:

This is the star Beta (β) 1 Cygni in the IAU constellation Cygnus. It is believed that the name originated in an ancient Greek name "Ornis" ("hen") for Cygnus, which became "urnis" in Arabic. The etymology of this is uncertain. It might have originated in a name associated to Cygnus in the 1515 edition of the *Almagest*: "ab ireo", which later appeared as "Albirco", "Abbireo", and "Alberio". There are multiple theories regarding what inspired the name "ab ireo", but I don't find any of them convincing:

- Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) lists the name "Albireo" for this star.
- Johann Bayer's *Uranometria* (1603) lists the name "Albireo" for this star.
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Albireo".
- American uranographer William Croswell (1760 – 1834) lists this double star as "Albireo" on his *Mercator Map of the Starry Heavens* in 1810.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists this star as "Albireo" it in his *Celestial Atlas* and his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822).
- *An Improved Moveable Planisphere* (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, lists this star as "Al Bireo".

- "Albireo" is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on Jamieson's *Celestial Atlas*.
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Albireo".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Albireo".
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists "Albireo" for this star.
- *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Albireo… the thrilling pair".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and 14th edition (1959) list "Albireo" for this double star.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists "Albireo" for this star.
- The IAU Working Group on Star Names approved the name Albireo for the star Beta (β) 1 Cygni Aa in 2016.

Alcaid:

See Leader of the Mourning Maidens, below.

Alcides:

This Greek name "Glory of Hera" is the IAU constellation. Hercules Alcides was one of the original names for the mythical figure Hercules and was used by the Roman poet Ovid (b. 43 B.C.E.):

- Johann Bayer's *Uranometria* (1603) lists "Alcides" for this constellation.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Alcides" as a name for Hercules.
- "Alcides" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

Alcyone:

This Greek star is Eta (η) Tauri in the Pleiades cluster in the IAU constellation Taurus. Alcyone is a character in Greek myth. Her name derives from the Ancient Greek "Ἀλκυόνη" or "Alkuónē" derived from "alkyon" or "αλκυων" ("kingfisher"):

- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) listed it as "Alcione", "Alcinoe", and "Altorich", and other variations include "Altione".
- A wooden precession globe (1730) by German uranographer Johann Georg Puschner (Dekker 2003) labels this star "Pleyades".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Alcyone".
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as "Alcyone"
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists "Alcyone" for this star.
- German astronomer Hermann Joseph Klein (1844 – 1914) lists "Alcyone" in his *Star Atlas* (1893).
- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Alcyone".
- The 1st edition (1910) and the 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) list "Alcyone" for this star.

- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists "Alcyone" for this star.
- The IAU approved the name Alcyone for the star Eta (η) Tauri A.

Alcyoneus:

This telescopic asterism is a giant Fanaroff-Riley class II radio galaxy 3.5 billion light years (1.1 gigaparasecs) from Earth, with host galaxy SDSS J081421.68+522410.0 in the IAU constellation Lynx. Alcyoneus or Alkyoneus was a traditional giant opponent of Hercules.

Aldebaran:

See Follower, below.

Alchiba:

See Tent, below.

Alcor:

See Faint One, below.

Alderamin:

See Right Forearm, below.

Aldhanab:

See Tail of the Southern Fish, below.

Aldhibah:

See Wolf, below.

Aldibah:

See Wolf, below.

Aldufin:

See Dolphin's Tail, below.

Alev and his Children:

This Estonian asterism "Alev" is the Pleiades cluster in the IAU constellation Taurus. It is found on the *Taeiva Kaart* of Estonian cartographer Ado Grenzstein (1886) which was created for the Estonian language *Olevik* newspaper and printed using the wood engraving technique. This is a reference to Alev, the ancestor of a race of heroes in Estonian mythology.

Alfirk:

See Flock of Sheep, below.

Algedi:

See Goat, below.

Algenib:

See Flank, below.

Algieba:

See Forehead, below.

Algol:

See Head of the Ghoul, below.

Algorab:

See Raven, below.

Alhena:

See Bend in the Neck of the Camel, below.

Alien:

This Vedic asterism "Nistyā" is the star Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes as listed in the *Taittirīya Brāhmana* (Ivanković 2021). The more common name for this nakshatra is "Svāti" (see Very Good, below).

Alien Ship:

This **telescopic** asterism is the planetary nebula NGC 7009 (Caldwell 55) in the IAU constellation Aquarius. It was discovered by English astronomer William Herschel in 1782 who listed it as "IV 1". It is GC 4628 in the *General Catalogue* of 1864. This was the first deep sky object to be discovered using a reflector telescope. Size 1' X 0.7'. South African astronomer Magda Streicher describes it as reminding her "of an alien ship in the dark of the night approaching us". It is also known as the "Saturn Nebula" (see below).

Alighting Vulture:

There are two Arabic asterisms with the name "an-Nisr ul-Wāqi'" (النسر الواقع) or "al-nasr al-wāqi'", translated as "alighting vulture", "swooping vulture", or "falling eagle", and this forms part of the Arabic asterisms Two Vultures (see below) and "Landing Eagle", see below:

- The first is the star Alpha (α) Lyrae (Vega) in the IAU constellation Lyra, which appears in many places:
  - "al-Nasr al-Wāqi'" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
  - This is listed as "Nasr wāqī'" on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992). This was later latinized to "Vega" which appeared in the *Alfonsine Tables* (1215 – 1270) but in other editions as "Wega" (Kunitzsch 1986).
  - The star list of Abraham Bar Hiyya in 1104 (Goldstein 1985) lists the Arabic name "nasr wāqi'" for this star and the Hebrew name "nesher nofel".

- The star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985) lists the Arabic name "al-nasr al-wāqi" and the Hebrew name "ha-nesher ha-nofel".
- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists Al-nasr al-wāqi'".
- An anonymous Hebrew star list from 1392 (Goldstein 1985) lists the Arabic name "nasr wāqi'" and the Hebrew name "nesher nofel".
- The Sloane astrolabe BM SL 54 in the British Museum which dates to 1290 – 1300 lists "Alvaca" (Dekker 2000).
- The 14th century Christian Spanish #4560 astrolabe lists "Uega" (King 2002): King translates this as "falling eagle".
- The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.168v-169r lists this star as "Wega".
- The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists this as "Wega".
- A celestial globe (1522) of German polymath Johann Schöner (1477 – 1547) lists this star as "Wega".
- German astronomer Johann Bayer (1572-1625) also listed it as "Wega".
- French scholar Joseph Justus Scaliger (1540 – 1609) lists this star as "Waghi"
- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) lists this star as "Vuega" and "Vagieh".
- Johann Bayer's *Uranometria* (1603) lists both "Vega" and "Wega" for this star and the name "Nesrussakat" for Lyra.
- Translator Giuseppe Simone Assemani (1687 – 1768) lists this star as "Veka".
- Dorn (1829) lists this as "El waki" and describes this as "Falling Vulture" as depicted on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283).
- The rete of the 14th century Spanish astrolabe NMM AST0570 in the National Maritime Museum lists "VVEGA" which is likely a misinterpretation of "Wega".
- The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) labels this star "Lucida Lyræ" and gives the names "Lyra" and "Vultur Cadens" to the constellation.
- The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) labels this star "Wega".
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Wega".
- American uranographer William Croswell (1760 – 1834) lists this star as "Lyra α" on his *Mercator Map of the Starry Heavens* in 1810.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists this star as "Vega" in his *Celestial Atlas* and in his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822).
- English Admiral Henry William Smyth's *Prolegomena* of 1844 lists "Wega" and his *Bedford Catalogue* in 1844 lists "Wega… from Wáki, in the compound name of al nesr al wáki, the falling eagle."
- It is listed as "Wega" in the third edition of Rev. Thomas William Webb's *Celestial Objects for Common Telescopes* in 1873.
- German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this star as "Wega".

- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich list this star as "Vega".
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as "Vega".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Vega".
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as "Vega".
- German astronomer Hermann Joseph Klein (1844 – 1914) lists "Vega" in his *Star Atlas* (1893).
- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Vega" and describes it as "Falling (eagle)".
- R. H. Allen lists it as "Wāḳiʿ" in his *Star Names* in 1899 and insists that the proper modern name should be "Wega".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists the names "Vega" and "Wega" for this star, but his 14th edition (1959) only lists the name "Vega".
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this star as "Vega".
- Vega is now the IAU approved name for Alpha (α) Lyrae.

- The second, later latinized to "Nasr Alwaki" is an asterism of stars in the IAU constellation Lyra: Alpha (α) Lyrae (Vega), Epsilon (ε) Lyrae, and Zeta (ζ) Lyrae:
    - The name Nasr Alwaki I is now assigned to Zeta (ζ) 1 Lyrae and Nasr Alwaki II to Zeta (ζ) 2 Lyrae.
    - John Chilmead (1899) lists this as "Alvaka", which he derived from Robert Hues' *A Learned Treatise of Globes* (1659) where Hues lists it as "Alvakah".

NOTE: R. H. Allen writes that the Arabic name "Al Naṣr al Sākiṭ" was listed by French scholar Joseph Justus Scaliger (1540 – 1609) as another name for this asterism, describing the meaning as "synonymous" and giving German astronomer Johann Bayer's variation "Nessrusakat" and translator Giuseppe Simone Assemani's "Nessrusakito".

Alioth:

See Fatty Tail of a Lamb, below.

Alioure:

This asterism is the IAU constellation Gemini as listed in the 1515 edition of the *Almagest* as listed in R. H. Allen's *Star Names* in 1899. The origin is obscure.

Aljanah:

See Wing, below.

Alkaid:

See Leader of the Mourning Maidens, below.

Alkalurops:

See Herdsman's Crook, below.

Alkaphrah:

See First Leap of a Gazelle, below.

Alkarab:

See Bucket Rope, below.

Alkes:

See Cup, below.

Alkurah:

See Blaze, below.

All Father:

This Wurundjeri and Gunai star “Bunjil” or “Beral” is Alpha (α) Piscis Austrini (Fomalhaut) in the IAU constellation Piscis Austrinus. Bunjil is a primary hero and all father in their dream lines.

This Mara and Moporr star “Bunjil” is the star Alpha (α) Piscis Austrini (Fomalhaut) in the IAU constellation Piscis Austrinus (Dawson 1881). Hamacher (2011) lists it as “Buunjill”.

This Kulin star “Bunjil” is the star Alpha (α) Aquilae (Altair) in the IAU constellation Aquila (Hamacher 2011).

This Wiradjuri, Kamilaroi, and Euahlayi asterism “Baiame” or “Mungan-ngaua” is the IAU constellation Orion.

NOTE: The Yuin call this all-father figure Daramulun, though the name Daramulan is given by other Australian peoples as the name of the wife of the all-father and is associated with the emu. Other Australian peoples call the “all father” Goin, Mangan-Ngana, Nepele, Nurunduri, Oorundoo, and Ngurunderi.

All that is Beautiful:

This Gabonese star “Itonda” is HIP 108375 (HD 208487) in the IAU constellation Grus and was given this name in the IAU NameExoWorlds campaign. This is a Myene name meaning “all that is beautiful”. This has an exoplanet named Mintome. Mintome, in Fang mythology, is a mythical land where a brotherhood of brave men live.

Alligator:

This Lacandon asterism is the IAU constellation Ursa Major.

Alligator’s Eye:

This **telescopic** asterism is the lenticular galaxy NGC 5363 in the IAU constellation Virgo. It was discovered by English astronomer William Herschel in 1784. It was listed under this name by American astrophotographer Mark Hanson on the Astrophotography page on Facebook on 2025-5-8.

Ally’s Braid:

This **telescopic** asterism is a chain of seven stars between magnitude 8.8 – 6.95 southeast of Eta (η) Tauri (Alcyone- hence the name) in the Pleaides cluster in the IAU constellation Taurus, including the

stars HIP 17692 and 17684. It was discovered by amateur astronomer Stephen Saber and listed in Steve Coe's Saguaro Astronomical Club Asterism Database. German astronomer Robert Zebahl lists it as "Ally's Plait" on his *Faint Fuzzies* website. Size 45' x 15'.

Almach:

See Caracal, below.

Almond of Pavo:

This **telescopic** asterism "Amýgdala Pavónis" is the barred spiral galaxy NGC 6782 in the IAU constellation Pavo. It was discovered in 1834 by John Herschel who listed it as h 3789 and later as GC 4488 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of its "pointed oval inner ring."

Almuredin:

This Arabic star is Epsilon (ε) Virginis in the IAU constellation Virgo as listed in R. H. Allen's *Star Names* in 1899. It is an old name and its meaning obscure.

Alnair:

See Bright One, below.

Alnasl:

See Arrowhead, below.

Alnilam:

See String of Beads, below.

Alnitak:

See Girdle, below.

Along It, it is Regularly Dreamt of:

This Dena'ina asterism "Beghunutsik' elyashi" is the Big Dipper asterism in the IAU constellation Ursa Major (Cannon 2021).

Aloe:

This asterism "Aloue" is the IAU constellation Perseus. This name is listed in Johann Bayer's *Uranometria* (1603).

Aloros:

This Akkadian star is Alpha (α) Arietis (Hamal) in the IAU constellation Aries as listed in R. H. Allen's *Star Names* in 1899. Allen cites Robert Brown's *Researches Into the Origin of the Primitive Constellations of the Greeks, Phoenicians and Babylonians* (1899) as listing this name. Aloros is a mythical king of Akkad. Brown associates it with the Assyrian name "Ailuv" and the Hebrew name "Ayil".

Alpha:

This Gallic asterism is the IAU constellation Delphinus. The Gallo-Roman historian and Bishop Gregory of Tours (538 – 594) created this to help monks use certain stars in the sky to determine the time for prayers. It is part of his asterism "Crux Maior" (see Major Cross, below).

Alpha Argus:

This German star is Alpha (α) Carinae (Canopus) in the IAU constellation Carina. It was given this name by German uranographer Johann Bayer in 1603 as it was then part of the asterism Argo's Ship (see below). It became Alpha (α) Carinae in 1763 when French astronomer Nicolas Louis de Lacaille (1713 – 1762) divided Argo's Ship into the constellations Vela, Puppis, and Carina.

Alpha Oak:

This English star with the Latin name "Alpha Roboris" is Beta (β) Carinae (Miaplacidus) in the IAU constellation Carina as named by English astronomer Edmund Halley (1656 – 1742). It was part of his asterism "Robur Carolinum" (see Charles' Oak, below).

Alphard:

See Solitary One, below.

Alphecca:

See Bright One of the Broken Ring, below.

Alphecca Opening:

John Hill lists the latinized name "Al Phecca Apertio" as an Arabic name for the IAU constellation Corona Borealis in his *Urania* in 1754. The Arabs called the star Alpha (α) Coronae Borealis "(Nayyir) al-Fakkah" (see Bright One of the Broken Ring, below).

Alpheratz:

See Navel of the Mare, below.

Alpherg:

See Emptying, below.

Alphirk:

See Flock of Sheep, below.

Alphræganus:

This asterism "Alphræganus" or "Azalange" is the IAU constellation Serpens as listed in John Hill's *Urania* in 1754: Hill claims this to be "a name by which some, who are fond of obscure words, have called the constellation" and goes on to say that "they call it an Arabic name of that constellation" and that he recognizes that "it is not properly such". Hill goes on to say that the Arabic name is "Al Hauwa", "Al Haugue", "Alhangue", or "al Hangue" which is incorrect. The Arabic name for Serpens is actually

“Al’aqeaa” (“snake”), but their name for Ophiuchus (the “snake man”) is “ul-Ḥawwā'” and their asterism “al-ḥayya”, later latinized to “Al Hayya”, (see Serpent, below) is stars in the IAU constellation Draco.

Alrakis:

See Dancer, below.

Alrescha:

See Well Bucket Rope, below.

Alruba:

See Foal, below.

Alsafi:

See Tripods, below

Alsciaukat:

See Thorn, below.

Alsephina:

See Ship, below.

Alshain:

See Peregrine Falcon, below.

Alshat:

See Sheep, below.

Ashlesha:

See Embracer, below.

Altair:

See Flying Eagle, below.

Altais:

See Goat, below.

Altar:

This Greek asterism “Θυμιατήριον”or “thysiastírion” is the IAU constellation Ara as mentioned in Aratus’ poem *Phaenomena* (270 B.C.E.) and as originally described by Ptolemy (c.100 – c.170) in his *Almagest*:

- Johann Bayer’s *Uranometria* (1603) lists “Altare vel Altaarium” for this constellation.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Altare vel Altarium” for this constellation.

- This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 lists it as “Altare Thumiamatis” and depicts it as a cubical altar with carrying poles attached to the sides.

This Italian asterism “Altare” is the IAU constellation Ara.

This French asterism “Autel” is the IAU constellation Ara.

Altar for Sweat Lodge:

This is an alternate name for the Ininew star Keewatin Atchakos (see Going Home Star, below- Buck 2016).

Altar of Heaven:

This Akkadian star is Psi (ψ) Pegasi inside the Square of Pegasus in the IAU constellation Pegasus (Leitz 2019). It is part of the asterism Field (see below).

Alterf:

See Eyes, below

Alub:

This Persian asterism is the IAU constellation Aquila.

Aludra:

See Virgin, below.

Alula Australis:

See First Leap of a Gazelle, below.

Alula Borealis:

See First Leap of a Gazelle, below.

Alya:

See Fatty Tail of a Lamb, below.

Amadioha:

This **telescopic** Igbo star Amadioha is HIP 29550 (HD 43197) in the IAU constellation Canis Major, which was given this name by the IAU NameExoWorlds campaign (magnitude 8.95). Amadioha is their God of Thunder. It has an exoplanet named Equiano, which is the name of a writer and abolitionist from Ihaila, who fought for the abolition of the slave trade.

Amalthean Goat:

This asterism “Capra illa Amalthea” (“that Amalthean Goat”) is the IAU constellation Capricornus as listed by English linguist John Minsheu (1560 – 1627). This is the goat that suckled the God Zeus. This asterism is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as “Caprae Amaltheae Jovix nutricis”.

This star is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga. Johann Bayer's *Uranometria* (1603) lists "Amalthea" as a name for this star. John Hill's *Urania* in 1754 lists "Amalthea": It is a reference to the Greek asterism "Capra and Haedi" also known as "the Goatlings" (see Kids, below). English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Amalthea" as a name for Capella.

Amanouzume-no-mikoto:

Amanouzume-no-mikoto (天宇受売命), is a Japanese Goddess of female attendants and in Japanese sky culture is the IAU constellation Orion. Orion's "sword" is the hem of her cloak.

Amansinaya:

This **telescopic** Filipino star "Amansinaya" is WASP-34 in the IAU constellation Crater and received this name in the IAU NameExoWorlds Campaign. It is magnitude 10.37. Aman Sinaya is one of two trinity deities in Tagalog mythology and is the primordial deity of the ocean and protector of fishermen. It has an exoplanet named Haik. Haik is the successor of Aman Sinaya as God of the sea.

Amazon Star:

See Female Warrior, below:

Amba:

This Vedic star from the *Taittiriya Brahmana* is Eta (η) Tauri (Alcyone) in the IAU constellation Taurus (Leitz 2019). It is part of their asterism Krttika (see Cutters, below).

Ambartsumian's Knot:

This **telescopic** asterism is NGC 3561, a pair of interacting galaxies in the IAU constellation Ursa Major. John Herschel listed it as h 835 and later as GC 2326 in his *General Catalogue* of 1864. It is also known as the Guitar (see below). It is named after Armenian astrophysicist Viktor Ambartsumian (1908 – 1996). Steinicke (2022) describes it as "30" S of NGC 3561".

Ambiguous of Virgo:

This **telescopic** asterism "Ambifárius Vírginis" is the intermediate spiral galaxy NGC 4941 in the IAU constellation Virgo. It was discovered in 1784 by William Herschel who listed it as I 40. In John Herschel's catalogue it is h 1520. It is 3383 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of the difficulty in classifying this galaxy.

Ambushed:

This Latin star "Insidiata" ("ambushed" or "besieged") is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius as listed by German poet Philipp von Zesen (1619 – 1689). R. H. Allen translates this as "lurking one" in his *Star Names* in 1899.

Amegrameth:

This asterism is the IAU constellation Ara as listed in John Hill's *Urania* in 1754: Hill describes it as "one of the Arabic names", but the Arabic name of this constellation is "Almabkhara" (see Censer, below).

Amend Fault:

This Korean asterism “Jalmos-eul Sujeonghada” (잘못을 수정하다) is a line of two stars in the IAU constellation Lacerta: 6 and 13 Lacertae.

American Goose:

This German and Italian asterism “Anser Americanus” is the IAU constellation Tucana as listed by German astronomer Johannes Kepler (1571 – 1630) and Italian astronomer Giovanni Battista Riccioli (1598 – 1671). Kepler also listed the name “Toucan”:

- The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts “Toucan” with the subtitle “Anser Americanus” and depicts a Toucan with a branch in its beak.
- Tucana is listed under this name in John Hill’s *Urania* in 1754.
- German uranographer Adolf Stieler (1775 – 1836) listed Tucana on his planisphere as “American Gans”.
- American uranographer Elijah Burritt’s *Southern Circumpolar Map for each Month in the Year* (1835) depicts “The American Goose” as a long-billed goose walking.

Ammon:

This asterism “Ammon” or “Jupiter Ammon” is the IAU constellation Aries. Johann Bayer’s *Uranometria* (1603) lists “Jupiter Ammon” as a name for Aries. The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Jupiter Ammon”. John Hill’s *Urania* in 1754 lists “Jupiter Ammon”: Hill describes it as “a name which some old writers call the sign Aries”. This asterism is listed in an “Ancient Zodiac of Egypt” in *Hindu Astronomy* by W. Brennand in 1896 as “Amun”. Brennand has labelled this illustration “from the Barberini Museum”, which is probably a reference to the 17th century Palazzo Barberini, which is now the Galleria Nazionale d’Arte Antica. This depicts a man with horns carrying a staff in each hand and also gives the name “Hammon” (see Hammon, below). Aries did not appear at all in ancient Egyptian skies and its stars appeared as part of the asterism Sheep (see below) in Seleucid skies. Amun or Amun-Ra is a sun God in ancient Egypt. Brennan attributes the name Amun for this constellation to the 5th century Roman author Macrobius Ambrosius Theodosius, who believed that the Egyptians created the signs of the zodiac and that they were later adopted by the Greeks. Brennan writes that the “Ram was assimilated to Jupiter Ammon” by Macrobius.

Ammonite of Ursa Major:

This **telescopic** asterism “Ammonoídes Úrsae Majóris” is the spiral galaxy NGC 4041 in the IAU constellation Ursa Major. William Herschel listed this as “I 252”. John Herschel listed this as h 1054 and later as GC 2672 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Amos:

This German asterism “Amos” is the IAU constellation Boötes as described by German poet Philipp von Zesen (1619 – 1689). Amos was a herdsman in the Bible.

Amphion and Zethus:

This Greek asterism is the IAU constellation Gemini. Amphion and Zethus were twin sons of Zeus, whose mother was Antiope. Johann Bayer's *Uranometria* (1603) lists "Amphion and Zethus". This name is listed as an alternate name for Gemini on the *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638). This name is listed as an alternate name for Gemini in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

Amphitrite:

This Latin asterism is the IAU constellation Delphinus as listed by the Roman poet Ovid (b. 43 B.C.E.). Amphitrite was a Goddess of the sea and wife of Neptune. Another version is "Persuasor Amphritites" ("the Persuador Amphritite"). Johann Bayer's *Uranometria* (1603) lists the alternate name "Amphritites" for Delphinus. The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Amphrites" as an alternate name for Delphinus.

Amphion's Lyre:

This Latin asterism "Lyra Amphionis" is the IAU constellation Lyra.

Amphitryoniades:

This Greek asterism "Amphitryoniades" is the IAU constellation Hercules as listed in R. H. Allen's *Star Names* in 1899 and is a reference to Hercules' foster father Amphitryon.

Amphora:

This asterism is the IAU constellation Aquarius as listed by Iranian astronomer Abu Rayhan Al Bīrūnī (973 – c.1050) and by R. H. Allen in *Star Names*. Allen also notes that "some Latin imitator" had used this name for the Great Square of Pegasus (see below).

Ample Curves of Draco:

This **telescopic** asterism "Colpódes Dracónis" is the barred spiral galaxy NGC 4319 in the IAU constellation Draco. William Herschel listed this as "I 276". John Herschel listed it as h 1210 and later as GC 2888 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name because of its "two wide open arms".

Ampoule of Triangulum:

This **telescopic** asterism "Ampúlla Triánguli" is the elliptical galaxy NGC 750 (Arp 166) in the IAU constellation Triangulum. This was discovered in 1784 by William Herschel who listed it as "II 222". It is GC 455 in the *General Catalogue* of 1864. Its partner, NGC 751, was discovered by Irish astronomer Bindon Stoney in 1850: It became GC 5200 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave as "this pair of galaxies apparently looks like a small bottle with a swollen belly).

Amru:

This Syrian asterism "Amru" or "Emru" is the IAU constellation Aries.

Amzil:

This Ayt Xebbac star (Arabic: elɛeyyub) is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus (Souag 2019).

Anadolu:

This Turkish star "Anadolu" is WASP-52 in the IAU constellation Pegasus and received this name in the IAU NameExoWorlds Campaign. It is the name of the Turkish homeland. It has an exoplanet named Göktürk, which refers to the historical origin of the Turkish people and was created as a state in Turkey in the 5th century C.E.

Anak Datu:

This Sama star "Anak Datu" is Alpha (α) Centauri (Rigil Kentaurus) in the IAU constellation Centaurus (Santos et al 2019). Ambrosio (2008) lists it as "Anakdatu". This is a fisherman spearing fish with a three pronged spear (see Three Pronged Spear, below).

Anala:

This Vedic star is Gamma (γ) Geminorum in the IAU constellation Gemini.

Añañuca:

This **telescopic** Chilean star "Añañuca" is the red dwarf star GJ 367 in the IAU constellation Vela (magnitude 10.15). It received this name in the IAU's NameExoWorlds competition in 2022. Añañuca (Phycella cyrtanthoides) is the name of a red wildflower that grows from the Coquimbo region to the Maule region, whose colour alludes to that of the star GJ 367. It has an exoplanet, GJ 367b, "Tahay". Tahay (Calydorea xiphioides) is a small flower endemic to central Chile that only blooms between 7 and 8 hours during the year. This is a reference to this exoplanet's year, which is only 7.7 hours.

Ancestral Temple:

See Yingshi, below.

Ancha:

See Haunch, below.

Anchor:

This Māori asterism "Te Taki-o-Autahi", "Mahutonga" (Best 1922, Orchiston 2017), "Kahhui O Mahuntonga" ("flock of Mahutonga") or "Te Punga" is the IAU constellation Crux. This is the anchor of the Great Boat of Tama Rereti (see below). The rope connecting this boat to the anchor is "Te Taura-O-Te-Waka-O-Tamarereti" (see Rope of the Great Boat of Tama Rereti below).

There are seven **telescopic** "anchor" asterisms:

- One is the HII region Sh2-51 and B 312 in the IAU constellation Sagittarius.
- One in the IAU constellation Hercules, Do Dz 5, is made up of four stars with two inside the curve.
- One is the open cluster NGC 6231 (Caldwell 76) in the IAU constellation Scorpius. It was discovered by Italian astronomer Giovanni Battista Hodierna before 1654. It is listed in the *General Catalogue* of 1864 as GC 4245 and in John Herschel's catalogue as h 3652. It was given this name by American astronomer Wayne Schmidt, who describes it as an anchor 60 arcminutes tall.

- One is in the IAU constellation Fornax and is Corder 406 on the observing list of American astronomer Jeffrey Corder. The six stars are magnitude 8.5 – 9.5 and include HIP 12084 and 12106. Size 15'.
- One is in the IAU constellation Gemini and is Ennis 6 on the observing list of Canadian astronomer Charles Ennis. Size 45' X 35'. This is a curve of five stars: HD 58990, HD 58969, HIP 36307, the double star 63 Geminorum, and HIP 36152, with the double star 36232 forming the top of the anchor's "shaft". NOTE: The curve of stars is Corder 1344 on Jeffrey Corder's list.
- One is in the IAU constellation Gemini and is Corder 1263 on the observing list of American astronomer Jeffrey Corder. Size 65'. This is nine stars between magnitude 5.5 and 8.5. The "shaft" of the anchor is the stars HIP 34267 and 34358. The "curve" of the anchor is the row of stars including HIP 34497, HIP 34428, the double star HIP 34247A, and HIP 34043.
- One is in the IAU constellation Canis Minor and is Ennis 46 on the observing list of Canadian astronomer Charles Ennis. Size 80' X 75. The "shaft" is the line between HIP 36200 through HD 58994, HIP 36365, and HD 59433 to Delta (δ) Canis Minoris. The curve of the anchor is an arc of six stars between 5^{th} – 9^{th} magnitude including HIP 36618, HD 59927, Delta (δ) 1 Canis Minoris, the double star HIP 36557, HIP 36492, and 36331: This curve is listed as Corder 1360 on Jeffrey Corder's observing list.

Anchor of Leo:

This **telescopic** asterism "Áncora Leónis" is the Magellanic barred spiral galaxy NGC 3664 (Arp 5) in the IAU constellation Leo. It was discovered by Wilhelm Tempel in 1879. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name due to its resemblance to an anchor.

Ancient Chariot:

This Korean asterism "Godae Byeong-geo" (고대 병거) is a triangle of stars in the IAU constellations Hydra, Libra, and Lupus: 2 Lupi, 58 Hydrae, and Sigma (σ) Librae.

Ancient Star:

This Chinese star from the Three Kingdoms to the Ming Dynasty "Niuxing" is HIP 62572A in the IAU constellation Ursa Minor.

This Chinese Chenzhuo xing guan "Niuxing" is the star HIP 65595 in the IAU constellation Ursa Minor. It is part of their xing guan "Northern Pole". It is also known as "Celestial Pivot".

Andiatis:

This Celtic (Gaulish) star "Andiatis" ("superior") Gamma (γ) Ursae Majoris in the IAU constellation Ursa Major Boutet (2014). Compare this to the Vedic asterism Bhrigu (see below). This is the name of one of Seven Sages who are part of their asterism by that name (see Seven Sages, below).

Andrew:

This asterism "Andrew" or "Saint Andrew the Apostle" is the IAU constellation Taurus and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures: Schiller depicts Andrew as a seated long haired bearded male holding a large wooden cross. This is listed in the

Harmonia Macroscosmica of Dutch uranographer Andreas Cellarius in 1661 as "S. Andrew Al Taurus". This constellation appears in Edward Sherburne's *Sphere of Marcus Manilius* in 1675 and in John Hill's *Urania* in 1754.

Andrew's Star:

This variable star is HIP 26712 (HD 37519) in the IAU constellation Auriga (magnitude 6). It is named for Irish astronomer A. David Andrews (b. 1933), who first observed this variable star.

Andromeda:

Andromeda's brightest stars, Beta (β) Andromedae (Mirach) and Alpha (α) Andromedae (Alpheratz) are only number 55 and 56 on the list of 90 brightest stars, but the stars of this constellation appear in 252 of the asterisms listed in this handbook.

The IAU constellation Andromeda (IAU abbreviation And), "the woman chained", was first mentioned in Aratus' poem *Phaenomena* (270 B.C.E.) as "Ἀνδρομέδη" ("Andromédi"). It was named by the Greeks after the Greco-Roman myth of Perseus, in which this hero rescues Andromeda from a rock in the sea to which she is chained. It became one of Ptolemy's 48 original constellations in the 2nd century, appearing as ᾽Ανδρομέδα ("᾽Andróméda") in his *Almagest* and including stars in the IAU constellations Andromeda and Perseus as follows:

- Her "head" is the star Alpha (α) Andromedae (Alpheratz), with the base of her "neck" being Delta (δ) Andromedae,
- Her "right shoulder" is the star 29 Andromedae with an "arm" running through Rho (ρ), Theta (θ), and 17 Andromedae to Lambda (λ) Andromedae,
- Her "left" shoulder is the star Epsilon (ε) Andromedae with an "arm" running through Zeta (ζ) Andromedae to Eta (η) Andromedae,
- Her "skirt" is defined by a "belt" of the stars Beta (β) Andromedae (Mirach), Mu (μ) Andromedae, and Nu (ν) Andromedae, with the bottom edge of the "skirt" being Tau (τ) Andromedae, Chi (χ) Andromedae, and Phi (ϕ) Andromedae,
- Her "right leg" runs between Phi (ϕ) Andromedae and Phi (ϕ) Persei, and
- Her "left leg" runs between Tau (τ) Andromedae and Gamma (γ) 1 and 2 Andromedae.

The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) depicts this constellation as a female in an ankle length robe with her hands raised skyward.

The globe of the 2nd century Farnese Atlas depicts this constellation as a female in an ankle length robe with her hands raised skyward (Stevenson 1921).

The Mainz Globe from the eastern end of the Roman empire (c. 150 – 220 C.E.) depicts Andromeda standing with arms outstretched and a shackle on each wrist.

Euripides (480 – 408 B.C.E.) and Sophocles (d. 406 B.C.E.) both wrote plays entitled *Andromeda*, but only fragments of both survive. Andromeda appears occasionally in the poems of Sappho as a rival poetess.

Andromeda appears in the Leiden *Aratea* (816) as a woman standing facing us, naked from the hips upwards, with her outstretched arms chained to posts (Katzenstein & Savage-Smith, 1988).

This constellation appears in editions of the 8th century *Revised Aratus Latinus:*

- Several editions (Dresden DC 183, Paris BN 12957, Prague IX. C. 6) depict her with the sleeves of her robe hanging over her elbows,
- In the Vat Reg lat 1324 edition she is naked to the waist,
- In several editions (Paris BN 12957, Gottweig 7 (146), Siena L. IV. 25, Vat Reg lat 1324) Andromeda is standing in front of water between plants,
- In two editions (St Gall 250, St Gall 902) Andromeda is wearing a trefoil hair ornament.

Andromeda was depicted by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in three ways in his *Book of the Fixed Stars* in 964 (Hafez 2010):

- The first is as a woman with her arms outstretched,
- The second is as a woman with her arms outstretched with a fish covering her legs.
- The third is as a woman with her arms outstretched with two fishes covering her legs.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi's son depicts Andromeda two ways on four pages. She is shown in full length robes, a tikka, earrings and bracelets with arms outstretched on all four pages. There are no indications of chains or shackles on her. On the first page she is looking to our left and on the next she is looking to our right. On the third and fourth pages she is depicted as she is on the first two, except that a pair of fish superimposed in front of her midsection. The smaller fish represents the northernmost "fish" of Ptolemy's constellation Pisces. The larger fish is the Arabic asterism "the Great Fish" (see below).

The oldest known Islamic celestial glove, made between 1080 – 1085 by Ibrahim ibn Sa'id al-Wazzan and his son Mohammad depicts Andromeda as a female in a full-length robe standing with arms outstretched and looking to her left. There are no shackles or chains.

The Laon 422 manuscript of 11th century *De signis caeli* depicts her nude standing between two segmented columns. The Rouen 26 manuscript of *De signis caeli* depicts her in a long gown between two wooden columns. The Oxford Laud 644, Padua 27 and Venice VIII 22 manuscripts of *De signis caeli ("of the signs of heaven*") depict Andromeda in a short skirt, with a cloak draped over her left shoulder exposing her right breast, resting her hands on what look like tree stumps. The Dijon 448 manuscript of *De signis caeli* depicts Andromeda naked to the waist, with her wrists tied to two large plants to either side. The Paris BN 5239, Paris BN 5543, Vat lat 643, and Zwettl 296 manuscripts of *De signis caeli* depict Andromeda between toilet articles with a large dragon curled at her feet. The Klosterneuberg 685 manuscript shows Andromeda alone.

The Doha manuscript (1125) of al-Sufi's *Book of Fixed Stars* depicts Andromeda on one page as a woman wearing a knee-length robe and a hat with three points. Her arms are outstretched, and she has bracelets on her wrists and ankles. On the other page she is depicted almost the same except that she is now shown wearing ankle length trousers with her outfit.

The *Liber de signis* of Scottish polyglot Michael Scot (1175 – c.1232) describes partly clothed "Andromeda" as being female in the upper half and male in the lower half. She is depicted as having her arms chained to trees to either side.

The Paris BN lat 8663 manuscript of the *De ordine ac positione stellarum in signis* depicts Andromeda nude to the waist. The 12th century Vienna ÖNB Vindob 12600 manuscript of the *De ordine ac positione stellarum in signis* depicts Andromeda facing to the rear with her right hand raised.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Andromeda as a female facing us, naked from the waist up. Her arms are extended to her sides. She has bracelets on each wrist, but no chains are depicted.

Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) depicts Andromeda as a long-haired figure facing us with arms outstretched to each side, the right hand raised as if in greeting. There is no indication of shackles, but it is labelled "al-mar'a al-musalsala" ("the chained woman").

The BAV *Astronomia* text, Vatican. lat. 3110 - Florence, ca. 1370; owned by Coluccio Salutati (1331-406) and the Madrid texts (Bibl. Nacional, Matritensis 1983, fol. 116v and Vatican, BAV, Vat. lat. 3121, fol. 12r., Bibl. Nacional, Matritensis 1983, fol. 115v and Vatican, BAV, Vat. lat. 3121, fol. 10v.) depict Andromeda fleeing Mc Gurk, Patrick (1966).

The Cusanus celestial globe of Cardinal Nicholas Cusa (1414) depicts Andromeda as a female wearing a full-length belted robe. She is seated with her arms outstretched but not shackled in any way.

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Andromeda as a frowning female in calf length green robes with her arms extended out to her sides. A pair of overlapping fish, one large and one small, are depicted in front of her chest.

The mid 15th century Wein, Oesterr. National Bibl., manuscript Lat 5415, ff.168v-169r depicts "Andromeda" as a nude figure viewed from behind. A chain runs from their raised left hand, winds around the figure's middle twice, and then runs to their extended right hand.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.71v-72r depicts Andromeda as a nude figure viewed from behind. The figure's arms are outstretched and a segmented double line which appears to represent a chain runs from one wrist to the other across the figure's back. It is not labelled and poorly drawn.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Andromeda as a long-haired figure viewed from behind. The figure's arms are extended to either side with chains hanging from wrist shackles. It is not labelled.

The vault of the Old Sacristy of the Basilica di S. Lorenzo in Firenze, Italy (1442) depicts Andromeda as a female in knee length skirts whose arms are extended to either side

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Andromeda as a curly haired human, its sex indeterminate, wearing knee length robes. The figure's arms are extended to either side where they are tied to trees.

The *Germanicus Aratea* (Siciliensis, c. 1469) depicts "Andromeda" as a robed female with extended sleeves with her arms outstretched to either side.

The *Germanicus Aratea* with scholia Strozziana (c. 1475) depicts "Andromedam" as a robed female facing us with arms outstretched.

De Astronomica ("the astronomy"), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This

depicts a woodcut of Andromeda standing between two leafless trees with her wrists tied to them. She is dressed in a short tunic and oddly, appears to have male genitalia.

The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts "Andromada (sic)" as a nude female facing away from us. Her right wrist and right ankle are tied to a tree. A chain runs across her back from wrist to wrist. Her left wrist is tied to another tree.

The early 16th century Real Academia de Historia, manuscript D-97, f.101v depicts Andromeda as a figure facing us in a knee length robe. The figure has short hair and its gender is indeterminate. Its hands are out to its sides in a "shrugging" gesture. It is not labelled. The Real Academia de Historia, manuscript D-97, f.104v – 105r depicts her in a similar fashion, but in this case she is looking to her right. It is not labelled in either case.

The "Nuremburg Maps" *(Die Karte des Nördlichen Sternenhimmels* inv.-Nr. Hz 5576), a pair of celestial hemispheres made in 1503 by Conrad Heinfogel depicts Andromeda nude and facing away from us, squatting with a shackle on her left wrist attached to a chain that runs across her back to her left hand. The end of this chain beyond her hand is attached to a ring.

The *imagines coeli septentrionales cum duodecint imaginibus zodiaci* ("images of the northern sky with twelve images of the zodiac"), commonly known as the *Northern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius (Dekker & Lippincott, 1999) depicts nude and facing away from us, squatting with a shackle on her left wrist attached to a chain that runs across her back to her left hand. The end of this chain beyond her hand is attached to a ring, in a similar manner to Heinfogel's earlier charts.

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts "Andromeda" as a long haired figure with its back to us, clothed in calf length robes. Her arms are extended to either side with a chain draped over her wrists which runs across her back. A celestial globe (1522) of Schöner depicts a nude, short-haired person with their back to us with the chain draped in the same fashion.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts Andromeda in the same manner as Dürer et al.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts "Andromeda" as a nude female facing away from us holding a chain which runs under her armpits and across her back.

Dele Stelle Fisse ("Of the Fixed Stars") by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as "Di Andremeda". The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as the "Andromeda".

The Northern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Andromeda as a nude female with her back to us kneeling on her left knee. Her arms are extended to her side with shackles on her wrists and a chain runs around her waist.

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists Andromeda in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts "Andromeda" as a nude female who is seated, her wrists shackled with a chain that crosses in front of her, looking to our left.

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicted "Andromeda" as a woman in a full length robe as viewed from the rear. Her arms are outstretched and she is looking to her left, but there are no chains or shackles.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) depicts "Andromeda" as a female nude from the waist up with her outstretched arms chained to rocks on either side.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts "Andromeda" as a nude female with shackled arms outstretched and chains on her ankles.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts "Andromeda" as a female viewed from the rear. She is wearing a skirt. Her arms are raised and a chain leads from a shackle on her left wrist to her right hand which is holding the chain, which ends in a ring.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts "Andromeda" as a long haired female viewed from the rear with her arms outstretched. She is wearing an ankle length dress and her wrists are shacked with chains.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) depicts Andromeda as a woman viewed from behind with her wrists chained.

Andromeda is listed in Danish astronomer Tycho Brahe's *Astronomiae Instauratae Progymnasmata* (1602).

Johann Bayer's *Uranometria* (1603) depicts "Andromeda" as a woman naked from the waist up, her wrists chained to two rocks. Bayer lists these names for Andromeda: "Andromeda, Mulier Cathenata, Carens Ominio Viro, Virgo Deuota, Persea, Vitulus Marinus Cathenatus".

The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch lists "Andromeda" and depicts her as a female facing us, naked from the waist up, with her wrists chained at shoulder height.

German uranographer Johann Bayer (1572 – 1625) depicts this in his Uranometria in 1603 as a woman naked from the waist up with her wrists chained to two rocks: Her right wrist shackle is connected by a chain to a shackle around her waist.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the name "Andromeda" for this constellation.

"Andromeda" is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a female naked from the waist up with her wrists chained at shoulder height.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts "Andromeda" as a female with her back to us

wearing full-length robes. Her left hand is pointing at something in front of her. Her right arm is extended with a shackle attached to a chain.

The huge *Gottorf Globe* (c1650) made for the Duke of Holstein, Frederick III, one of the world's first planetariums, depicts Andromeda as a crouching woman viewed from behind. He is naked from the waist upwards and has her arms extended to either side with her wrists shackled with chains to rocks.

Andromeda is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661. She is depicted from behind with her wrists shackled to a chain.

Ismael Boulliau's Ad astronomus Monita duo (1667) depicts Andromeda as a smiling female in calf length robes with her arms extended out to her sides. A pair of overlapping fish, one large and one small, are depicted in front of her chest. This is almost identical to the early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141, except that manuscript is colored and shows Andromeda frowning.

English uranographer John Seller's *A coelestiall planisphere* (1678) depicts "Andromeda" as a female viewed from behind with her right wrist shackled and chained. She is wearing drapery around her waist.

Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) depicts Andromeda as viewed from behind, her wrists chained, wearing a red skirt with gold lining.

The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678 by English uranographer James Clerk depicts "Andromeda" as a female viewed from behind with her left wrist shackled and chained.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts "Andromeda" as a woman as viewed from behind, with her stretched out arms shackled and chained.

The philologist Philipp Karl Buttmann (1764 - 1829) named her "Anroneda".

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this "Andromeda" and "Ἀνδρομέδη" and depicts her as a seated female, naked from the waist up. Her arms are extended to her sides with her wrists shackled and another shackle is around her waist. She looks upward for assistance.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, depicts Andromeda as a female nude from the waist up, viewed from the rear, with her left wrist shackled to a rock.

Andromeda is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729: She is depicted as a seated woman with her raised wrists shackled and her breasts exposed.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts "Andromeda" facing away from us, nude from the waist up, her wrists shackled to either side.

The *Atlas Coelestis* of German astronomer Johann Gabriel Doppelmayr (1742) depicts "Andromeda" as a female naked from the waist up, facing away from us and looking over her left shoulder. Her arms are raised to either side with shackles on her wrists.

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) depicts Andromeda as a female viewed from behind with her robes down around her waist and her wrists chained.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Andromeda as a seated female. She is naked from her waist up. Her arms are extended to her sides where they are shackled to rocks with chains and another chain runs to a large shackle around her middle.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) depicts "Andromede" as a woman with her wrists chained to a rock.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts "Andromeda" as a female viewed from the rear, naked from the waist up, with her wrists chained.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "Andromede" as a female naked from the waist up who has her arms raised and has a shackle and chain on her right wrist on his northern hemisphere chart. Later in a close-up chart she is depicted as seated, with her arms outspread and shackles on both wrists. The 1778 edition lists this constellation as "Andromede" and depicts her as a female with her raised wrists shackled and her breasts exposed.

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Andromeda" and depicts it as a female with drapery around her middle with her raised arms shackled.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists "Andromeda" in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts "Andromeda" as a female viewed from behind wither right arm shackled and chained.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts "Andromeda" as a female nude from the waist up, viewed from behind, with her arms chained to either side.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists Andromeda and depicts her as a female facing away from us with her wrists shackled.

American uranographer William Croswell (1760 – 1834) depicts Andromeda on his *Mercator Map of the Starry Heavens* in 1810 as a female viewed from behind, naked from the waist up, with her raised wrists shackled and chained.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Andromeda it in his *Celestial Atlas* in 1822: She is depicted as a female with a garment that exposes her left breast and has both her wrists and ankles shacked with chains. Jameison's *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822) depicts Andromeda as a seated female, naked from the waist up, shackled at both wrists and ankles.

"Andromeda" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as a female nude from the waist up, with her right wrist and waist chained to a rock on one side and her left wrist chained to a rock on the other side.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depict Andromeda as a female viewed from the rear, drapery coming down from her left shoulder, with both wrists shackled to chains.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts "Andromeda" as a seated male with her raised arms shackled and chained.

Andromeda is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on Jamieson's *Celestial Atlas*. *Urania's Mirror* depicts her wearing chained shackles on her wrists and around her waist and is wearing a garment that leaves her left breast exposed.

"Andromeda" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): She is depicted as a seated woman in a long robe with her wrists shackled at shoulder height to either side.

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Andromeda, The Chained Lady" as an official constellation "recognized in the catalogue of the British Association".

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation simply as "Andromeda".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Andromeda" in his *Star Atlas* (1893).

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Andromeda".

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Andromeda".

While many charts and globes show Andromeda as a white woman, as did the 1st century Roman poet Manilius, who described her as "nivea cervice" ("snowy neck") some show her as black. The Roman poet Ovid (b. 43 B.C.E.) suggests this in his "patriae fusca colore suae" ("his country's brown colour") although he placed her in India as Herodotus did.

Standard IAU charts depict Andromeda as three lines of stars radiating out from Beta (β) Andromedae (Mirach):

- One runs to Gamma (γ) 1 Andromedae,
- One runs through Mu (μ) Andromedae to Nu (ν) Andromedae, and
- One runs through Delta (δ) Andromedae to Alpha (α) Andromedae (Alpheratz), which it shares with the constellation Pegasus.

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) redesigned the lines of Andromeda in his book *The Stars - A New Way to See Them* (1952):

- Her "head" is the star Alpha (α) Andromedae (Alpheratz),

- Her “body” is the triangle of stars Beta (β) Andromedae (Mirach), Delta (δ) Andromedae, and Pi (π) Andromedae,
- One “arm” runs from Delta (δ) Andromedae to an “elbow” at Zeta (ζ) Andromedae to a “hand” at the stars Eta (η) and 36 Andromedae.
- One “arm” runs from Pi (π) Andromedae to a “wrist” at Iota (ι) Andromedae and a “chain” formed by the stars Lambda (λ), Kappa (κ), and Omicron (ο) Andromedae,
- One “leg” runs from Beta (β) Andromedae (Mirach) to a “knee” at Upsilon (υ) Andromedae to a “foot” at Gamma (γ) 1 and 2 Andromedae, and
- One “leg” runs from Beta (β) Andromedae (Mirach) through Mu (μ) Andromedae to a “knee” at Nu (ν) Andromedae through Phi (φ) Andromedae to a “foot” at 51 Andromedae.

Sky and Telescope Magazine, founded in 1941, depicts Andromeda in their magazine and publications like this:

- Her “head” is Alpha (α) Andromedae (Alpheratz), with a line running to Delta (δ) Andromedae forming her “neck”,
- Her “body” is the triangle of the stars Delta (δ) Andromedae, Beta (β) Andromedae (Mirach), and Pi (π) Andromedae,
- One “arm” runs from Delta (δ) Andromedae through Epsilon (ε) and Zeta (ζ) Andromedae to Eta () Andromedae,
- One “arm” runs from Pi (π) Andromedae to a “wrist” at Iota (ι) Andromedae,
- A chain of the four stars Lambda (λ), Kappa (κ), Iota (ι), and Omicron (ο) Andromedae form her “shackle”,
- Her “legs” are two lines of stars running out from Mirach:
    - One runs to Gamma (γ) 1 Andromedae, and
    - One runs through Mu (μ), Nu (ν), and Phi (φ) Andromedae to 51 Andromedae.

Andromeda Galaxy:

This asterism is Messier 31, a spiral galaxy in the IAU constellation Andromeda, named for Andromeda, a princess who was the wife of Perseus in Greek mythology. It was first formally described by Persian astronomer Abd al Rahman al Sufi in his *Book of Fixed Stars* in 964: He called it a “nebulous smear” or “small cloud”.

- The German astronomer Simon Marius (1573 – 1625) was the first to publish a telescopic description of this galaxy in 1611 in *De Mundo Joviali*.
- This was listed in the General Catalogue of 1864 as GC 116 and the New General Catalogue of 1888 as NGC 224.
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this galaxy as the “Great Nebula in Andromeda”.
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), calls this the “Great Nebula”.
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this as the “Great Nebula in Andromeda”.
- William Denning’s *Telescopic Work for Starlight Evenings* (1891) lists this as the “nebula in Andromeda” and the “Great Nebula in Andromeda”.

- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) calls this the "Great Nebula" and his 14th (1959) describes this as the "Great Nebula in Andromeda".
- *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns calls this the "Great Nebula".

Andromeda One:

This **telescopic** asterism is a dwarf spheroidal galaxy in the IAU constellation Andromeda which is a satellite galaxy of the Andromeda Galaxy (M 31). It was discovered by Dutch-Canadian astronomer Sidney van den Bergh with the Mount Palomar Observatory in 1970.

Andromeda's Head:

This English asterism is the Andromeda Galaxy, Messier 31, in the IAU constellation Andromeda. R. H. Allen writes in his *Star Names* in 1899 that this dates to the 18th century. It may have been influenced by the Babylonian asterism Anunitu (see below) which had this galaxy as Anunitu's head.

Andromeda's Parachute:

This American telescopic asterism is the gravitationally lensed quasar J014709+463037 in the IAU constellation Andromeda. This name was listed in the *Deep Sky Forum* by Alvin Huey in February 2019.

Andromede:

This Egyptian asterism is one of the paranatellonta of the second decan of Aries as listed in the *Sphaera Barbarica* described by Teucros (Mosenkis, date n/k). Mosenkis describes this as the "middle part of Cetus".

Anfac:

This Welsh asterism is the IAU constellation Scorpius. Anfac was a fearful monster eventually captured and imprisoned by Hu Gadarn (see below).

Angel Nebula:

There are two **telescopic** Angel asterisms:

- One is the reflection nebula NGC 2170 (vdB 67, LBN 994, Ced 63) in the IAU constellation Monoceros. This was discovered in 1784 by English astronomer William Herschel who listed it as "IV 19" in his catalogue. It is GC 1362 in the *General Catalogue* of 1864.
- One is the integrated flux nebula Mandel-Wilson 2 in the IAU constellation Ursa Major. It is also known as the Dust Angel Nebula.

Angel Wing:

This **telescopic** asterism PGC 29031 is a galaxy in the IAU constellation Leo.

Angelic of Canes Venatici:

This **telescopic** asterism "Angélica Cánum Venaticórum" is the intermediate barred spiral galaxy NGC 5377 in the IAU constellation Canes Venatici. It was discovered in 1787 by William Herschel who listed it as "I 187". It became GC 3716 in the *General Catalogue* of 1864. This name appears in *The Catalogue of*

One Thousand Named Galaxies by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "this galaxy bears some apparent resemblance to a winged angel."

Angelfish:

This **telescopic** asterism is the globular cluster Messier 71 (NGC 6838) in the IAU constellation Sagitta. It was discovered by Swiss astronomer Philippe Loys de Chéseaux in 1745 and included in French astronomer Charles Messier's catalogue in 1780. It is listed in John Herschel's General Catalogue of 1864 as GC 4520.

Anger:

This Kiribati star "Un" or "Na Un" is currently unidentified (Trussel and Groves 1978).

Angetenar:

See Bend of the River, below.

Angiras:

This Vedic star "Añgiras", "Angirā", or Bharadvàja is Epsilon (ε) Ursae Majoris in the IAU constellation Ursa Major (Boutet 2014, Bhagwath 2019). It is listed in R. H. Allen's *Star Names* in 1899. This is one of the sons of Brahma, who appears as Vashishtha (the star Zeta (ζ) Ursae Majoris). The other sons of Brahma are the other stars in the Big Dipper asterism (see Seven Sages, below).

Angle:

This Arabic star "az-Zāwiyah" (الزاوية) or "Al Zāwiah" is Eta (η) Virginis in the IAU constellation Virgo, later latinized to "Zawiah" or "Zaniah". The IAU approved the name Zaniah for the star Eta (η) Virginis Aa.

Angle of the Barking Dog:

This Arabic star "Zāwiyat ul-ʿAwwā'" (زاوية العواء) or "zawiyat al-'awa'", translated as "angle of the howling dogs" or "angle of the barking dog", is Beta (β) Virginis in the IAU constellation Virgo, later latinized to "Zavijava":

- Italian astronomer Giuseppe Piazzi (1786 – 1846) listed this star as "Zavijah".
- English Admiral Henry William Smyth's *Prolegomena* in 1844 lists "Zavijava" and his *Bedford Catalogue* in 1844 lists "Zavijava… which is corrupted from Záwijat al'auwà, i. e., the stars of the barker, or barking bitch", attributing the name Zavijava to Piazzi.
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Zavijava".
- R. H. Allen lists the name "Zāwiat al 'Awwā'" in his *Star Names* in 1899 and attributes it to Persian astronomers Zakariyya' al-Qazwini (1203 – 1283), 16th century Arabic astronomer Al Tizini, and Persian astronomer Ulugh Beg Mirza (1394 – 1449), and claims that it is a name for Gamma (γ) Virginis.
- The *Standard Dictionary of Facts (*1908 – 1924) lists it as "ZarijanSmyth goes on to say that the astronomer Kazwini called it "Záwiyah al 'auwà, the barker's corner" and later defines it as "the barker's corner".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists the names "Zawijah" and "Zavijava" for this star, but the 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) only lists the name "Zawijah".

- The IAU approved the name Zavijava for Beta (β) Virginis.

This Persian star “Laouiyet al Aoua” is Gamma (γ) Virginis in the IAU constellation Virgo as listed in the *Calendarium* of 17th century astronomer Al Achsasi Al Mouakket and is part of the asterism Barking Dog (see below).

This Latin star “Angulus Latratoris” is Gamma (γ) Virginis in the IAU constellation Virgo.

Angle of the Howling Dogs:

See Angle of the Barking Dog, above.

Angled Woman:

This Hungarian asterism “Részögös Asszony” appears to be the stars of the IAU constellation Andromeda. The celestial map of Hungarian uranographer Sandor Nagy (1915) lists this asterism.

Angry Dog:

This Xhosa asterism is Lambda (λ) Scorpii and Upsilon (υ) Scorpii in the IAU constellation Scorpius (Holt and Slotegraaf 2022).

Angry Giant:

This Lokono (Arawak- middle Rio Negro region and Guiana highlands) asterism “Baukur” is the IAU constellation Orion (Rybka 2018). The twin sons of the Sun killed the angry giant Baukur and sent him into the sky. The setting of Orion’s belt marks the start of their new year.

Angular of Ursa Major:

This **telescopic** asterism “Angulátus Úrsae Majóris” is the edge-on barred spiral galaxy NGC 2654 in the IAU constellation Ursa Major. It was discovered by Wilhelm Tempel in 1882. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name because “the central bulge of this edge-on galaxy has a rather square-like, angular form”.

Aniara:

This **telescopic** Swedish star is HIP 57820 in the IAU constellation Ursa Major (magnitude 7.85) and was given this name by the IAU NameExoWorlds campaign. It is the name of a spaceship in a poem by the same name by Harry Martinson. It has an exoplanet named Isagel, which is the name of the pilot of that spaceship.

Animal:

This Dakota/Lakota/Nakota asterism “Tayamnipa” (“born of three relatives”) is an animal, perhaps a buffalo. This asterism is actually the “head” of this animal, the Pleiades cluster in the IAU constellation Taurus. Other parts of this animal are “Animal’s Backbone”, “Animal’s Ribs” and “Animal’s Tail (see below).

Animal Carcasses:

This Mapuche asterism is the Magellanic Clouds. The Milky Way is the hunting field of rheas, Crux is the bolas being used to hunt animals, and the Pleiades cluster are the rhea’s nest.

Animal's Backbone:

This Dakota/Lakota/Nakota asterism "Taymnichankahu" is Orion's belt in the IAU constellation Orion and is part of their asterism "Animal" (see above).

Animal's Ribs:

This Dakota/Lakota/Nakota asterism "Tayamnituchuhu" is stars in the IAU constellation Orion: Alpha (α) Orionis (Betelgeuse) and Beta (β) Orionis (Rigel) and is part of their asterism "Animal" (see above).

Animal's Tail:

This Dakota/Lakota/Nakota star "Tayamnisinte" is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major and is part of their asterism "Animal" (see above).

Aniruddha:

This Vedic star is Epsilon (ε) Orionis (Alnilam) in the belt of Orion in the IAU constellation Orion (see Orion below).

Ankaa:

See Phoenix, below.

Ankle of the Horse:

This Arabic star "ka'b al-faras" is Kappa (κ) Pegasi in the IAU constellation Pegasus:

- This appears in the abbreviated form "Cabi" on the 14th century astrolabe #4560 from Christian Spain (King 2002).
- NOTE: This does not appear elsewhere and is not a standard star found on astrolabes, though it does appear on some astrolables of Muhammad ibn Fattuh al-Khama iri of Seville ca 1225 (King 2002).

Ankle of the Rein Holder:

This Arabic star "kaʿb ðīl-ʿinān" (العنان) or "Ḳabḍ al ʿInān", later latinized to "Kabdhilinan" or "Kabalinan" is Iota (ι) Aurigae in the IAU constellation Auriga:

- Persian astronomer Zakariyya' al-Qazwini (1203 – 1283) listed it as "Al Ḳaʿb dhiʿl ʿInān".
- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists "al-ka'b al-ayman li-dhīl 'l'inān" ("the right ankle of the rein holder, Auriga").
- It is also known by the shorter name "Al-Kab " (كعب ذي), later latinized to "Alkab":
- This star is listed as "Alkab" on the astrolabe described by English author Geoffrey Chaucer in his *Treatise on the Astrolabe* in 1391. Its modern name is Hassaleh (see below).
- NOTE: R. H. Allen wrote that this name was given to the star Gamma (γ) Aurigae in his *Star Names* in 1899 and later also writes that it was a name for Beta (β) Tauri (Elnath) and translates the name as "heel of the rein holder".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists this as "Kab'dhí-l-inán, i.e., heel of the rein-holder" and also identifies it as Beta (β) Tauri (Elnath) but goes on to claim that it is "entered on several star catalogues as [Gamma] γ Aurigae".

Anomalous of Pisces:

This **telescopic** asterism "Anómalus Píscis" is the spiral Seyfert galaxy NGC 7603 (Arp 92) in the IAU constellation Pisces. This became GC 6178 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "this galaxy caused sharp controversy about redshift interpretation between Halton Arp and most other astronomers".

Anonymous:

This star with the Latin name "Anonyma" is a double star (magnitudes 7.5 and 9) within 2 arcminutes of Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor as listed in R. H. Allen's *Star Names* in 1899. Allen writes that it appears in "Poole's Celestial Handbook", which would be the Poole Bros. *Celestial Handbook* of 1892, written by Jules A. Colas. German astronomer Hermann Joseph Klein (1844 – 1914) lists "Anonyma" in his *Star Atlas* (1893).

Anser:

See Goose, below.

Ant:

This Boorong and Wotjobaluk asterism "Collenbitchick" is the double star Alpha (α) Capricornus (Algedi) in the IAU constellation Capricornus as listed by Stanbridge (1857), Morieson (1999) and Hamacher and Frew (2010). This is the uncle of Totyarguil and rescued his remains from bunyips (water monsters). This double star is seen as his fingers feeling for the bank of the river.

There are three **telescopic** "ant" asterisms:

- One is the planetary nebula Mz 3 in the IAU constellation Norma. It was discovered in 1922 by American astronomer Donald Howard Menzel. It is called this as it resembles the head and thorax of an ant. It is also known as the Chamber of Horrrors.
- This is an alternate name for the Peanut Nebula (see above).
- One is PGC 32907, a galaxy in the IAU constellation Leo.

Ant Egg Star:

See Bush Food, below.

Anta:

This Vedic asterism is the IAU constellation Pisces as listed in R. H. Allen's *Star Names* in 1899.

Antamarda:

This Hindu asterism is the IAU constellation Andromeda.

Antarctic of Mensa:

This **telescopic** asterism "Antárctica Ménsae" is the barred spiral galaxy IC 2051 in the IAU constellation Mensa. This was first recorded by American astronomer DeLisle Stewart (1870 – 1941). This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it "is located at a latitude that corresponds with a spot on Antarctica on Earth."

Antares:

See Rival to Ares, below.

Antares Nebula:

This **telescopic** HII region is IC 4606 (LBN 1107/1108, Ced 132/134, vdB 107) in the IAU constellation Scorpius.

Antar's Star:

This Arabic star is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius. R. H. Allen writes in his *Star Names* in 1899 that Antar or Antarah was a warrior hero of the Golden Muʿallaḳāt, seven famous selected Arabian poems inscribed in letters of gold on silk, or Egyptian linen, suspended in the Ka'bah at Mecca.

Anteater:

This Ticuna asterism "Tchatü" is made up of the stars of the IAU constellations Triangulum Australe, Corona Australis, Norma, and Ara. His "eyes" are Alpha (α) Trianguli Australis (Atria) and Beta (β) Trianguli Australis and his "tail" is Corona Australis. Anteater fights with the Jaguar "Ai" (see Jaguar, below).

This Apinajé asterism is likely similar to the Ticuna asterism "Tchatü" (above) and is believed to be fighting a jaguar (Lima and De M. Figueirôa, 2007).

Anteater Nebula:

This **telescopic** asterism is the reflection nebula NGC 6726 in the IAU constellation Corona Australis. It was discovered by German astronomer Albert Marth (1828 – 1897) observing from Malta. It is GC 5935 in the *General Catalogue* of 1864. Scottish astronomer Robert T.A. Innes (1861 – 1933) referred to it as part of a complex nebula he calls "Schmidt's Nebula" in 1896: This would be Johann Friedrich Julius Schmidt, who was director of the National Observatory of Athens from 1858 – 1884. It is also known as the "Baboon Nebula".

Antecedent Dog:

This Arabic star "al kelb al mutekaddem" is Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor as listed in English Admiral Henry William Smyth's *Bedford Catalogue* in 1844.

Antelope:

This Kamia asterism is the belt of Orion in the IAU constellation Orion.

This Vedic rashi "Makara" or "Makar" as listed in the Vedic *Candragarbha-parivarta* (Boutet 2014, Kotyk 2017, Bhagwath 2019, Rath 2022) is the IAU constellation Capricornus. This Chinese phonetically translated "Makara" from the Vedic *Candragarbha-parivarta* in 566 as "Mojialuo" (Kotyk 2017). W. Brennan lists it as "Macara" in his Hindu Astronomy in 1896 and translates it as "sea monster" and Boutet describes it as a crocodile or dolphin. The Chinese translation of the Sūryagarbha-parivarta from 585 describes it as "Makara Deity" (Kotyk 2017). It is also known as "Ushas" (see below). Ushas is the daughter of the God Prajapati. Ushas transforms herself into an antelope to escape the attentions of her father Prajapati (see below) who transforms himself into a male antelope to pursue her (Vahia 2014). There is another version of this story where they turn themselves into Deer (see Deer, above). Bhagwath (2019) writes that it represents the energy of the God Bhaga.

This Myanmar yathi (zodiac constellation) “Makara” (မကာရ) is the IAU constellation Capricornus.

This Sinhalese asterism “Makra” is the IAU constellation Capricornus.

This Tamil asterism “Makaram” is the IAU constellation Capricornus.

This Southern Paiute asterism is the IAU constellation Taurus (Gillard 2021).

Antelope Deity:

The Chinese translation of the Sūryagarbha-parivarta from 585 describes the IAU constellation Capricornus it as “Makara Deity” (Kotyk 2017). Compare this to the Vedic asterism Makara (see Antelope, above).

Antelope of Crater:

This **telescopic** asterism “Dorcádius Cratéris” is the spiral galaxy NGC 3981 (Arp 289) in the IAU constellation Crater. It was discovered in 1785 by British astronomer William Herschel who listed it as “III 274”. It became GC 2628 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “the head of an antelope can be recognized… the nucleus can be seen as the large bright eye and the extending spiral arms as the horns and neck.”

Antennae Galaxies:

This **telescopic** asterism the “Antennae” or the “Antennae Galaxies” is NGC 4038 and NGC 4039 (Caldwell 60/61, Arp 244), a pair of colliding galaxies in the IAU constellation Corvus. These galaxies were discovered by English astronomer William Herschel in 1785 who listed them as “IV 28.1” and “IV 28.2”. They are GC 2670 and GC 2671 in the *General Catalogue* of 1864. It was given this name by American astronomer Harlow Shapley (1885 – 1972) and South African astronomer John S. Paraskevopoulos (1889 – 1951) because of the two long “tails” of stars, gas, and dust ejected from the collision, resembling an insect’s antennae. This is also known as the Ring Tail Galaxy (see below), the Snorter (see below), the “Little Shrimp”, and the Mosquito Larvae (see below). It is Arp 244 in Arp’s *Atlas of Peculiar Galaxies*. In *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010) they are listed as the Northern Antenna of Corvus (“Anténna Boreális Córvi”), the Southern Antenna of Corvus “Anténna Austrális Córvi”, and together as Antennae of Corvi (“Antennae Corvi”).

Antinoos:

This Greek asterism “swan” was part of Ptolemy’s constellation Eagle (᾽Αετός – see Eagle, below) which is now the IAU constellation Aquila. The “Eagle” is holding Antinoos in its claws:

- The “body” is a line between a “tail” at the star Theta (θ) Aquilae through the stars 62 Aquilae, Eta (η) Aquilae and Delta (δ) Aquilae,
- One “leg” runs from Eta (η) Aquilae to a “knee” at 42 Aquilae and a “foot” at Kappa (κ) Aquilae,
- Another “leg” runs from Delta (δ) Aquilae to a bend at Lambda (λ) Aquilae. From here two lines run out:
    - One short line goes to 12 Aquilae, and
    - The other goes to a bend at 32 Aquilae and ends at 41 Aquilae.

The earliest recorded instance of the use of this antique constellation was on a celestial globe by the German uranographer Caspar Vogel in 1536. It is tucked into the area above the left wing of the IAU constellation Aquila between Aquila and the IAU constellation Delphinus where Ptolemy (c.100 – c.170) had it between Aquila and Sagittarius.

Mercator put Antinoos on his celestial globe in 1551 with six stars.

German astronomer Johann Bayer put Antinoos in his *Uranometria* in 1603 but did not distinctly list its stars and gave it the name Ganymedes (see Ganymede, below).

German astronomer Johannes Kepler listed Antinoos in his *Stella Nova* in 1606 and in his *Tabulae Rudolphinae*.

Longomontanus (Danish uranographer Christian Longberg) listed Antinoos in his *Astronomica Danica* in 1640.

John Flamsteed (1646 – 1719) listed it in his *Historia Coelestis* as "Aquila Antinous" and "Aquila cum Antinoo" ("Aquila with Antinoo").

Hungarian Jesuit astronomer Abbé Maximilian Hell listed Antinoos in his *Ephemerides Astronomicae* of 1769 and 1770.

German astronomer Johann Elert Bode (1747 – 1826) listed Antinoos, but German astronomer Friedrich Wilhelm Argelander omitted it from his *Uranometria Nova* of 1843, although he did show it as part of the constellation Aquila.

This influenced British botanist John Hill in 1754 when he created his asterism "Pinna Marina" (see Mussel below). Hill lists Antinous in his *Urania* in 1754, attributing it to Polish astronomer Johannes Hevelius (1611 – 1687).

Compare this to the Latin asterism Antinous, below.

Antinous:

This Latin asterism "Antinoüs" or "Antinous" was a repurposing of the asterism "Ganydmede" (see below) which appears in the *Almagest* of Claudius Ptolemy (100 – 177 C.E.). It was created in 132 by the emperor Hadrian (76 – 138 C.E.) who rebranded it to commemorate one of his lovers. This was reported by Roman statesman Cassius Dio (155 – 235 C.E.) and author Royston Lambert in the 1984 book *Beloved and God: The Story of Hadrian and Antinous*.

The BAV *Astronomia* text, Vatican. lat. 3110 - Florence, ca. 1370; owned by Coluccio Salutati (1331-406) and the Madrid texts (Bibl. Nacional, Matritensis 1983, fol. 116v and Vatican, BAV, Vat. lat. 3121, fol. 12r., Bibl. Nacional, Matritensis 1983, fol. 115v and Vatican, BAV, Vat. lat. 3121, fol. 10v.) depict Jove (not Antinous) riding the eagle Aquila Mc Gurk, Patrick (1966).

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Antinous as a nude figure with long curly hair riding on the back of Aquila. The figure has its left arm around the neck of Aquila the eagle, and in his right hand he is carrying a spear.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts the earliest known graphical representation of Antinous on a globe or chart (Dekker 2010).

The Northern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Antinous as a nude male with is back to us, falling to his knees on a plinth as if trying to escape Aquila, which is diving above him.

Gerardus Mercator (1512 – 1594) included Antinous on his 1551 celestial globe. Antinous is depicted as a nude male kneeling on a plinth with his arms outstretched. Aquila is depicted flying to our right over his head.

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicted "Aquila seu vulture volans sydus 16" ("the eagle, or flying vulture, 16 stars") as a male with his back to us, seated on a plinth, turning as if to reach something to his left. Aquila is flying to our right over his head.

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) does NOT depict Antinous.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts "Antinous" as a nude male being lifted off of a plinth by Aquila.

Dutch uranographer Willem Janszoon Blaeu (1571 - 1638) depicts Antinous on his celestial globe of 1602 (Stevenson 1921).

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) depicts "Antinous" as a nude child being carried by Aquila.

Danish astronomer Tycho Brahe's *Astronomiae Instauratae Progymnasmata* (1602) lists Antinous as a separate asterism from Aquila. Since this was published by Johannes Kepler after Tycho's death, it is not known if this was his decision or Tycho's: Kepler listed it separately as "Antinous" in 1606.

German uranographer Johann Bayer (1572 – 1603) depicts it as "Ganymedes" in his *Uranometria* in 1603 as a flying eagle carrying a young nude male with shoulder length hair.

"Antinous" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and depicted as a nude child being carried by Aquila.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists "Antinous" as a constellation.

Gores for a celestial globe Bibliothèque Nationale de France, Département Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts Antinous as a nude youth kneeling with arms extended as he is picked up off of a plinth by Aquila.

The huge *Gottorf Globe* (c1650) made for the Duke of Holstein, Frederick III, one of the world's first planetariums, depicts only the upper half of Antinous, who is shown as a curly haired child. The lower part of his body is below the edge of the dome.

Antinous appears in Robert Hues' *A Learned Treatise on Globes* in 1659.

Antinous is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661.

Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) labels this asterism "Antimous" and shows this as a nude child being carried by the flying eagle Aquila.

Edward Sherburne lists Antinous in his *Sphere of Marcus Manilius* in 1675.

The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678 by English uranographer James Clerk depicts “Antinous” as a nude child below Aquila.

English uranographer John Seller’s *A coelestiall planisphere* (1678) depicts “Antinous” as a nude child below Aquila.

Antinous is listed by Polish astronomer Johannes Hevelius (1611 – 1687) in his *Prodromus Astronomiae*, which includes his *Catalogus Stellarum Fixarum* (1690). Hevelius depicts it as a youth with drapery wound around him brandishing a bow and arrow to our right. Antinous is being carried by the eagle Aquila.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley’s pirated catalogue of Flamsteed’s observations of 1712, depicts Antinous as a nude youth armed with a bow and arrow.

Antinous is listed in English astronomer John Flamsteed’s *Atlas Coelestis* in 1729: It is depicted as a nude male child waving his right hand. In Flamsteed’s Historiae Coelestis britannicae (1725) he lists it by three different names: “Aquila Antinous”, “Aquila vel Antinous (“Aquila, or Antinous”)”, and “Aquila cum Antinoo (“Aquila with Antinous”).

Corbinianus Thomas depicts “Antinous” as a child holding a long ribbon which winds across his middle in his *Mercurii philosphici firmamentum firmianum* (1730).

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts “Antinous” as a nude child being carried by Aquila: Antinous is drawing a bow and arrow.

German engraver and cartographer Tobias Conrad Lotter’s *Planisphaerium Coeleste* (1750) depicts Antinous as a youth drawing a bow and arrow being carried by Aquila.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Antinous as a curly haired male being carried away by Aquila. Antinous has just dropped a bow and arrow from his right hand.

John Hill lists Antinous as part of Aquila in his *Urania* in 1754.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts “Antinous” and depicts him as a nude male waving his right hand, as does the 1778 edition.

Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists this constellation as ”der Adler und Antinous“ and depicts it as an eagle in flight to our left carrying a nude child. The stars of Antinous are extended by Bode to the edge of Scutum.

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts “Antinous” as a nude child below Aquila.

“Antinous” is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801): It is depicted as a child being carried by Aquila.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists Antinous and depicts him as a nude young man armed with a bow and arrow.

American uranographer William Croswell (1760 – 1834) depicts "Antinous" on his *Mercator Map of the Starry Heavens* in 1810 as a child being carried by Aquila.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Antinous in his *Celestial Atlas* and his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822): He is depicted as a curly haired young man in a toga with a bow and arrow in his right hand.

English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Antinous" and refers to stars in this constellation with the suffix "Antinoi".

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts "Antinous" as a male drawing a bow and arrow being carried by Aquila.

"Antinous" is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on Jamieson's *Celestial Atlas*. He is depicted as holding a bow and several arrows in his right hand and a single arrow in his left hand.

Antinous is listed in the third edition of Rev. Thomas William Webb's *Celestial Objects for Common Telescopes* in 1873: Webb describes it as a "now usually thrown in to [sic]Aquila".

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), states: "A constellation called Antinous,… is represented on some maps as occupying the lower portion of the space given to Aquila". Serviss incorrectly claims that Antinous "was invented by Tycho Brahe".

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists Antinous as a separate constellation beside Aquila.

R.H. Allen describes it this way in his *Star Names* in 1899:

- Head: Eta (η) and Sigma (σ) Aquilae
- Body: Theta (θ), Iota (ι), Kappa (κ), Lambda (λ), Nu (ν), and Delta (δ) Aquilae.

Allen notes that "Flamsteed omitted σ and ν from his catalogue but added i". Allen lists the names "Puer Adrianaeus" ("Hadrian's Boy"), "Bithynicus" ("the Bithynian"), "Phrygius" ("the Phrygian"), "Pincerna" or "Pocillator" ("the cup bearer").

Antler:

This early Celtic (Gaulish) asterism "Antosclo" is the IAU constellation Libra, abbreviated as "Ind" in the *Book of Ballymote* (Boutet 2017).

Antlia:

None of the stars of this constellation are brighter than 4th magnitude and show up in 42 of the asterisms listed in this handbook.

This IAU constellation (IAU abbreviation Ant) "Machine Pneumatique" ("pneumatic machine") was first described by French astronomer Abbé Nicolas Louis de Lacaille (1713 – 1762) in 1751-2 to commemorate the air pump invented by French physicist Denis Papin (1647 – 1713). Lacaille's *Planisphère des Étoiles Ausralea* (1756) depicts "la Machine Pneumatique" as a glass pressure vessel on

top of a round table over a cylindrical device on a stand with curved legs. In 1763 Lacaille Latinized the name to “Antlia Pneumatica”.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts “la Machine Pneumatique” as a table with a bell jar and a pump.

This German asterism “Luft Pumpe” is the IAU constellation Antlia as listed by German astronomer Johann Elert Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820). Bode’s *Vorstellung Der Gestirne* (1782) lists this constellation as “Luftpumpe“.

Scottish uranographer Alexander Jamieson (1782 – 1850) listed this constellation in his *Celestial Atlas* in 1822 as “Antlia Pneumatica”.

English astronomer John Herschel suggested changing this to “Antlia” in 1844 and this was later adopted by the IAU as the shorter name takes up less space on a globe or star chart.

This constellation is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) with the abbreviated label “Antlia Pneumat”: He indicates the borders of this constellation on the chart but offers no illustration of it.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts “Antlia Pneumatica” as an air pump.

“Antlia Pneumatica” is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852: The author is unknown, but it is based on Jamieson’s *Celestial Atlas*.

English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists “Antlia, The Air Pump” as an official constellation “recognized in the catalogue of the British Association”.

American astronomer Winslow Upton’s *Star Atlas* (1896) lists this constellation as “Antlia” and describes it as the “Air Pump”.

The 14th edition of British schoolmaster Arthur P. Norton’s *A Star Atlas* (1959) lists “Antlia” and gives the “original form” as “Antlia Pneumatica”.

The standard IAU charts show this constellation as a line of two stars: Alpha (α) Antliae and Eta (η) Antliae. Czech astronomers Horovka Hlad and Weiselová Polechová (1988) expand this in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik*: Their version is a line running from Iota (ι) Antliae to Alpha (α) Antliae where it takes a turn and runs to Epsilon (ε) Antliae. *Sky and Telescope Magazine*, founded in 1941, depicts Antlia in their magazine and publications the same way as Hlad et al.

Anu Crown:

This Babylonian asterism “MUL.A.NU.AGA” or “MUL.a-nu-AGA” (Hunger 1992) from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) is the Hyades cluster in the IAU constellation Taurus.

This Akkadian asterism “anu agu” (Hunger 1992) from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) is the Hyades cluster in the IAU constellation Taurus.

Anubis:

This ancient Egyptian asterism is the IAU constellation Canis Minor. Anubis (Ancient Greek: Ἄνουβις, Egyptian: inpw, Coptic: ⲁⲛⲟⲩⲡ Anoup) was their God of death and the afterlife and usually depicted as a canine or a man with a canine head (Belmonte 2016). Other experts identify Canis Major as this Egyptian asterism (Berio 2014).

The Temple of Khnum at Esna has a Latopolitan zodiac on the ceiling of the pronaos dating to the age of Ptolemy II Euergetes (246 – 221 B.C.E.) depicts both Anubis seated and standing (Bullinger 1882, Seiss 1882).

John Hill lists this asterism in his *Urania* in 1754.

German Jesuit astronomer Athanasius Kircher (1602 – 1680) used this name for the Egyptian decan "Qet" (see below).

English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Latrator Anubis" as a name for Alpha (α) Canis Majoris (Sirius).

This Egyptian star is Beta (β) Leonis (Denebola) in the IAU constellation Leo as listed in the 19th dynasty Cairo Calendar (Hardy 2003).

Anuket:

This Egyptian Dendera asterism is made up of stars of the IAU constellations Puppis, Pyxis, and Vela (Hoffman 2017). Anuket was the Goddess of the Nile flood and is depicted seated holding up vessels in each hand. The central star is Gamma (γ) Pyxidis, from which three lines run out:

- One goes out to Theta (θ) Pyxidis,
- One goes to Lambda (λ) Velorum, and
- One runs through Rho (ρ) Puppis to Xi (ξ) Puppis.

Anunitu:

This Babylonian asterism from the MUL.APIN tablets "MUL.A.NU.NI.TUM", "MUL.an-nu-ni-tum" (Hunger 1992), or "A.NU.NI.TUM" (Bartel van der Waerden 1974, Boutet 2014) represents the Goddess Anuniti (Ištar of Sippar), also known as Anunitu, Anunitum, or Annunitum. It is listed in the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) as "MUL.AN.NU.NI.TUM". It is listed in the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period as "da-nu-ni-tum", "mul a-nu-ni-tum" or "dis-tar min" (Koch-Westenholz 1995), and "mul is-ha-ra" or "Ishara" (Kock-Westenholz 1995). Anunitum was a Mesopotamian Goddess of war and an aspect of Ishtar and the tutelary Goddess of Sippar-Amnanum. It is made up of the stars of the IAU constellations Andromeda and Pisces:

- Her "head" is the Andromeda Galaxy, Messier 31,
- Her "body" is an irregular quadrangle of stars with Nu (ν) and 32 Andromedae as the "neck" below M 31, her right side running from 32 Andromedae through Delta (δ) Andromedae to the bottom corner at Zeta (ζ) Andromedae, and her left side running down from Nu (ν) Andromedae through Mu (μ) Andromedae and Tau (τ) Piscium to a bottom corner at Upsilon (υ) Piscium,
- Her "left arm" runs from Mu (μ) Andromedae to Beta (β) Andromedae (Mirach), and
- Her "right arm" runs from Delta (δ) Andromedae to 29 Andromedae.

This Akkadian asterism “Anunītu” (Hunger 1992) or “Lulīmu” from the Astrological Reports to the Kings of the late Assyrian period (~900 – 600 B.C.E.) or “dA-nu-ni-tum” from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is identical to the Babylonian asterism “MUL.A.NU.NI.TUM” above. This asterism appears in later Seleucid sky lore.

This Sumerian asterism “mul dnu.nu” the from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is identical to the Babylonian asterism “MUL.A.NU.NI.TUM” above.

This asterism is the IAU constellation Boötes as listed in John Hill’s *Urania* in 1754: He incorrectly describes it as an Arabic name for this constellation and translates it as “caller out”.

Anything Pendant:

This Persian asterism “Al Dhawāib” is the stars Omicron (o) 1 and 2 Orionis and Pi (π) 1, 2, 3, 4, 5, and 6 Orionis according to the 15th century Persian astronomer Ulugh Beg.

This Borgian asterism is Omicron (o) 1 and 2 Orionis and Pi (π) 1, 2, 3, 4, 5, and 6 Orionis. They are listed by this name on the Borgian globe of 1225.

Anzu:

This Assyrian star “Anzu” listed in the *Astrological Reports to the Assyrian Kings* (Hunger 1992) is unidentified. Anzu was a divine storm-bird in Sumerian and Akkadian culture.

This Babylonian “MUL.IM.DUGUD” listed in the *Astrological Reports to the Assyrian Kings* (Hunger 1992) is unidentified. Anthony Hope lists it as “dIM.DUGUD.MUSHEN” or “Anzu” in his *A Guide to Ancient Near Eastern Astronomy* in 1996. Anzu was a divine storm-bird in Sumerian and Akkadian culture.

This Neo-Babylonian (Chaldean) star “mul anse.kur.ra” from the Great Star List (636 – 539 B.C.E.) is unidentified (Koch-Westenholz 1995).

Ao-Kai:

This Māori asterism, also known as “Matariki” (“chief’s eyes”, “small face” or “small eyes”), “Tātai o Matariki”, “Hoko-kumara” or “Huihui o Matariki” (“the assembly of Matariki”) is the Pleiades cluster in the IAU constellation Taurus.

Ao-tea:

This Māori asterism “Ao-tea” is one of the Magellanic Clouds (Orchiston 2017).

Ao-Uri:

This Māori asterism “Ao-uri” is one of the Magellanic Clouds (Orchiston 2017).

Aotahi:

This Māori star is Alpha (α) Carinae (Canopus) in the IAU constellation Carina. Aotahi was a character of their mythology who was tapu (sacrosanct or holy, to be left alone) and was suspended “outside Tanu’s basket” (the Milky Way).

Aotearoa:

This is the Māori name for New Zealand, but they also use it for the star Alpha (α) Aquilae (Altair) in the IAU constellation Aquila. This is one of the stars in the Navigator’s Triangle (see below).

Ape:

This Greek lunar mansion is stars in the IAU constellation Gemini and is listed in the Magical Papyrus 121, preserved in the British Museum, and dated to the 3rd century C.E. (Mosenkis, date n/k). Mosenkis writes that this "resembles a monkey's head".

On the Daressy Zodiac of the Roman Imperial Period an ape or baboon appears next to a goat-fish representing Capricornus.

Apep:

This **telescopic** asterism is a triple star system WR 70-16 (2 MASS J16005047-5142449) containing a Wolf-Rayet binary star and a supergiant star in the IAU constellation Norma. Apep is a serpent deity who was the mortal enemy of the sun god Ra in Egyptian mythology. It was named by a team lead by Joseph Callingham of ASTRON (the Netherlands Institute for Radio Astronomy), who studied the system between 2016 – 2018 using data from the ESO's VLT. The high rotational speed forms the dust thrown off by this triple system into a "serpentine" shape.

Aper:

This Greek asterism is the IAU constellation Hercules. This is the name of the boar killed by Hercules as his fourth labour. Johann Bayer's *Uranometria* (1603) lists the name "Aper" for this constellation.

Apes:

This Arabic asterism "al-qurūd", later latinized to "al kurud" or "Kurud" is the stars Theta (θ) Columbae ("Elkurud" or "Kurud I") and Kappa (κ) Columbae (Kurud II) listed by the 16th century Arabic astronomer Al Tizini.

Aphrodite:

This Greek asterism is the IAU constellation Virgo as listed in R. H. Allen's *Star Names* in 1899. She is cognate with the Babylonian Goddess Ishtar, who was called "Ἀστήρ" ("Astír") by the Greeks.

Apis:

This asterism is the IAU constellation Taurus as listed in an "Ancient Zodiac of Egypt" in *Hindu Astronomy* by W. Brennand in 1896. Brennand has labelled this illustration "from the Barberini Museum", which is probably a reference to the 17th century Palazzo Barberini, which is now the Galleria Nazionale d'Arte Antica. Apis was the divine bull worshipped at Memphis as an incarnation of their god Ptah and appears on the Narmer Palette (c. 3150 B.C.E.). This "Ancient Zodiac of Egypt" also lists the name "Osiris" for this constellation (see Osiris, below), though the Egyptians associated their God Osiris with the IAU constellation Orion, not Taurus. Brennan attributes the name Apis for this constellation to the 5th century Roman Macrobius Ambrosius Theodosius, who believed that the Egyptians created the signs of the zodiac and that they were later adopted by the Greeks.

Apollo:

This Greek star "Ἀπόλλων" ("Apóllon"), or "Apollo" is Alpha (α) Geminorum (Castor) in the IAU constellation Gemini. This is a name assigned by Latin and medieval astronomers to the star Alpha (α) Geminorum (Castor): See Apollo and Hercules, below:

- "Anelar" is listed in the 15th century *Alfonsine Tables*.
- This became "Ἀπέλλων" ("Apéllon") in the Doric dialect, which later became the names "Afelar", "Aphellon", "Aphellan", "Apullum", "Aphellar", "Avellar", "Avelar" (as listed by German astronomer Petrus Apianus (1495 – 1552))
- The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) lists this star as "Anhelar".
- Johann Bayer's *Uranometria* (1603) lists this as "Anelar" and attributes it to Petrus Apianus.
- "Aphellar" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as an alternate name for Castor.
- Robert Hues lists "Apellar" and "Aphellan" in his *A Learned Treatise of Globes* in 1659.
- German poet Philipp von Zesen (1619 – 1689) called it "Phoebus", which is another name for Apollo.
- Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) labels this asterism "Castor al Apollo".
- John Hill lists the name "Apollo" in his *Urania* in 1754, describing it as "a name by which some have called the constellation Gemini" without specifically identifying who these people might be.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists Castor as "Apollo vel Castor" it in his *Celestial Atlas* in 1822.

This Latin asterism "Apollonis" or "Apollonis Imago" ("the image of Apollo) is the IAU constellation Ophiuchus. "Apollonis Imago" is listed as an alternate name for Ophiuchus in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch. Mosenkis (date n/k) writes that Hesiod associated Apollo with the IAU constellation Sagittarius and his lyre with the IAU constellation Lyra. NOTE: This Latin asterism "Apollinis" is also used for the IAU constellation Lyra, referring to the lyre of Apollo.

This Egyptian asterism is one of the paranatellonta of the decans of Gemini as listed in *the Sphaera Barbarica* described by Teucros (Mosenkis, date n/k) and is the IAU constellation Sagittarius.

Apollo and Hercules:

This Latin asterism is the IAU constellation Gemini as listed by Marcus Terentius Varro (116 – 27 B.C.E.). Apollon was a Greek name for Castor (see Apollo, above) and Heracles or Hercules a name for Pollux (see Heracles, below):

- Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) lists "Apollonis" and "Herculis" as alternate names for Gemini.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Apollo et Hercules" as an alternate name for Gemini.
- "Apollo and Hercules" is listed as an alternate name for Gemini in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists "Hercules vel Pollux" and "Apollo vel Castor" in his *Celestial Atlas* in 1822.
- This name for Gemini is also listed in an "Ancient Zodiac of Egypt" in *Hindu Astronomy* by W. Brennand in 1896. Brennand has labelled this illustration "from the Barberini Museum", which

is probably a reference to the 17th century Palazzo Barberini, which is now the Galleria Nazionale d'Arte Antica. Brennan attributes this name for this constellation to the 5th century Roman Macrobius Ambrosius Theodosius, who believed that the Egyptians created the signs of the zodiac and that they were later adopted by the Greeks. Brennand writes that Macrobius associated the constellation Gemini "to the inseparable brothers Horus and Harpocrates". The Seleucids did call this constellation Harpocrates (see below), but Harpocrates was a Roman name for Horus as a child and not the name of a brother of Horus.

Apollo's Assessor:

This French asterism with the Latin name "Phoebi Assessor" is the IAU constellation Cygnus as listed by French astronomer Joseph Jérôme Lefrançois de Lalande (1732 – 1807).

Apollo's Cup:

This German asterism "Apollinis" the IAU constellation Crater as listed in the *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) "Poculum Apollinis" ("Apollo's cup") is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

Apollo's Lyre:

This asterism "Lyrae Apollinis" is the IAU constellation Lyra as listed on the *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638). Johann Bayer's *Uranometria* (1603) lists "Apollinus" as a name for Lyra.

Apostrophe of Fornax:

This **telescopic** asterism "Apóstrophus Fornácis" is the edge-on barred spiral galaxy NGC 1406 in the IAU constellation Fornax. It was discovered in 1835 by John Herschel who listed it as 2572 in his catalogue and later as GC 751 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as it "shows some resemblance to the punctuation mark apostrophe".

Appearing to Have Two Eyes of Leo:

This **telescopic** asterism "Pseudobinoculátus Leónis" is the barred spiral galaxy NGC 3507 in the IAU constellation Leo. It was discovered in 1784 by William Herschel who listed it as "IV 7". It became GC 2290 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as "the combination of the bright nucleus and a foreground star only 24 arcsec from the nucleus creates the impression of two nuclei, or two eyes".

Apple:

This asterism "Elix" ("Apple") is the IAU constellation Ursa Major. This name is listed in Johann Bayer's *Uranometria* (1603).

This **telescopic** asterism is Gebauer 4 (SG 4) in the IAU constellation Cygnus. German amateur astronomer Sarah Gebauer discovered this in 2023 while observing the coloured double star HJ 1470.

Robert Zebahl describes it on the *Faint Fuzzies* website: The many stars arranged in clusters of pairs form the outline of a summery apple".

Apple Branch:

R. H. Allen writes in his *Star Names* in 1899 that a 1488 Venetian illustrator (not identified) of a star chart of 1st century scholar Gaius Julius Hyginus showed an apple tree with a serpent wrapped around its trunk by what is now the IAU constellation Hercules: This is probably a reference to the serpent guarding the apple tree in the garden of the Hesperides, which is part of the myth of Hercules.

Polish astronomer Johannes Hevelius (1611 – 1687) placed an apple branch in the "right hand" of Hercules and called it "Ramus Pomifer": It is between Hercules and the IAU constellation Lyra: Iota (ι), Tau (τ), Nu (ν), and Phi (ϕ) Herculis. Other images of Hercules by Hevelius have him holding some serpents he calls "Cerberus" (see Cerberus, below).

German astronomer Johann Bayer (1572-1625) listed it as a "Zweig" ("branch") placed in Hercules right hand, as did German astronomer Friedrich Wilhelm Argelander (1799 – 1875), but German astronomer Eduar Heis (1806 – 1877) put it in Hercules "right hand" with two vipers, which is a reference to the asterism Cerberus (see below).

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) labels this "La Vove de Laier" and depicts this as an apple branch in Hercules' right hand.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "le Rameau et Cerbere" as a branch with three serpents entwined.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists this as "Cerberus et Ramus Pomosus" in his *Celestial Atlas* in 1822: It is depicted as an apple branch in Hercules' left hand along with a three-headed serpent.

The French edition of Flamsteed's work, the *Atlas Céleste,* which was revised in 1778, lists "le Rameau et Cerbere" ("the twig and Cerberus") and depicts this as an apple branch with two serpents entwined in the branches being held by Hercules.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) depicts an apple branch with three serpents in Hercules' left hand.

R. H. Allen lists it as "Ramo" in his *Star Names* in 1899 and notes that "the French" combined it with the asterism Cerberus (see above) as "Rameau et Cerbère" and the Italians as "Remo e Cerbero".

Apple Core Nebula:

This **telescopic** asterism is the planetary nebula Messier 27 (NGC 6853) in the IAU constellation Vulpecula. It was discovered by French astronomer Charles Messier in 1764. It is GC 4532 in the *General Catalogue* of 1864. It is also known as the Dumbbell Nebula (see below), the Double-Headed Shot (see below) and the Diabolo Nebula (see below).

Apples of the Hesperides:

This Greek asterism is either the Pleiades cluster or the Hyades cluster in the IAU constellation Taurus as listed by as listed by Mosenkis in his *Mycenaean Oecumene* (date n/k).

April Rainers:

This is a name for the Hyades cluster in the IAU constellation Taurus from an old English folk song, *Green Grow the Rushes O*, and is a reference to spring showers.

Apron:

This Arabic star "al-Mi'zar" (المئزر) which means "apron", "girdle", or "waistband", is Zeta (ζ) Ursae Majoris in the IAU constellation Ursa Major, later latinized to "Mizar", "Mizat", and "Mizra". Mirach is a variant of the Arabic star Al-Maraqq (see Waist Cloth, below) which is Beta (β) Andromedae (Mirach) and Mirak is a Latinization of the Arabic star Loins (see below):

- German astronomer Johann Bayer (1572-1625) listed it as "Micar" and "Mirach" and translated that as "the flank".
- Johann Bayer's *Uranometria* (1603) lists "Micar" and "Mizar" for this star.
- This star is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as "Mirac & Miraz" and as "Mirzaron".
- This star is labelled in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "Mirac".
- Robert Hues also translates this as "the flank" in his *A Learned Treatise of Globes* in 1659.
- French scholar Joseph Justus Scaliger (1540 – 1609) listed it as "Mirak":
- American uranographer William Croswell (1760 – 1834) lists "Mizar" on his *Mercator Map of the Starry Heavens* in 1810.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists "Mizar" in his *Celestial Atlas* in 1822.
- German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this star as "Mizar" as does his *Vorstellung Der Gestirne* (1782).
- American uranographer Elijah Burritt's *The Constellations for each Month in the Year* (1835) lists "Mizar".
- *An Improved Moveable Planisphere* (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, lists this star as "Mizar".
- This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Mizar": The author is unknown, but it is based on Jamieson's *Celestial Atlas*.
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists this as "Mizar, which means a waist apron".
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich lists this star as "Mizar".
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists "Mizar" for this star.
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Izar", "Mizar" and "Mirach" as names for this star but only lists "Mizar" in his "Table V- Star Names".
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as "Mizar".
- R. H. Allen suggests this as a name for the star Epsilon (η) Boötis in his *Star Names* in 1899, probably because it is similar to the star's Arabic name "al-Izar" (see Girdle, below).

- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Mizar" and describes it as a "girdle".
- *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Mizar" and claims that it was discovered to be a binary by Riccioli in 1662.
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) as well as his 14th edition (1959) lists "Mizar" as a name for Beta (β) Andromedae, Epsilon (ε) Bootis, and Zeta (ζ) Ursae Majoris.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists the name "Mizar" for this star.
- The IAU approved the name Mizar for Zeta (ζ) Ursae Majoris Aa.

Apus:

None of the stars of this constellation are brighter than 4th magnitude and they show up 28 times on this list of World Asterisms.

This IAU constellation "bird of paradise" (IAU abbreviation Aps) was first depicted on a celestial globe in late 1597 by Flemish astronomer Petrus Plancius (1552 – 1622): This was published by Amsterdam cartographer Jocodus Hondius the Elder (Joost de Hondt 1563 – 1612) 1598 – 1602 as "Paradysvogel" and "Apis Indica". Its name refers to the bird of paradise, but its Greek name "Apus" (apous) means "without feet": This is because Plancius wrongly believed that the bird of paradise didn't have feet because the first examples brought to Europe had their feet and wings removed.

Dutch historian Paulus Merula (1558 – 1607) lists it as both "Paradijsvoghel" ("bird of paradise") and "Avis Paradisi".

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius lists "Paradijs Vogel" with the subtitle "Apis Indica" and depicts it as a bird of paradise with no feet.

Dutch uranographer Willem Blaeu (1571 – 1638) in listed it as "Apes Indica" on his globe of 1602 and as as the Greek "Apous Indica" on his globe of 1603.

German astronomer Johann Elert Bayer (1572 – 1625) lists "Apis" and "Apis Indica" in his *Uranometria* in 1603.

Dutch navigator Frederick de Houtman's catalogue of fixed stars (1603) lists this constellation as "De Paradijs Voghel".

German astronomer Johannes Bayer lists it as both as "Apis" and "Apis Indica" in his *Uranometria* of 1603 and shows it as a bird with no feet.

Apis is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as "Apous" and "Apis seu Avis Indica, Avis Paradisi". Bartsch also gives the local name "Paradiz Vogel".

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the names "Apus" and "Avis Indica" for this constellation.

The *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) depicts "Apis Indica" as a bird of paradise with no feet.

German poet and uranographer Philipp von Zesen (1619 – 1689) listed it under the Greek name "Apous".

Apus is listed by German astronomer Johannes Kepler (1571 – 1630) in his *Tabulae Rudolphinae*, a new edition of Brahe's catalogue, in 1627 as "Avis Indica".

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts "Apis Indica" as a bird of paradise with no feet.

This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "Apis Indica".

Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) labels this constellation "Apous Indica" and depicts it as a bird with no legs.

Edward Sherburne in his *Sphere of Marcus Manilius* in 1675 labels this constellation "Apous". Sherburne also gives the variation "Apis" (Compare this to Apis, above), as well as "Avis Indica" ("Indian Bird"), "Avis Paradisi" ("Bird of Paradise"), and "Manu codiata" ("with a greedy hand").

Apus is listed by English astronomer Edmond Halley in his *Catalogus Stellarum Australium* in 1679 as "Apus Avis" and "Inidica" and on his 1678 chart of the southern sky as "Apus" and depicts it on that chart as a bird without feet.

The 1688 celestial globe of Italian priest and uranographer Vincenzo Maria Coronelli (1650-1718) includes this constellation (Stevenson 1921).

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts "Apus" as a bird with no legs. Hevelius' *Firmamentum Sobiescianum sive Uranographia* (1690) depicts "Apus" as a bird with no legs. The central star is Gamma (γ) Apodis from which three lines run out:

- One to Alpha (α) Apodis,
- One to Delta (δ) Apodis, and
- One through Beta (β) to Zeta (ζ) Apodis.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this "L'oyseau Indien", "Avis Indica", and "OPNIΣ INΔKH" and depicts it as a bird with no feet.

Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) labels this "Paradisea al Apus Indicus" and depicts it as a bird without feet.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, depicts Apus as a bird with no feet.

Apus is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts "Apus" as a bird with no legs.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts this as a bird with no legs and labels it "Apus Avis Indica".

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) depicts Apus as a bird with no feet.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Apus as a bird with no feet.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) depicts "l'Oiseau de Paradis" as a bird of paradise with no legs.

French astronomer Abbé Nicolas Louis de Lacaille Lacaille (1713 – 1762) reduced this constellation in size in the 1750s, removing some stars representing "tail feathers" to create the constellation Octans (see below). Lacaille's *Planisphère des Étoiles Ausralea* (1756) depicts it as a bird with no feet.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts "Apus" as a bird with no feet.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "l'Oiseau Indien" as a bird with no feet on its southern hemisphere chart but labels it "l'Oiseau de Paradis" on a later closeup chart.

John Hill lists Apus in his *Urania* in 1754 and gives the additional names "Avis Indica" and "Avis Paradisiaca" (a mixture of the Latin word for "bird" and the Italian word for "heavenly").

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Paradis Vogel" and depicts it as a bird with no feet.

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts "Paradisea" as a bird of paradise with no feet.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts "Apus" as a bird in flight with no feet.

American uranographer Elijah Burritt's *Southern Circumpolar Map for each Month in the Year* (1835) depicts "Apus the Bird of Paradise" as a bird of paradise in flight.

"Apus" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875): He indicates the borders of this constellation on the chart but offers no illustration of it.

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Apus, The Bird of Paradise" as an official constellation "recognized in the catalogue of the British Association".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Apus" and describes it as the "Bird of Paradise" and incorrectly attributes it to Bayer.

American artist and illustrator Hans Augusto Reyersbach (H. A Rey, 1898-1977), best known for his children's book *Curious George* (1941) redesigned the lines of Apus in his book *The Stars - A New Way to See Them* (1952): The IAU standard asterism is a bent line running from Alpha (α) Apodis to a bend at Gamma (γ) Apodis to Beta (β) Apodis. Rey makes a triangle of the stars Beta (β) Apodis, Gamma (γ) Apodis, and Delta (δ) 1 Apodis with a line from this last star to Alpha (α) Apodis. Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Apus the same way as Rey in their *Hvězdná obloha*

2000.0. Praha: Geodetický a kartografický podnik, as does *Sky and Telescope Magazine*, founded in 1941.

Aqhat:

This Hittite asterism is the IAU constellation Orion. Aqhat was a mythical hunter armed with a bow.

Aqua:

See the Greek asterism Water, Below.

Aquarius:

None of the stars of this constellation are brighter than 3rd magnitude and they appear in 305 of the asterisms listed in this handbook, but none of the stars of this constellation rate amongst the 90 brightest stars.

This IAU constellation (IAU abbreviation Aqr) first appeared in Babylonian star catalogues as "the Great One" (see Great One, below). The Greeks originally depicted it simply as a vase pouring a stream of water down onto what is now the IAU constellation Piscis Austrinus. In Aratus' poem *Phaenomena* (270 B.C.E.) and in Ptolemy's *Almagest* (2nd century) it is listed as Ὑδροχόος ("Ὑdrochóos" - see Water Carrier below).

The Temple of Khnum at Esna has a Latopolitan zodiac on the ceiling of the pronaos dating to the age of Ptolemy II Euergetes (246 – 221 B.C.E.) depicts Aquarius as a figure walking to our left (Bullinger 1882, Seiss 1882).

The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) depicts Aquarius as a nude male facing towards us with an upturned vase in his left hand.

The Mainz Globe from the eastern end of the Roman empire (c. 150 – 220 C.E.) depicts Aquarius as a male standing facing away from us wearing some sort of hat with an upturned vase in his right hand from which water is pouring.

The globe of the 2nd century Farnese Atlas depicts "Aquarius" as a nude male viewed from the rear, facing to our right (Stevenson 1921): He is pouring water from a vase in his right hand and his left hand is concealed in front of him.

This constellation appears in editions of the 8th century *Revised Aratus Latinus*:

- In all editions Aquarius is a man walking or standing to the right, using both hands to hold an urn upside down from which water is pouring,
- In two editions (Gottweig 7 (146), Siena L. IV. 25) he has a halo,
- In several editions (Paris BN 12597, Gottweig 7 (146), Siena L. IV. 25) Aquarius is naked to the waist,
- In some editions (Prague IX C 6, St Gall 250, St Gall 902) Aquarius wears a short tunic and calf-length cape,
- In some editions (Dresden DC 183, Vat Reg lat 1324, Munich 560) Aquarius is wearing long robes,
- In three editions (Paris BN 12597, Dresden DC 183, and Prague IX C 6) Aquarius is looking over his shoulder.

Aquarius appears in the Leiden *Aratea* (816) as a nude male facing us with a ribbon of fabric wound loosely about him holding an overturned amphora in both hands from which stars are pouring (Katzenstein & Savage-Smith, 1988). Later editions show the water being poured by Aquarius is shown as a separate asterism, Aqua (see Water, below).

The 9th century Berlin 130, Madrid 3307, Monza F.9/176 and Vat lat 645 manuscripts of the *De ordine ac positione stellarum in signis* depict Aquarius facing us, with a cloak over his left arm and holding the bottom of an urn in his extended right arm.

The 9th century Munich 210 and Vienna ÖNB 387 manuscripts of the *De ordine ac positione stellarum in signis* depict Aquarius holding this urn with both hands.

The 9th century Austin, TX, Ransom Ms 29 and St. Petersburg, Q.V. IX, no.2 manuscripts of the *De ordine ac positione stellarum in signis* depict Aquarius nude holding an urn in his left hand, while the Paris BN n.a. 1614 manuscript shows him wearing a long cloak.

The 9th century Paris BN, 12117 and Vat Reg lat 309 manuscripts of the *De ordine ac positione stellarum in signis* depict Aquarius holding the urn in his left hand and his mantle in his right.

The 9th century Paris BN lat 8663 manuscript of the *De ordine ac positione stellarum in signis* depicts Aquarius walking to the right on the stream he pours from an upturned urn in his left hand. The Los Angeles, Getty Ludwig XII, 5 manuscripts of the *De ordine ac positione stellarum in signis* depicts Aquarius holding an upside down urn behind his back with his right hand raised in salute.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi's son depicts Aquarius as a clean-shaven male with curly hair, wearing a skull cap and a knee-length robe. One page shows him turned slightly to our left, waving with his extended left hand and holding an overturned vase in his right hand from which water is pouring. The other page has him turned slightly to our right, waving with his right hand and pouring with his left hand.

The Oxford Laud 644 manuscript of the 11th century *De signis caeli ("of the signs of heaven*") depicts Aquarius cloaked with a hood, while the Padua 27 manuscript shows him nude. The Dijon 448 manuscript of *De signis caeli* depicts him in a sort of kilt holding a water pouring urn upside down in both hands. The Klosterneuberg 685, Paris BN 5239, Paris BN 5543, Vat lat 643, and Zwettl 296 manuscripts of *De signis caeli* depict Aquarius holding the urn upturned in both hands. In the Zwettl and Klosterneuberg manuscripts he is nude except for a cap and cape and in the two Paris manuscripts and the Vat Lat 643 manuscript he is wearing pants. The Durham Hunter 100 manuscript of *De signis caeli* depicts him dressed in a short tunic and cape, pouring water from an urn upside down in both hands, and looking over his shoulder to the left. The Montecassino 3 manuscript of *De signis caeli* depicts him standing to the right with no water pouring from his urn. The Freiburg im Breisgau 35 manuscript of *De signis caeli* depicts Aquarius with a spear.

The 12th century Vienna ÖNB Vindob 12600 manuscript of the *De ordine ac positione stellarum in signis* depicts Aquarius running to the right with an upturned urn raised in his left hand.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Aquarius as a male facing us. His right arm is extended outwards and he is pouring water from a cup in his left hand.

A Hebrew translation of the Almagest from Catalonia (c1361), Philadelphia (USA), University of Pennsylvania Libraries, Lawrence Schoenberg Collection, ms. ljs057 (old Ms.Sassoon 823), ff.56v, 57r,

depicts Aquarius as a male in a red ankle length robe with arms outstretched. His hands appear to be empty, but water is streaming from his left palm.

The BAV *Astronomia* text, Vatican. lat. 3110 - Florence, ca. 1370; owned by Coluccio Salutati (1331-406) and the Madrid texts (Bibl. Nacional, Matritensis 1983, fol. 116v and Vatican, BAV, Vat. lat. 3121, fol. 12r., Bibl. Nacional, Matritensis 1983, fol. 115v and Vatican, BAV, Vat. lat. 3121, fol. 10v.) depict Aquarius and Capricorn in the same scene Mc Gurk, Patrick (1966).

A quadrans novus found at the House of Agnes site in Canterbury in 2005 in soil dated to c 1375-1425 lists the abbreviated form "AQVARI" (Dekker 2007).

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Aquarius as a male in a knee-length tunic and cap. He is turned slightly to our left. He is gesturing outwards with his left hand and is holding an overturned urn on his right shoulder from which water is pouring.

The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.168v-169r depicts "Aquarius" as a nude male viewed from behind. He has a folded cloth held up in his left hand and has an overturned urn under his right arm which is pouring water.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.70v-71r depicts "Aquarius" as a nude male viewed from behind holding a folded cloth aloft in his left hand and having an overturned urn under his right arm which is pouring water.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Aquarius as a male holding up a long cloth in his left hand that winds around his body to his feet. He is facing away from us holding an overturned urn in his right hand. The urn is pouring water down to Piscis Austrinus. It is not labelled.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Aquarius as a nude male with long hair. He is holding a three-prong rake in his left hand and is holding an overturned vase in his right hand from which water is pouring.

A translation of The *Liber de signis* of Scottish polyglot Michael Scot (1175 – c.1232) in the second half of the 15th century, Darmstadt, Hessische Hochschulebibliothek, Ms 266, depicts Aquarius as a nude male with a peaked cap walking to our left. He is holding and overturned single-handled pitcher in both hands from which water is pouring.

De Astronomica ("the astronomy"), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. "Aquarius" is depicted as a long-haired male in a tunic, cape, pants, and boots, holding an upturned amphora in both hands. Water pours from this amphora into a circular tray at his feet.

The *Germanicus Aratea* (Siciliensis, c. 1469) depicts Aquarius as a male in a thigh length tunic holding an overturned amphora in both hands from which a stream of stars is flowing.

The *Germanicus Aratea* with scholia Strozziana (c. 1475) depicts Aquarius as a nude male facing to our right pouring water from a vase held in both hands.

Aquarius appears on the *Imagines constellationum Australium* chart of Romanian theologian Johannes Honter (1498 – 1549) as the lower half of a male facing us with an overturned vase pouring water in his right arm and holding a cloth in his left hand: This is labelled with the astrological sign for Aquarius.

The Constance Celestial Globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts "AQRI(VS)" as a male in a loincloth as viewed from behind. He is holding a folded cloth in his left hand and his right forearm is on top of an overturned urn from which water is flowing down to the mouth of Piscis Austrinus.

The early 16th century Real Academia de Historia, manuscript D-97, f.101v depicts Aquarius as a nude male walking, turned slightly to our right. He is waving with his right hand and pouring water from a cup in his left hand. It is not labelled. The Real Academia de Historia manuscript D-97, f.104v – 105r depicts it in the same manner but reversed, facing to our left.

The "Nuremburg Maps" *(Die Karte des Nördlichen Sternenhimmels* inv.-Nr. Hz 5576), a pair of celestial hemispheres made in 1503 by Conrad Heinfogel depicts Aquarius as a clean-shaven nude male with curly hair as viewed from behind. He is looking to his left and is holding a cloth in his left hand. His right hand raised to shoulder level: His right leg is raised slightly and a vase from which water is pouring is laying on its side, held between his right elbow and his right thigh.

The *imagines coeli septentrionales cum duodecint imaginibus zodiaci* ("images of the northern sky with twelve images of the zodiac"), commonly known as the *Northern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius (Dekker & Lippincott, 1999) depicts Aquarius as a clean-shaven nude male with curly hair as viewed from behind. He is looking to his left and is holding a cloth in his left hand. His right hand raised to shoulder level: His right leg is raised slightly and a vase from which water is pouring is laying on its side, held between his right elbow and his right thigh.

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts "Aquarius" as a nude male as viewed from behind. He is looking towards his raised left hand, which is holding a folded cloth, and has his right arm through the handle of an overturned urn from which water is pouring down onto Piscis Austrinus.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts "AQVARIVS" as a nude male facing away from us holding a cloth in his left hand and looking over his left shoulder. He is walking to our right with his right arm through the handle of an urn, from which water is pouring.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts Aquarius in the same manner as Dürer et al.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts "Aquarius" as a nude male facing away from us, kneeling on his left knee, holding a cloth in his outstretched left arm. He has his right arm through a handle of an overturned urn from which water is pouring. This stream of water is labelled "Effuslo Aquarii" ("a stream of water").

Dele Stelle Fisse ("Of the Fixed Stars") by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as "De l'Aquario".

The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as the “Water Bearer”.

The Northern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Aquarius as a clean-shaven nude male with curly hair who is kneeling on his left knee with his back to us. He is looking to his left, and his left arm is extended with a drinking cup in his left hand. His right arm is through the handle of an overturned amphora resting on his right thigh. Water is pouring from this amphora.

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists Aquarius in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts Aquarius as a nude male holding a cloth in his right hand and having an amphora hooked on his left forearm and is labeled with the astrological symbol for Aquarius.

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicts “Aquarius” as a nude male facing away to our right. He is holding aloft a beaker in his left hand and has an amphora tucked under his right elbow from which water is pouring.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts “Aquarius”. This chart has two halves, one showing the northern hemisphere, and one what was known of the southern hemisphere. On the “northern” side Aquarius is shown as a nude bearded male holding aloft a cloth in his left hand and seeming to hold an overturned urn pouring water in the angle of his right elbow. On the “southern side”, unlike most depictions of Aquarius, as a nude bearded male facing to our left. He is holding a cloth out in his left hand and is gesturing with his right hand, and he has an urn on his lap that is pouring water.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts “Aquarius” as a nude male viewed from behind, looking to his left. He is holding up a cloth in his left hand. His right arm is through the handle of an overturned amphora resting on his right thigh, pouring water.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts “Aquaris” as a nude male facing away from us. He is holding a folded cloth out to his left in his left hand and is holding the handle of an upended urn in his right hand. Water is streaming down out of the urn.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) depicts “Aquarius” as a younger nude male with drapery wound around him. With both hands he holds an overturned amphora which is pouring water on his left side.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) depicts Aquarius as a nude male viewed from behind. He is holding a banner of cloth in his left hand and an overturned amphora in his right hand from which water is pouring.

Aquarius is listed in Danish astronomer Tycho Brahe’s *Astronomiae Instauratae Progymnasmata* (1602).

German uranographer Johann Bayer (1572 – 1603) depicts this in his *Uranometria* in 1603 as a man wearing a cap with a drapery wound around him viewed from behind: He is pouring water from an amphora whose handle is around his left arm and his right hand is holding aloft one end of his drapery. Bayer lists these names for this constellation: “Aquarius, Deucalion, Ganymedes, Aristaeus, Cecrops, Fusor aquae, Hydridurus, aquae Tyrannus, Wasserman, Edeleu”.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts “Aquarius” as a nude male viewed from behind holding his drapery in his left hand and holding an overturned amphora in his right hand which is pouring water.

“Aquarius” is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and depicted as a male with a furry cap and a sort of kilt who is facing us, kneeling on his left knee. He is pouring water from an overturned amphora in his right hand and holding up a cloth in his left hand.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the name “Aquarius” for this constellation.

“Aquarius” is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a male in a loin cloth holding a cloth in his left hand and having an overturned amphora under his right arm from which water is flowing.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts “Aquarius” as a nude male viewed from behind, turned slightly to our right, kneeling on his left knee. He is holding up a cloth in his left hand. His right forearm is through the handle of an overturned urn resting on his right thigh. Water is pouring from this urn.

Aquarius is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661: He is depicted as a nude male viewed from behind, pouring water from a vase in his right hand.

Dutch cartographer Frederik de Wit’s *Planisphaerium Coeleste* (1670) depicts Aquarius as a nude male viewed from behind with a cloth draped over his right shoulder and pouring water from an urn with his right hand and holding a piece of cloth in his left hand.

The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678 by English uranographer James Clerk depicts “Aquarius” as a nude male viewed from the rear holding a cloth in his right hand and an overturned amphora from which water is pouring in his left hand.

English uranographer John Seller’s *A coelestiall planisphere* (1678) depicts “Aquarius” as a male viewed from behind holding a cloth in his left hand and an overturned amphora in his left hand. NOTE: This illustration conceals the head of Aquarius behind Equuleus and his lower limbs behind Piscis Austrinus.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts “Aquarius” a young nude male viewed from the rear, kneeling on his right knee, with a cloth in his left hand and his right arm through the handle of an amphora from which water is pouring.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this “Le Verseau”, “Aquarius”, and Υδροχόος and depicts it as a nude male that is kneeling. His left arm is extended out

with his hand holding a drapery that is inflated into a billowing screen behind him. The handle of an overturned vase is hooked over his extended left wrist and the vase is pouring water.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, depicts Aquarius as a male viewed from behind with some drapery around his middle holding a cloth in his right hand and holding an upturned vase in his right hand from which water is pouring.

Aquarius is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729: It is depicted as a young male with a drapery across his middle. He is holding one end of this drapery in his left hand and is holding an upturned jug of water in his right hand.

A wooden precession globe (1730) by German uranographer Johann Georg Puschner (Dekker 2003) lists this constellation as "Aquarius".

The *Atlas Coelestis* of German astronomer Johann Gabriel Doppelmayr (1742) depicts "Aquarius" as a male kneeling on his right knee, facing away from us, with his left arm through the handle of an upturned amphora and a cloth raised in his right hand.

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) depicts Aquarius as a nude male viewed from behind holding a cloth in his left hand and cradling and upturned urn under his right arm which is pouring water.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Aquarius as a nude male walking away from us to our left. He is wearing a soft cap and has a drapery wound around him and is holding up one end of it in his right hand. His right hand is holding an overturned urn which is pouring water.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) depicts Le Verseur d'Eau" as a male facing away from us holding a cloth in his right hand and an upturned amphora in his left arm.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "le Verseau" as a young male with a drapery across his middle. He is holding one end of this drapery in his left hand and is holding an upturned jug of water in his right hand. This is also how it appears in the 1778 edition.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as "Aquario" in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts "Aquarius" as a nude male viewed from the rear, kneeling on his left knee, holding a cloth in his left hand and an overturned amphora pouring water in his right hand.

Aquarius is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801) as "Aquarius of Waterman": He is depicted as a male facing us pouring water from an overturned vessel in his right hand and holding up a cloth in his left hand.

American uranographer William Croswell (1760 – 1834) depicts “Aquarius the Water Bearer” on his *Mercator Map of the Starry Heavens* in 1810 as a walking bearded male viewed from behind: His right hand is holding an upturned vase pouring water.

German astronomer Johann Elert Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as the “Wassermann” and depicts him as facing away from us, pouring water from an upturned squat amphora in his left hand and holding what appears to be a drinking horn in his right hand. The various editions of Bode’s *Jahrbuch* also use this name. Bode’s *Vorstellung Der Gestirne* (1782) lists this constellation as “Wassermann” and depicts him as a male with drapery around his middle holding an upturned vase in his right hand and a cloth in his left hand. The water pouring out of the vase is being swallowed by Piscis Austrinus.

“Aquarius” is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as a male with his back to us kneeling on his right knee with an overturned amphora on his left arm from which water is pouring and holding a cloth in his right hand.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Aquarius in his *Celestial Atlas* in 1822: This is depicted as a bearded male wearing a laurel wreath cradling an upturned vase pouring water in his right arm and holding Jamieson’s asterism “Norma Nilotica” in his left hand (see Nilometer, below).

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts “Aquarius” as a bearded male with a cloth around his loins. He is holding one end of the cloth in his right hand and has an overturned urn in his left arm.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts “Aquarius” as a seated bearded male in a toga cradling a tipped over vase in his right arm from which the “Fluvius Aquarii” is pouring.

This is listed as Aquarius in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852: The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822. He is depicted as a seated male wearing a laurel wreath on his head: He has a cloth draped over his middle holding an upturned urn in his left arm and a wand in his right hand.

“Aquarius” is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): He is depicted as a male facing us pouring water from a vase in his right hand and waving a cloth in his right hand.

English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists “Aquarius, The Water Bearer” as an official constellation “recognized in the catalogue of the British Association”.

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as “Aquarius, the Water-Bearer”.

German astronomer Hermann Joseph Klein (1844 – 1914) lists “Aquarius” in his *Star Atlas* (1893) and describes it as the “Water-carrier”.

American astronomer Winslow Upton’s *Star Atlas* (1896) lists this constellation as “Aquarius” and describes it as the “water carrier”.

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Aquarius: The Water Bearer."

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) redesigned the lines of Aquarius in his book *The Stars - A New Way to See Them* (1952):

- His "head" is the quadrilateral of stars Alpha (α) Aquarii (Sadalmelik), Gamma (γ) Aquarii, Eta (η) Aquarii, and Pi (π) Aquarii, with Zeta (ζ) 1 and 2 Aquarii as his "eyes",
- His body is a line between Alpha (α) Aquarii (Sadalmelik) and Beta (β) Aquarii (Sadalsuud),
- HIs "arm" runs from Alpha (α) Aquarii (Sadalmelik) to an "elbow" at Theta (θ) Aquarii to a "hand" at Lambda (λ) Aquarii,
- His "water vessel" is the quadrilateral of stars Lambda (λ), Tau (τ), Delta (δ), and Psi (ψ) 1 and 2 Aquarii, with a triangular "spout" formed by Psi (ψ) 1 and 2, Phi (ϕ), and Lambda (λ) Aquarii,
- The "stream of water" is two lines of stars running from Psi (ψ) 1 and 2 Aquarii:
    - One runs to 88, 89, and 86 Aquarii,
    - One runs to 98, 99, and 101 Aquarii,
- His "legs" run from Beta (β) Aquarii (Sadalsuud):
    - One runs to a "foot" at Iota (ι) Aquarii, and
    - One runs to a "knee" at Nu (ν) Aquarii, and a "foot" formed by 7, Mu (μ), and Epsilon (ε) Aquarii.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) have a different version of Aquarius in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik*:

- One winding line of stars runs from Epsilon (ε) Aquarii through Nu (ν) Aquarii, Beta (β) Aquarii (Sadalsuud), Alpha (α) Aquarii (Sadalmelik), Gamma (γ) Aquarii, and Theta (θ) Aquarii to Iota (ι) Aquarii.
- One winding line of stars runs from Theta (θ) Aquarii through Lambda (λ) Aquarii, Tau (τ) Aquarii, Delta (δ) Aquarii, 88 Aquarii, and 98 Aquarii to Omega (ω) 2 Aquarii.
- A "Y" shaped part branches off Gamma (γ) Aquarii, including Zeta (ζ) 1 and 2 Aquarii, Eta (η) Aquarii, and Pi (π) Aquarii.

Sky and Telescope Magazine, founded in 1941, depicts Aquarius in their magazine and publications like this:

- His "head" is a quadrilateral of the stars Alpha (α) Aquarii (Sadalmelik), Gamma (γ) Aquarii, Zeta (ζ) 1 Aquarii, and Pi (π) Aquarii, with an extra line running from Zeta (ζ) to Eta (η) Aquarii,
- His "body" is a line between Sadalmelik and Beta (β) Aquarii (Sadalsuud),
- Two lines run out from Sadalsuud to form legs:
    - One to Iota (ι) Aquarii, and
    - One through Mu (μ) Aquarii to Epsilon (ε) Aquarii,
- An "arm" runs from Sadalmelik to an "elbow" at Theta (θ) Aquarii and a "hand" at Lambda (λ) Aquarii,
- The "vase" is a five-sided figure of the stars Lambda (λ), Tau (τ), Delta (δ), Psi (ψ) 1 and 2 Aquarii, and Phi (ϕ) Aquarii.

- Two lines of stars running out from Psi (ψ) 2 Aquarii representing the water pouring from the "vase":
    - One to 88 Aquarii, and
    - One to 98 Aquarii.

Variations on the name found in English texts include Aquary and Aquarye.

Aquarius Dwarf:

This **telescopic** asterism is the irregular galaxy PGC 65367 in the IAU constellation Aquarius. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010) as "Mínimus Aquárii" ("Very Small of Aquarius").

Aquarius River:

This asterism "Fluvius Aquarii" is the asterism Pouring Forth of Water (see below) as listed by American astronomer Elijah Burritt (1794 – 1838). Scottish uranographer Alexander Jamieson (1782 – 1850) lists "Fluvius Aquarii" in his *Celestial Atlas* in 1822. *An Improved Moveable Planisphere* (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, includes "Fluvius Aquarii".

Aquatic Monster:

This German asterism "Belua Aquatica" is the IAU constellation Lyra as described by German poet Philipp von Zesen (1619 – 1689). He was probably mistranslating the Greek ""Χέλυς ὀλίγη" ("Chélys olígi"- see Tortoise Shell, below) which was a common early name for this constellation.

Aquila:

Aquila is an easy to spot bent cross shape containing the 12th brightest star, Alpha (α) Aquilae (Altair) which is one of the stars of the Summer Triangle (see below) or Navigator's Triangle (see below). The stars of Aquila appear in 303 of the asterisms of the sky cultures of the world.

This IAU constellation (IAU abbreviation Aql) originated in the asterism "Eru" (see Eagle below) from the Babylonian MUL.APIN tablets. In Greek mythology Aquila was "Αετός Δίας" ("Aetos Dios"), the eagle that carried the thunderbolts of their God Zeus. In his *Almagest*, Ptolemy (c.100 – c.170) called it "᾽Αετός" ("Aetos" -see Eagle, below). An early influence on this constellation may have been the Egyptian asterism from the Old Kingdom (3100 B.C.E.) Falcon of Horus (see Falcon of Horus below).

The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) depicts this constellation as an eagle in profile with wings extended. Later charts and texts often include the obsolete constellation Antinous (see above).

The globe of the 2nd century Farnese Atlas depicts "Aquila" as an eagle standing with wings slightly spread (Stevenson 1921).

Aquila appears in the Leiden *Aratea* (816) as an eagle with wings spread, facing to our right but looking over its right shoulder (Katzenstein & Savage-Smith, 1988): It is standing on an arrow (which is Sagitta).

This constellation appears in the 8th century *Revised Aratus Latinus*:

- Several editions merge this constellation with Sagitta.

- The Dresden DC 183, Paris BN 12957, and Prague IX. C. 6 editions have the eagle facing right with his head turned back over his right wing standing on Sagitta.
- The Cologne 83 II edition shows Aquila looking over its right shoulder,
- The St Gall 250, St Gall 902, Ps Bede DSC and Montecassino 3 editions show Aquila as a wading stork or heron.

The 9th century Berlin 130, Madrid 3307, Monza F.9/176 and Vat lat 645 manuscripts of the *De ordine ac positione stellarum in signis* depict Aquila standing on a left facing arrow. The Paris BN, 12117 and Vat Reg lat 309 manuscripts of the *De ordine ac positione stellarum in signis* depict Aquila standing on a right facing arrow. The Paris BN lat 8663 manuscript of the *De ordine ac positione stellarum in signis* depicts Aquila with its head in front of his right wing.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi's son depicts Aquila as an eagle standing with its wings raised as if about to take flight. On one page it is facing to our right and on the other to our left.

The Oxford Laud 644, Padua 27 and Venice VIII 22 manuscripts of the 11th century *De signis caeli ("of the signs of heaven*") depict Aquila standing on Sagitta, with the arrow facing left and his head touching his left wing. The Klosterneuberg 685, Paris BN 5239, Paris BN 5543, Vat lat 643, and Zwettl 296 manuscripts of *De signis caeli* depict Aquila standing looking over his right wing while standing on an arrow. The Durham Hunter 100, Freiburg im Breisgau 35, and Montecassino 3 manuscripts of *De signis caeli* omit the arrow.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Aquila as a landing eagle which appears to be trying to pick up the arrow of Sagitta.

Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) lists Aquila.

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Aquila as a black eagle about to take flight, facing to our right.

The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.168v-169r depicts "Vultur Volans" as a diving eagle.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.71v-72r depicts Aquila as a diving bird. It is not labelled, and the drawing is poor.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Aquila as a diving hawk holding the arrow Sagitta. It is not labelled.

De Astronomica ("the astronomy"), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This depicts "Aquila" as an eagle walking to our right looking over its left wing with its wings unfurled.

The BAV *Astronomia* text, Vatican. lat. 3110 - Florence, ca. 1370; owned by Coluccio Salutati (1331-406) and the Madrid texts (Bibl. Nacional, Matritensis 1983, fol. 116v and Vatican, BAV, Vat. lat. 3121, fol. 12r., Bibl. Nacional, Matritensis 1983, fol. 115v and Vatican, BAV, Vat. lat. 3121, fol. 10v.) depict Jove riding the eagle Aquila Mc Gurk, Patrick (1966).

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Aquila on one page as an eagle standing on a rock with its wings spread, looking back behind itself. On another page it shows Aquila in a similar position, but with a nude Antinous on its back.

The *Germanicus Aratea* (Siciliensis, c. 1469) depicts "Aquilam" as an eagle with wings raised facing to our right and looking over its right shoulder. An arrow is depicted between its legs.

The *Germanicus Aratea* with scholia Strozziana (c. 1475) depicts Aquila as an eagle with wings raised facing to our right and looking over its right shoulder. An arrow is depicted between its legs.

The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts "Aquila" as a barely visible bird.

The early 16th century Real Academia de Historia, manuscript D-97, f.101v depicts Aquila as an eagle standing on an arrow (Sagitta). It is not labelled. The Real Academia de Historia, manuscript D-97, f.104v – 105r depicts it in the same fashion.

The "Nuremburg Maps" *(Die Karte des Nördlichen Sternenhimmels* inv.-Nr. Hz 5576), a pair of celestial hemispheres made in 1503 by Conrad Heinfogel labels this constellation "Vultur Volas (sic)" and depicts it as an eagle with its wings partially folded.

The *imagines coeli septentrionales cum duodecint imaginibus zodiaci* ("images of the northern sky with twelve images of the zodiac"), commonly known as the *Northern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius (Dekker & Lippincott, 1999) labels this constellation "Vultur Volas (sic)" and depicts it as an eagle with its wings partially folded.

Aquila appears on some old charts and the *Ilkhanian Tables* under the Latin name "Vultur Volans" ("flying vulture"), which is a reference to the Arabic asterism Flying Vulture (see below). Gores for a celestial globe by German polymath Johannes Schöner (1477 – 1547) from 1515 list "Vultur Volans" but those from 1534 and 1535 list "AQUILA" (Dekker & Lippincott, 1999). Celestial globe gores (1517) of Schöner depicts "Vultur Volans" as a diving eagle.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) lists this constellation as "AQVILA" and "Vultur Volans".

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts "AQVILA" as an eagle flying to our right.

The *Horoscopion generale* (1533) of Petrus Apianus (1495 – 1552) depicts Aquila as an eagle with wings outstretched.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts Aquila in the same manner as Dürer et al.

The celestial globe depicted in Hans Holbein's *Double Portrait of Jean de Dinteville, the Bailly of Troyes, and Georges de Selve, Bishop of Lavaux* (more commonly known as "*The Ambassadors*") from 1533 lists the abbreviated "VVLTVR V" (Dekker & Lippincott, 1999).

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts "Aquila" as an eagle in flight with an arrow (Sagitta) overlapping its right wing.

Dele Stelle Fisse ("Of the Fixed Stars") by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as "De l'Aquila". The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as the "Eagle".

The Northern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Aquila as an eagle diving at Antinous.

A celestial globe atop a planetary clock modified by Oronce Fine in 1553 (the "Paris Globe") lists "VVLTVR VOLANS" (Dekker & Lippincott, 1999).

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists "Aquila, sev Vultur Volans" for this constellation in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts "Aquila" as an eagle with spread wings.

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicted "Aquila seu vulture volans sydus 16" ("the eagle, or flying vulture, 16 stars") as a male with his back to us, seated on a plinth, turning as if to reach something to his left. Aquila is flying to our right over his head.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts this constellation as a diving eagle at right angles to the Milky Way. The label is unintelligible.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts "Aquila" as an eagle in flight to our right. Plancius has omitted Antinous.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts "Vultur Volans Aquila" as a diving eagle flying to our right carrying Antinous.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) depicts "Aquila" as an eagle in flight carrying an arrow (Sagitta). NOTE: Antinous is not depicted.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) lists "Aquila" and depicts it as an eagle in flight to our right carrying Antinous.

Danish astronomer Tycho Brahe's *Astronomiae Instauratae Progymnasmata* (1602) lists this constellation as "Aquila seu Vultur Volans" ("a flying eagle or vulture").

Aquila is depicted by German astronomer Johann Bayer (1572-1625) in his Uranometria (1603) as an eagle in flight as viewed from above carrying Antinous (see above). Bayer lists these names for Aquila: "Aquila, Iouisales, Vultur Volans, Ganymedis raptrix, Seruans Antinoum, Aliis Alcar, Alcair, Atair".

"Aquila" is listed on the *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) and depicted as an eagle in flight to our right carrying Antinous.

"Aquila" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch, who also lists the name "Vultur Volans" and depicted as an eagle in flight to our left carrying Antinous.

Giovanni Paolo Gallucci's *Theatrum Mundi, et Temporis* (1614) labels this constellation "Aquila o Vultur Cadens" and depicts it as a diving eagle. There is a nude bearded man seated on a stool below the eagle which clearly is meant to represent Antinous but is not labelled.

The *Tabulae Rudolpinae* (1627) of Johannes Kepler (1571 – 1630) lists the names "Aquila seu Vultur Volans" for this constellation.

"Aquila" is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as an eagle in flight to our left carrying Antinous.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts "Aquila" as an eagle diving to our right, picking up Antinous from a plinth.

The huge *Gottorf Globe* (c1650) made for the Duke of Holstein, Frederick III, one of the world's first planetariums, depicts Aquila as a diving eagle carrying Antinous.

Aquila is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661.

Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) depicts Aquila as an eagle in flight carrying "Antimous" (see Antinous, above): There is an arrow through the left wing of Aquila which is not labelled but probably represents Sagitta.

The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678 by English uranographer James Clerk depicts "Aquila" as an eagle in flight with an arrow (Sagitta) overlapping its right wing.

English uranographer John Seller's *A coelestiall planisphere* (1678) depicts "Aquila" as an eagle in flight with a branch in its beak and with an arrow (Sagitta) overlapping its left wing.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts "Aquila" as an eagle in flight to our right carrying Antinous (see Antinous, above).

Aquila is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729: It is depicted as an eagle in flight.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts Aquila as an eagle in flight.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts "Aquila" as an eagle in flight to our left carrying Antinous.

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) depicts Aquila as an eagle in flight carrying Antinous (see Antinous, above).

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Aquila as a diving eagle carrying Antinous.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) depicts "l'Aigle" as an eagle in flight carrying Antinous.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts "Aquila" as an eagle in flight carrying Antinous.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "L'Aigle" ("the eagle") as an eagle in flight carrying Antinous, as does the 1778 edition.

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "der Adler und Antinous" and depicts it as an eagle in flight to our left carrying a nude child.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as "Aquila" in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts "Aquila" as an eagle in flight with an arrow (Sagitta) through its left wing.

Aquila is listed in Scottish uranographer Alexander Jamieson's *Celestial Atlas* in 1822: It is depicted as an eagle in flight.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts "Aquila" as an eagle in flight.

Aquila is depicted in *Urania's Mirror* in 1852 as an eagle in flight.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as "Adler" and depicts it as an eagle diving.

"Aquila" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as an eagle in flight carrying a naked youth: This youth is Antinous (see above) but is not labelled as such.

English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists this constellation as "Vultur Volans".

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts "Aquila" as an eagle in flight to our right carrying Antinous.

Aquila is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877) as "Aquila et Antinous": It is depicted as a eagle flying to our left carrying a male youth with his arms spread.

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Aquila, The Eagle" as an official constellation "recognized in the catalogue of the British Association".

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as "Aquila, the Eagle".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Aquila" in his *Star Atlas* (1893) and describes it as "The Eagle".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Aquila" and describes it as an "Eagle".

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Aquila".

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) slightly redesigned the lines of Aquila in his book *The Stars - A New Way to See Them* (1952). The standard IAU charts have a line running from Alpha (α) Aquilae (Altair) to Delta (δ) Aquilae: Rey has this running from Gamma (γ) Aquilae to Delta (δ) Aquilae to make the line of stars Gamma (γ), Alpha (α) and Beta (β) Aquilae (Alshain) look more like an eagle's head.

Sky and Telescope Magazine, founded in 1941, depicts Aquila in their magazine and publications like this:

- Its "head" is the line of three stars Beta (β) Aquilae (Alshain), Alpha (α) Aquilae (Altair), and Gamma (γ) Aquilae with a line from this last star to Delta (δ) Aquilae representing the "neck",
- Its "body is a line between Delta (δ) Aquilae and Lambda (λ) Aquilae with the line continuing to 12 Aquilae to form a "tail",
- The "wings are interconnected triangles:
- One "wing" is made up of Delta (δ), Lambda (λ), and Zeta (ζ) Aquilae with a short line running from this last star to Epsilon (ε) Aquilae, and
- One "wing" is made up of Delta (δ), Lambda (λ), Eta (η), Theta (θ), and Iota (ι) Aquilae.

Aquilaris:

This Latin asterism is the IAU constellation Lyra and was so named as it was often depicted as having an eagle in the background as if carrying it (see Aquila, above).

Aquitenens:

This Latin asterism is the IAU constellation Aquarius as described by the Roman general Germanicus (15 B.C.E. – 19 C.E.) and listed in R. H. Allen's *Star Names*.

Ara:

None of the stars of this constellation are brighter than 3rd magnitude and they show up in 82 of the asterisms in this handbook.

In Greek mythology the IAU constellation Ara represented the altar where their Gods made offerings and formed an alliance before defeating the Titans. The ancient Greeks couldn't see far enough south to see all of what is now considered to be part of that constellation, so to them it looked like an altar on the horizon. Ptolemy (c.100 – c.170) listed it as "Θυμιατήριον" or "Thymiatírion" (see Altar, above) in his *Almagest* and Proclus (412 – 485) also used this name. The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) depicts this constellation as a table with two levels and a box on top.

Ara appears in the Leiden *Aratea* (816) as an hourglass shaped altar with flames rising from the top (Katzenstein & Savage-Smith, 1988).

This constellation is depicted in editions of the *Revised Aratus Latinus*:

- In several editions (Dresden DC 183, Paris BN 12957, Prague IX. C. 6) it is depicted as a multi-story structure with flames coming out of windows or vents,
- In the Prague IX C 6 this structure only has three windows,
- In the Vat Reg lat 1324 edition it is depicted as a chateau with four corner turrets,
- In the Cologne 83 II edition it is depicted as a square altar with four legs with flames on top.

The Oxford Laud 644, Padua 27 and Venice VIII 22 manuscripts of the 11th century *De signis caeli ("of the signs of heaven*") depict Ara as a two-story box. The Dijon 448 manuscript of *De signis caeli* depicts a two-story brick structure with a tiled roof. The Laon 422 and Rouen 26 manuscripts of *De signis caeli* depict Ara as a lantern-like structure with a triangular top.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi's son depicts Ara as an hourglass shaped altar with flames rising from it.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Ara as a vase with flames coming out of the top.

Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) depicts Ara as an altar.

A Hebrew translation of the Almagest from Catalonia (c1361), Philadelphia (USA), University of Pennsylvania Libraries, Lawrence Schoenberg Collection, ms. ljs057 (old Ms.Sassoon 823), ff.56v, 57r, depicts "Thuribulum" as a three-legged basin with flames rising from it.

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Ara as a hourglass shaped altar with flames rising from the top.

The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.168v-169r depicts Ara as a cubical altar with smoke rising from it, but does not label it, but at ff.170v-171r it is depicted as a cubical altar with flames rising from it labelled "Sacrum thuribulum vel Vas".

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Ara as a multi-layered rectangular altar with an altar cloth and two candles on top.

The *Germanicus Aratea* (Siciliensis, c. 1469) and the *Germanicus Aratea* with scholia Strozziana (c. 1475) depict Ara as a vase shaped altar with flames rising from the top.

"Ara" appears on the *Imagines constellationum Australium* chart of Romanian theologian Johannes Honter (1498 – 1549) as a square altar with flames rising from the top.

De Astronomica ("the astronomy"), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. "Ara" is depicted as a stone altar with two steps leading up to it. Two small dragons fly about the flames on top.

The early 16th century Real Academia de Historia, manuscript D-97, f.102v – 103r depicts Ara as a cubical altar on legs with flames on top. It is not labelled.

The “Nuremburg Maps”, a pair of celestial hemispheres made in 1503 by Conrad Heinfogel depicts Ara as an altar with flames on top.

The *Southern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius depicts Ara as an altar with flames on top.

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts “Ara” as a cubical altar with flames on top.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts Ara in the same manner as Dürer et al.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts “Ara” as a rectangular platform with flames and smoke rising from it.

Dele Stelle Fisse (“Of the Fixed Stars”) by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as “De l’Altare”. The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as “Hearth or Censer”.

The Southern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Ara as a three level square altar with flames and smoke rising from the top.

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicts “Lar sieu Thuribulum, vel ara” as a cubical altar with burning sticks on top.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts this constellation as a square altar with flames rising from the top. The label is unintelligible.

Flemish cartographer Jodocus Hondius (Joost de Hondt 1563 – 1612) includes Ara on his 1598 globe and on his *Hemelglobe* (1600) and depicts it as a rectangular altar with flames rising from the top.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts “Ara” as a two-level rectangular altar with flames and smoke rising from the top.

“Ara” is depicted on gores of the globe of Petrus Plancius published in 1598 by Jodocus Hondius as a two-level rectangular altar with flames and smoke rising from the top with the subtitle “Thuribulon”.

Ara is omitted from Danish astronomer Tycho Brahe’s *Astronomiae Instauratae Progymnasmata* (1602).

Dutch navigator Frederick de Houtman’s catalogue of fixed stars (1603) lists this constellation as “Het Outaer”.

German uranographer Johann Bayer (1572 – 1603) depicts this as a rounded “fire vessel” on three legs in his *Uranometria* in 1603. Bayer lists these names for this constellation: “Ara, Thuribulum, Auieno, Altare vel Altarium, Capellae Pharus, Sacrarium, Lar, Puteus, Templum, Focus, Prunarum Conceptaculum, Ignitabulum, Batillus”.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists the names "Thuribulum" and "Ara" and depicts it as a decorated altar with flames rising from it.

"Ara" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and depicted as a cubical altar with no smoke or flames.

Ara is listed by German astronomer Johannes Kepler (1571 – 1630) in his *Tabulae Rudolphinae*, a new edition of Brahe's catalogue, in 1627.

"Ara" is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a cubical altar with flames rising from it.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts "Ara" as a cubical altar with flames and smoke rising from the top.

Ara is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 which depicts a stone altar with flames on top.

English astronomer Edmund Halley's chart of 1678 depicts Ara as an altar with flames and smoke rising from it and Ara is listed by English astronomer Edmond Halley in his *Catalogus Stellarum Australium* in 1679 as "Thuribulum".

Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) labels this constellation "Ara" with the subtitle "Thuribulum" and depicts it as smoke and flames rising from atop a two-tier altar.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, and *Firmamentum Sobiescianum sive Uranographia* (1690) depicts "Ara" as a cubical altar with smoke rising from it.

Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) depicts "Ara al Thuribulum" as a tripod stand with a bowl full of fire on top.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, depicts Ara as a stone altar with smoke rising from it.

Ara is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729: This is depicted as an altar with smoke rising from the top.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts "Ara" as a cubical altar with flames and smoke rising from the top.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts "Ara" as a single level rectangular altar with smoke and flames rising from the top.

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) depicts Ara as a square altar.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Ara as an hourglass shaped altar with smoke rising from the top.

French astronomer Abbé Nicolas Louis de Lacaille's *Planisphère des Étoiles Ausralea* (1756) depicts "L'Autel" as a cubic altar with flames on top.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) depicts "l'Autel" as a bowl on a tripod stand with flames rising from it.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "l'Autel" as a rectangular single level altar with flames on top, as does the 1778 edition.

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Altar" and depicts it as a rectangular altar with flames rising from the top.

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts Ara as a three level altar with flames rising from the top.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts "Ara" as a cubical altar with smoke rising from it.

Ara is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801) as "Altaar": It is depicted as an altar with smoke rising from it.

American uranographer William Croswell (1760 – 1834) depicts "Ara the Altar" on his *Mercator Map of the Starry Heavens* in 1810 as a cubical brick altar with smoke rising from it.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts "Ara" as a cubical altar with flames on top.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists "Ara" in his *Celestial Atlas* in 1822: It is depicted as an altar with smoke rising from the top.

American uranographer Elijah Burritt's *Southern Circumpolar Map for each Month in the Year* (1835) depicts "Ara the Altar" as an altar with flames rising from the top.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich bears the label "Ara" but has no illustration for it.

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Ara, The Altar" as an official constellation "recognized in the catalogue of the British Association".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Ara" and describes it as an "Altar".

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) slightly redesigned the lines of Ara in his book *The Stars - A New Way to See Them* (1952). The standard IAU lines form a bent four sided figure with one side running through Gamma (γ) and Beta (β) Arae: Rey places Gamma (γ) and Beta (β) Arae in the middle and runs a straight line from Delta (δ) Arae to Theta (θ) Arae.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Ara in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* as an "H" shape, with one line of stars from Delta (δ)

Arae through Gamma (γ) Arae and Beta (β) Arae to Alpha (α) Arae, another line from Eta (η) Arae through Zeta (ζ) Arae to Epsilon (ε) 1 Arae, and a line connecting Beta (β) and Zeta (ζ) Arae.

Sky and Telescope Magazine, founded in 1941, depicts Ara in their magazine and publications as a four-sided figure with two bent sides made up of Alpha (α), Epsilon (ε) 1, Zeta (ζ), Eta (), Delta (δ), Gamma (γ), and Beta (β) Arae with a line running from Alpha (α) Arae to Theta (θ) Arae.

Arabib:

This asterism "Arabib" is the IAU constellation Aries as listed in R. H. Allen's *Star Names* in 1899. Hill does not identify the culture this comes from, writing that it is "unexplained".

Aratai:

This Kiribati asterism "Aratai" or "Nei Aratai" is possibly the star Beta (β) Persei (Algol) in the IAU constellation Perseus (Trussel and Groves 1978).

Arbitration:

This Gaulish asterism "Elembiui Prinnios" is the IAU constellation Virgo and appears in the Coligny Calendar (Boutet 2001). Compare this to their asterism Month of the Stag Guiding Star (see below).

Arc de Triomphe:

This telescopic asterism is open cluster NGC 2439 in the IAU constellation Puppis, which was discovered by English astronomer John Herschel in 1847. It is GC 1566 in the *General Catalogue* of 1864. American astronomer Steve Coe (1949 – 2018) described it as a "Arc de Triumph [sic]" and as a "horseshoe shape" (see "Horseshoe" below). It is also known as the "Bold Arrow Cluster" (see below).

Arc of the King:

This asterism is a curve of six stars in the IAU constellation Cepheus. It starts at Beta (β) Cephei (Alfirk) and runs through 11, 24, 31, and Pi (π) Cephei, ending at Gamma (γ) Cephei. The name is a reference to Cepheus.

Arcadian Star:

This Latin asterism "Arcadium Sidus" is the IAU constellation Ursa Major as listed by R. H. Allen in his *Star Names*. Allen attributes it to Sophocles (d. 406 B.C.E.), but Sophocles was a Greek author and unlikely to have used a Latin name. English poet John Milton (1608 – 1674) called it "Star of Arcady" in his *Comus*.

Arcalis:

This **telescopic** Andorran star is HIP 72845 (HD 131496) in the IAU constellation Boötes (magnitude 7.8) and was given this name by the IAU NameExoWorlds campaign. Arcalis is a mountain peak in Northern Andorra where the sunlight passes through a hole in the mountain twice a year. It has an exoplanet named Madriu, which is a glacial valley and river that runs through the southeast portion of Andorra and is part of the Madriu-Perafita-Claror UNESCO World Heritage Site.

Arcas:

This Greek asterism "Arkos" or "Arcas" is the IAU constellation Ursa Major. In Greek myth the Goddess Hera turned Callisto into a bear in a fit of rage and her husband Zeus turned Calisto's son Arcas into a bear in the sky to prevent him from hunting Callisto. In another other version Zeus turns Arcas into the constellation Boötes.

This star is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes as listed in the Maass 1989 manuscript of the 11th century *De signis caeli ("of the signs of heaven*"), which also lists "Arcus" and "Arcades qui et Boötis, custos plaustri" ("Arcades and Boötis, keeper of the cart"). The Germanicus text in Aberyswyth 735C manuscript of *De signis caeli* lists "Arcus" and the Hyginus text in Leiden 8° 15 manuscript of *De signis caeli* lists "Arcades": He is depicted in these two manuscripts as a wild man wearing an animal skin. The Laon 422 and Rouen 26 manuscripts of *De signis caeli* depict "Arcas" holding a tube-like piece of drapery away from his cloak with his right hand. The Montecassino 3 manuscript of *De signis caeli* lists "Arcas" and "Boites" and depicts him holding a lion's pelt in his right hand and a curved stick in his left hand. The Freiburg im Breisgau 35 manuscript of *De signis caeli* lists "Bootes" and "Arcasis". Johann Bayer's *Uranometria* (1603) lists "Arcas" as an alternate name for Boötes.

"Arcas" is listed in John Hill's *Urania* in 1754.

English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Arcas" as a name for Boötes.

Archangel Stars:

This asterism is four stars representing the archangels (Van der Waerden, 1953; Pannekoek 1961):

- Michael (watcher of the east): Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus.
- Oriel (watcher of the west): Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius.
- Raphael (watcher of the north): Alpha (α) Leonis (Regulus) in the IAU constellation Leo.
- Gabriel (watcher of the south): Alpha (α) Piscis Austrini (Fomalhaut) in the IAU constellation Piscis Austrinus.

This was derived from the earlier Persian Four Guardians of Heaven, below.

Archer:

An archer appears as a constellation on Babylonian tablets preserved at the British Museum (Massoume 2001).

This Greek asterism "Τοξότης" ("Toxótis") or "Τοξευτής" ("Toxeftís") is the IAU constellation Sagittarius as listed by Eratosthenes (d.194 B.C.E.), Hipparchus (190 – 120 B.C.E.), Plutarch (c.46 – 119), and Ptolemy (c.100 – c.170). Aratus (315 – 240 B.C.E) called it this and "Ρύτωρ τόξου" ("Rýtor tóxou" or "bow stretcher") in his *Phaenomena* (270 B.C.E.). Other Greeks called it "Τοξευτήρ" ("Toxeftír"). Roman statesman Marcus Tullius Cicero (106 – 43 B.C.E.) listed it as "Arcitenens" (which is used for their God Apollo and the constellation Sagittarius, or Archer) as did 4th century poet Decimus Magnus Ausonius and German astronomer Johann Bayer in his Uranometria (1603). R. H. Allen notes in this *Star Names* in 1899 that English orientalist Thomas Hyde (1636 – 1703) lists it as "Βελοκράτωρ" ("Velokrátor") with the suggested translation "Drawer of the Arrow". This is how it is described in Ptolemy's *Almagest*:

- The "bow" is the stars Epsilon (ε) Sagittarii, Mu (μ) Sagittarii, and Lambda (λ) Sagittarii, with the "arrow" being a line between the stars Gamma (γ) Sagittarii, and Zeta (ζ) Sagittarii. Aratus (315 – 240 B.C.E) called this "Τόξον" ("Tóxon" or "bow"- see Bow, below).

- His “head” is formed by the stars Psi (ψ) Sagittarii, 41 Sagittarii, Xi (ξ) 1 and 2 Sagittarii, Nu (ν) 1 and 2 Sagittarii, and HIP 93498.
- His “left arm” holding the bow goes from a “shoulder” at Sigma (σ) Sagittarii to an “elbow” at Phi (ϕ) Sagittarii to a “hand” at Delta (δ) Sagittarii.
- His “right arm” that is drawing the arrow is a curve from a “shoulder” at Psi (ψ) Sagittarii through Chi (χ) 1 Sagittarii, 52 Sagittarii, and HIP 95865A to a “hand” at Zeta (ζ) Sagittarii,
- His upper “body” runs from HIP 93667 through HIP 95456 to a quadrilateral of stars forming his “rear end”: Omega (ω) Sagittarii, 29 Sagittarii, 62 Sagittarii, and 59 Sagittarii.
- His “rear legs” are two lines of stars running out from Theta (θ) 1 Sagittarii:
    - One goes out to a “hoof” at Kappa (κ) 1 and 2 Sagittarii, and
    - The other goes out to a “knee” at HIP 98761 and a “hoof” at Iota (ι) Sagittarii.
- There are two lines of stars forming his “front legs”:
    - One runs from HIP 94986 to a “knee” at Alpha (α) Sagittarii and a “hoof” at the stars Beta (β) 1 and 2 Sagittarii, and
    - The other runs from HIP 93149 to a “knee” at HIP 91918 to a “hoof” at Eta (η) Sagittarii.

This Arabic asterism “al-Rāmī” is the IAU constellation Sagittarius as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

John Hill gives the name Archer for the IAU constellation Sagittarius in his *Urania* in 1754, as does English Admiral Henry William Smyth in his *Bedford Catalogue* in 1844.

NOTE: This Greek asterism appears on the Daressy Zodiac of the Roman Imperial Period alongside a falcon.

This German asterism “Schütze” is the IAU constellation Sagittarius as depicted in the *Nördliche Sternhimmel* sky map of O. S. Reuters based on the work of German astronomer Johann Elert Bode (1747 – 1826). R. H. Allen lists the Saxon name “Scytta” in his *Star Names* in 1899. See Sagittarius, below.

This Turkish asterism “Yai” is the IAU constellation Sagittarius as listed in R. H. Allen’s *Star Names* in 1899. John Hill lists it as “Y’ac” in his *Urania* in *1754*. Hill translates this term as “arrow, and figuratively, and archer”.

This Arabic asterism “Artashir” (آرتشر) is the IAU constellation Sagittarius.

This Syrian asterism “Keshta” is the IAU constellation Sagittarius as listed in R. H. Allen’s *Star Names* in 1899. John Hill lists it as “Keshto” in his *Urania* in 1754.

This Persian asterism “Kamān” or “Nimasp” is the IAU constellation Sagittarius as listed in R. H. Allen’s *Star Names* in 1899. “Kaman” is listed by John Hill in his *Urania* in 1754.

This Etruscan asterism “Fars” is the IAU constellation Sagittarius.

This Hebrew asterism “Keshet” is the IAU constellation Sagittarius as listed in their list of constellations of the zodiac (mazzaroth) in their *Talmud* and is related to their month Kislev. John Hill lists it as “Kesheth” in his *Urania* in 1754 as does R. H. Allen in his *Star Names* in 1899, though Allen also points out that Giovanni Battista Riccioli (1598 – 1671) lists it as “Kerto”.

This Hungarian asterism “Íjász” is the IAU constellation Orion. It is also known as “Nimrod” (see below), and Reaper (see below).

This Romanian asterism “Arcaş” or “Arcaşul” is made up of stars of the IAU constellation Sagittarius (Ottescu 2009, Lite, Lodina, and Ignat 2018):

- A quadrilateral of stars is at one end: Lambda (λ), Delta (δ), Epsilon (ε), and Phi (ϕ) Sagittarii,
- From Phi (ϕ) Sagittarii a line runs out to Sigma (σ) Sagittarii, and
- From Lambda (λ) Sagittarii, a bending line runs through 28, Xi (ξ), Omicron (ο), Eta (η), and 43 Sagittarii to Rho (ρ) 1 Sagitarii.

This Japanese sei shuku or lunar station “Ashitare Boshi” appears in the “Painting of the Deities Forms of the Five Planets and Twenty-Eight Lunar Stations” (五星二十八宿神形図) as an archer (Kotyk 2018). See “Tail” below.

This Ainu Nociw (“asterism”) “Kimun kur-nociw“ is made up of the stars of the IAU constellations Canis Major, Orion and Puppis. The stars of Canis Major represent a kneeling archer drawing a bow and arrow:

- The top of the archer’s head is Theta (θ) Canis Majoris,
- The archer’s hand holding the bow is Alpha (α) Canis Majoris (Sirius),
- His left foot is Pi (π) Puppis and his left knee Epsilon (ε) Canis Majoris,
- His right foot is Rho (ρ) Puppis and his right knee is Eta (η) Canis Majoris,
- The archer is shooting an arrow at a stag (Orion) with the belt of Orion being the arrow striking the deer.

Archer Deity:

The Chinese translation of the Sūryagarbha-parivarta from 585 describes the IAU constellation Sagittarius as “Shè shén” (射神) or “archer deity” (Kotyk 2017).

Arches Cluster:

This asterism is a star cluster in the IAU constellation Sagittarius and is one of the densest known in the Milky Way. It was discovered by Nagata et al in 1995. However, you won’t see it in visible wavelengths: You need a radio telescope to see this one.

Archer of Ursa Major:

This **telescopic** asterism “Sagittárius Úrsae Majóris” is the grand design spiral galaxy NGC 3310 (Arp 217) in the IAU constellation Ursa Major which is classified as a starburst galaxy. English astronomer William Herschel discovered this in 1789 and listed it as IV 60 in his catalogue. It is GC 2158 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to “the combination of the extended arm at the western side of this galaxy and the jet pointing in a northwestern direction, [resembling] a bow and arrow” It is also known as the Bow and Arrow Galaxy (see below).

Arcturus:

See Guardian of the Bear, below.

Arcturus Major:

This asterism is the constellation Ursa Major as listed by Isidore of Seville (560 – 636). Isidore described Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes as "Arcturus Minor". Arcturus Major also appears in editions of the *Revised Aratus Latinus* (8th century) as a name for Ursa Major. The *De ordine ac positione stellarum in signis* ("*On the order and position of the stars in the signs*") in the Salzburg compilation (810 – 818) of Abbot Arno of Salzburg (785 – 821) lists "Arcturus Major", as does Kauffmann's translation of the *De ordine ac positione stellarum in signis* in 1888. This relates to the asterism Guardian of the Bear (see below) from which the name of the star Arcturus is derived.

Arcturus Minor:

This star is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes as listed by Isidore of Seville (560 – 636). Isidore described Ursa Major as "Arcturus Major". The *De ordine ac positione stellarum in signis* ("*On the order and position of the stars in the signs*") in the Salzburg compilation (810 – 818) of Abbot Arno of Salzburg (785 – 821) lists "Arcturus Minor" for this constellation, as does Kauffmann's translation of the *De ordine ac positione stellarum in signis* in 1888. This relates to the asterism Guardian of the Bear (see below) from which the name of the star Arcturus is derived. Johann Bayer's *Uranometria* (1603) lists "Arcturus Minor" as an alternate name for Boötes and attributes it to Isidore.

This asterism is the IAU constellation Ursa Minor as listed in editions of the *Revised Aratus Latinus* (8th century).

Areola of Virgo:

This **telescopic** asterism "Aréola Vírginis" is the elliptical galaxy NGC 4552 (Messier 89) in the IAU constellation Virgo. It was discovered by Charles Messier in 1781. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Argelander's Star:

There are two stars with this name:

- One star is HIP 57939 or Groombridge 1830, a high proper motion star in the IAU constellation Ursa Major (magnitude 6.45). It is named for German astronomer Friedrich Wilhelm Argelander, who discovered its high proper motion in 1842.
- One **telescopic** star is HIP 54035 or Lalande 21185, a nearby red dwarf star in the IAU constellation Ursa Major (magnitude 7.52). It is named for German astronomer Friedrich Wilhelm Argelander, who discovered its high proper motion in 1857.

Argo:

This Greek asterism Ἀργω , later latinized to "Argo Navis", "Argus Navis", or simply "Navis" ("ship") or "Argo" was first mentioned in Aratus' poem *Phaenomena* (270 B.C.E.) and was one of the 48 original constellations in Ptolemy's *Almagest* (2nd century). It is named for the ship of the mythical character Jason, who is said to have sailed in this ship named "Argo" with his Argonauts to Colchis in search of the Golden Fleece. Cicero (106 – 43 B.C.E.) called it "Argolica Navis" ("Argonautica Ship"), "Argolica Puppis" ("Argonaut's Poop Deck"), "Argoa Puppis" ("Argo's Stern") and ("Argo the Hulk"). Roman poet Sextus Propertius (55 – 15 B.C.E.) called it "Iasonia Carina" ("Jason's Keel"). The Roman poet Ovid (b. 43 B.C.E.) called it "Pagasaea Carina" and "Pagasaea Puppis" after the Thessalian seaport where Jason's ship was built. Plutarch (c.46 – 119) stated that it was inspired by the Egyptian ship of Osiris.

Here is the description of Ptolemy's original asterism, made up of stars of the IAU constellations Carina, Puppis, Pyxis, and Vela:

- The "ship" is a bent loop of stars starting at the "prow" with Psi (ψ) Velorum and running back along the "top deck" through Lambda (λ) Velorum, and Zeta (ζ) Puppis, to Rho (ρ) Puppis at the "stern",
- The line then runs through Xi (ξ) Puppis, Omicron (ο) Puppis, Nu (ν) 1 Puppis, n Puppis, Sigma (σ) Puppis, Chi (χ) Carinae, Delta (δ) Velorum, and Kappa (κ) Velorum and back to Psi (ψ) Velorum,
- The "mast" is the line of stars e Velorum, Beta (β) Pyxidis, Alpha (α) Pyxidis, and Gamma (γ) Pyxidis, and
- The "rudder" is a line of two stars: Gamma (γ) Velorum and Alpha (α) Carinae.

The Mainz Globe from the eastern end of the Roman empire (c. 150 – 220 C.E.) depicts this asterism as the front half of a galley with a lion's head at the bow, with a sort of "house" in the bow and a row of overlapping shields.

This constellation appears in the 8th century *Revised Aratus Latinus*:

- It is depicted in the Vat Reg lat 1324 edition as a full ship,
- In several other editions (Dresden DC 183, Paris BN 12957, Prague IX. C. 6) it is shown as half a ship, cut off on the right side, with two oars and a structure resembling a house on the deck,
- In the Paris BN n.a. 1614 manuscript this ship has a three-pronged end.

"Argo Navis" is mentioned in the Leiden *Aratea* (816) and depicted as the front end of a galley with a single mast.

The *De ordine ac positione stellarum in signis* ("*On the order and position of the stars in the signs*") in the Salzburg compilation (810 – 818) of Abbot Arno of Salzburg (785 – 821) lists "Navis, quae Graecos Argo nominator" ("The ship, which the Greeks call the Argo").

The 9th century Berlin 130, Madrid 3307, Monza F.9/176, Vat lat 645, Munich 210, Vienna ÖNB 387, Austin, TX, Ransom Ms 29, Paris BN, n.a. 1614, and St. Petersburg, Q.V. IX, no.2 manuscripts of the *De ordine ac positione stellarum in signis* depict Argo Navis as a ship with two oars and a tri-prong bow. The Paris BN, 12117 and Vat Reg lat 309 manuscripts of the *De ordine ac positione stellarum in signis* depict an animal head on one end of the ship. The Paris BN 12117 manuscript of the *De ordine ac positione stellarum in signis* depicts this animal head with a bell on its tongue and disembodied hands on the oars. The Paris BN lat 8663 manuscript of the *De ordine ac positione stellarum in signis* depicts a building on board.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi's son depicts Argo as a complete single masted galley.

The 11th century *De signis caeli ("of the signs of heaven*") lists "Argo Navis". The Klosterneuberg 685, Paris BN 5239, Paris BN 5543, Vat lat 643, and Zwettl 296 manuscripts of *De signis caeli* depict half a ship, with a banner or flag on the mast and two shields on the deck and below it there is a small dog's head except in the Klosterneuberg manuscript, where the dog's head appears at the top of the mast. The Zwettl manuscript has additional dog's heads at the bow and stern. The Laon 422 and Rouen 26 manuscripts of *De signis caeli* depict half a ship with a small building on the deck and two oars. The Durham Hunter 100 manuscript of *De signis caeli* depicts an animal head at the bow.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Argo as a complete sailing ship with a single mast and two steering paddles.

Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) depicts Argo as half a ship.

A Hebrew translation of the Almagest from Catalonia (c1361), Philadelphia (USA), University of Pennsylvania Libraries, Lawrence Schoenberg Collection, ms. ljs057 (old Ms.Sassoon 823), ff.56v, 57r, depicts Argo as a full single masted ship with a crow's nest and two steering oars sailing to our right.

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Argo as a complete sailing galley with a crow's nest. It is sailing to our left. It has a rudder and two oars.

The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.170v-171r depicts Argo as a full single masted ship with a crow's nest and two steering paddles. The figurehead of this ship is a dog's head.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.72v-73r depicts Argo as a single masted sailing ship with a crow's nest and two steering paddles. The figurehead is difficult to see as it is in the crease between the pages, but it appears to be the head of a dog. It is unlabelled.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts only the stern end of Argo at the edge of the astrolabe. It is not labelled

The vault of the Old Sacristy of the Basilica di S. Lorenzo in Firenze, Italy (1442) depicts the crow's nest and topsail and the top of the poop deck of Argo: The rest of the ship are off the edge of the vault.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Argo as the rear end of a single masted galley with two steering oars.

The *Germanicus Aratea* (Siciliensis, c. 1469) depicts Argo as a single masted galley sailing to our left.

The *Germanicus Aratea* with scholia Strozziana (c. 1475) depicts Argo as a single masted galley sailing to our left.

This constellation appears on the *Imagines constellationum Australium* chart of Romanian theologian Johannes Honter (1498 – 1549) as "Argo" and is depicted as the stern of a single masted ship with twin rudders sailing into a cloud to our left.

De Astronomica ("the astronomy"), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This labels it both "Argo" and "Nauis" and depicts it as the front half of a galley which abruptly ends midships.

The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts "Navis vel Argus" as the back end of a ship with a single mast and lowered sail. The ship has two steering oars.

The early 16th century Real Academia de Historia, manuscript D-97, f.102v – 103r depicts Argo as a complete sailing ship with a crow's nest and two steering paddles/

The “Nuremburg Maps”, a pair of celestial hemispheres made in 1503 by Conrad Heinfogel labels this asterism “Argonavis” and depicts it as a galley with two oars and a shortened stubby mast.

The *Southern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius depicts “Argonavis” as the rear half of a ship entering clouds or fog: The ship has a mast with a crow’s nest at the top and two steering paddles.

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts “Argo Navis” as a complete single masted ship with two steering oars sailing to our right.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts this as the front half of a single masted galley.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts “Argonavis” in the same manner as Dürer et al.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts “Argonavis” as a ship with a single mast entering clouds heading to our right.

Dele Stelle Fisse (“Of the Fixed Stars”) by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as “De la Nave chiamata Argo”. The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as “Argo” and “Ship”.

The Southern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Argo as the rear half of a ship sailing into a cloud or fog. It has a single mast with a crow’s nest and two steering paddles.

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts “Argo ” as the front half of a ship with double rudders and one mast emerging from the clouds: This has a structure with a peaked roof at one end.

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicts “Argus sieu Nauis” (“Argus or Navis”) as a double masted sailing ship with two large rudders sailing to our right. The entire ship is shown.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) labels this “le Grande [unintelligible]” and depicts it as the front half of a single masted galley emerging to our right from a cloud.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts “Argo” as the rear half of a single masted ship with a crow’s nest sailing into a cloud or fog.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts “Argo Navis” as the rear end of a single masted ship.

Flemish cartographer Jodocus Hondius (1563 – 1612) included this constellation on his globe in 1598.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) labels this asterism “Argo” and depicts it as the back half of a single masted galley with twin rudders.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) depicts this asterism as an entire double masted ship flying a Dutch flag.

“Argo Navis” is listed in Danish astronomer Tycho Brahe’s *Astronomiae Instauratae Progymnasmata* (1602).

German uranographer Johann Bayer (1572 – 1603) depicts this constellation in his *Uranometria* in 1603 as the rear end of a galley which is sailing to our left with its front end concealed by some rocks: There is two men on the deck, one wearing a helmet and holding some sort of pole and another steering the ship. Bayer lists these names for this asterism: “Navis, Argonavis, Currus Volitans, Navis Iasonis, Archa Nohae, Markeb, Sephina”.

Dutch navigator Frederick de Houtman’s catalogue of fixed stars (1603) lists this constellation as “Argo Navis, het Schip”.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts “Argo Navis” as the front half of a galley sailing to our left out of a cloud. It has shields lining the gunwales

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the name “Argo Navis” for this constellation.

“Navis” is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as an entire single masted galley.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts “Arca Noachi” as a two masted sailing ship moving to our right.

This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 both as “Argo Navis” and as “Arca Noachi”: It is depicted as a two masted sailing ship.

Dutch cartographer Frederik de Wit’s *Planisphaerium Coeleste* (1670) labels this asterism “Argo Navis” and depicts it as the front half a multi-oared galley with a mast with sail furled and a figurehead emerging from a cloud.

“Argo Navis” is listed by English astronomer Edmond Halley in his *Catalogus Stellarum Australium* in 1679 and is labelled simply “Argo” on his southern sky chart of 1678 where it is depicted as the middle of a sailing ship with two masts flying flags bearing a cross.

English uranographer John Seller’s *A coelestiall planisphere* (1678) depicts “Argo Navis” as a sailing ship, but only the mast, sail and a flag are showing above the rim of the planisphere.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts “Argo Navis” as the front half of a galley with a single mast and shields lining the rails sailing to our left.

Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) labels this asterism "Argo Navis al Arca Noe" ("Argo's Ship or Noah's Arc") and depicts it as the front half of a galley emerging from a cloud. The ship's rails are lined with rectangular shields, and the figurehead is a ram's head.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, labels this asterism "Argo Navis" and depicts it as the front half of a galley with a single mast emerging from a cloud.

This asterism is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729 as "Navis": It is depicted as a sailing ship with two masts. The French edition of Flamsteed's work, the *Atlas Céleste,* which was revised in 1778 this asterism is listed as "le Navire" ("the vessel").

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts Argo as the front half of a galley sailing to our right.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts "Argo Navis" as the front half of a galley emerging from clouds. A row of shields depicting human faces line the rails.

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) depicts "Argo Navis" as a single masted ship with round shields lining the rails.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Argo as the back half of a single masted galley. The front half is obscured by cliffs. There are two armoured males on deck.

John Hill lists "Navis" as a name of this asterism in his *Urania* in 1754, which was a common name for it in his time, abbreviated to "Nav" or "Arg" on charts.

French astronomer Abbé Nicolas Louis de Lacaille's *Planisphère des Étoiles Ausralea* (1756) depicts "le Navire" as the front half of a galley emerging from clouds: This has a strange short mast with a long cross piece to one side over which fabric is draped.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) depicts "Le Naviere" as the front half of a sailing ship emerging from behind some rocks.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts "Argo Navis" as the front half of a galley with a single mast.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "le Navire" as half of a single masted galley.

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "das Schiff" in the text and "Schiff" on the charts, depicting it as the front half of a single masted galley.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as "Nave" in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer labels this "Argo noehi" and "Argo navis" and depicts it as a three masted sailing ship.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts "Argo Navis" as the front half of a single masted galley sailing to our left.

This constellation is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801) as "Tschip Argo" and depicted as the front half of a single masted galley.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as "Schiff Argo".

American uranographer Elijah Burritt's *Southern Circumpolar Map for each Month in the Year* (1835) depicts "Argo Navis the Ship" as the front half of a galley.

American uranographer William Croswell (1760 – 1834) depicts "Argo Navis the Ship" on his *Mercator Map of the Starry Heavens* in 1810 as the front half of a galley with a square sail: Three armoured Argonauts with round shields stand at the rail.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists this constellation as "Argo Navis" in his *Celestial Atlas* in 1822: it is depicted as the front of a ship with a mast and with a lion figurehead on the front.

"Argo Navis" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as the front half of a single masted sailing vessel. NOTE: On another chart Argelander depicts "Puppis", "Carina", and "Vela".

English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists Argo Navis.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts "Argo Navis" as the rear half of a single masted galley sailing to our right.

"Argo" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It is depicted as the front half of a single masted ship.

This constellation is listed as "Argo Navis" in the third edition of Rev. Thomas William Webb's *Celestial Objects for Common Telescopes* in 1873.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this asterism as "Ship Argo" on the charts but just "Argo" in the text.

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this as "Argo, Jason's Ship".

William Denning's *Telescopic Work for Starlight Evenings* (1891) lists "Argo Navis".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Argo Navis" in his *Star Atlas* (1893) and describes it as the "Ship Argo", though Klein often refers to it simply as "Navis" in this book.

English astronomers Crossley, Gledhill, and Wilson list double stars in Argo such as "γ Argus" in *A Handbook of Double Stars with a Catalogue of Twelve Hundred Double Stars and Extensive Lists of Measures* (1879).

American astronomer Winslow Upton's *Star Atlas* (1896) lists "Argo Navis" as and describes it as "Ship Argo".

The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists both "Argo" and its parts (Carina, Puppis, and Vela). By his 14th edition Argo becomes a reference directing you to the other three.

The Facts of File Dictionary of Astronomy, 2nd edition, 1985, by Valerie Illingworth, ed., lists the name of this former constellation simply as "Argo".

This constellation was a huge asterism in the southern hemisphere that was 28% larger than the next largest and had 160 stars visible to the unaided eye. Because it was so unwieldy, in 1755 French astronomer Abbé Nicolas Louis de Lacaille divided Argo Navis into three constellations now in use by the IAU: Carina (the keel), Puppis (the poop deck) and Vela (the sails). The center star for this combined asterism is Gamma (γ) Velorum (Regor). De Lacaille also created the constellation Pyxis ("compass") out of the stars beside these three. NOTE: Lacaille replaced Bayer's original designations with ones that more closely represented the stellar magnitudes of the stars for each of the three new constellations, keeping the Greek letters of the Bayer star classifications for Argo Navis, so Carina has stars in the first part of the Greek alphabet, Vela has the middle letters, and Puppis has the end of the Greek alphabet.

The 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) lists "Argo" even though this is after the IAU eliminating it in 1922: This probably was left in this edition as the first edition of this atlas came out in 1910.

This French asterism "Navire Argo" is the asterism Argo's Ship.

This Italian asterism "Nave Argo" is the asterism Argo's Ship.

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) reassembles Argo's Ship in his book *The Stars - A New Way to See Them* (1952):

- One end of the ship is a "figurehead" of the stars HIP 51576, 52468, 53253, 51849, and 50371.
- The "deck" of the ship is a line of stars running from HIP 50371 through Iota (ι), Epsilon (ε), Chi (χ), and Gamma (γ) Carinae, Zeta (ζ) and Rho (ρ) Puppis to Xi (ξ) Puppis.
- The "rear" end of the ship is described as a "transom" and is made up of the stars Xi (ξ), Omicron (ο), 3, p, k, and m Puppis.
- The "keel" is the line of stars from p Puppis through Pi (π) Puppis, Nu (ν) Puppis, Alpha (α) Carinae (Canopus), Beta (β) Carinae (Miaplacidus), Omega (ω) Carinae, and Theta (θ) Carinae, returning to the aforementioned "figurehead" (NOTE: the line from Canopus to Miaplacidus thus overlaps the constellation Volans),
- The "sail" is the constellation Vela,
- The "tiller" becomes a line of stars in the IAU constellations Puppis and Pyxis, starting at Zeta (ζ) Puppis and running through Beta (β) and Alpha (α) Pyxidis to Gamma (γ) Pyxidis.

Argo the Hulk:

Cicero (106 – 43 B.C.E.) called Ptolemy's Argo's Ship (see Argo's Ship, below) "Argolica Navis" ("Argonautica Ship"), "Argolica Puppis" ("Argonaut's Poop Deck"), "Argoa Puppis" and "Argo the Hulk".

Argonautica Ship

Cicero (106 – 43 B.C.E.) called Ptolemy's asterism Argo's Ship (see Argo's Ship, below) "Argolica Navis" ("Argonautica Ship"), "Argolica Puppis" ("Argonaut's Poop Deck"), "Argoa Puppis" and "Argo the Hulk".

Argonaut's Poop Deck:

Cicero (106 – 43 B.C.E.) called Ptolemy's asterism Argo's Ship (see Argo's Ship, below) "Argolica Navis" ("Argonautica Ship"), "Argolica Puppis" ("Argonaut's Poop Deck" or "Argonaut's Stern"), "Argoa Puppis" and "Argo the Hulk".

Argo's Keel:

This Latin asterism "Carina Argoa" is Ptolemy's asterism Argo's Ship (see Argo's Ship, below).

Argo's Raft:

This Latin asterism "Argo Ratis" is Ptolemy's asterism Argo's Ship (see below).

Argus:

This Egyptian asterism is one of the paranatellonta of the decans of Sagittarius and Capricornus as listed in *the Sphaera Barbarica* described by Teucros (Mosenkis, date n/k) and is the IAU constellation Canis Major.

Ariadne's Coiled Hair:

This asterism is the IAU constellation Corona Borealis as listed in R. H. Allen's *Star Names* in 1899. Compare to Ariadne's Hair (below).

Ariadne's Constellation:

This Latin asterism "Ariadnaea Sidus" is the IAU constellation Corona Borealis as listed by the Roman poet Ovid (b. 43 B.C.E.). Giovanni Paolo Gallucci's *Theatrum Mundi, et Temporis* (1614) labels this constellation "Corona Boreal" and "Ariadna Constelacion (Ariadne's Constellation)". English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Ariadne" as a name for this constellation.

Ariadne's Crown:

This Latin asterism "Ariadnaea Corona", "Corona Ariadnae", or "Corona Ariadnes" is the IAU constellation Corona Borealis:

- *Dele Stelle Fisse* ("Of the Fixed Stars") by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as "del la corona d'Ariadna". The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.
- Johann Bayer's *Uranometria* (1603) lists this constellation as "Corona Ariadnae".
- "Corona Ariadnaea" is listed on the *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638.

- "Corona Ariadnae" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch. John Hill listed it in his *Urania* in 1754. R. H. Allen writes in his *Star Names* in 1899 that in the Middle Ages it was often shortened to "Adrian" or "Adriane" and that this name Ariadne's Crown was "a favorite object with youthful observers" in his day.

Ariadne's Hair:

This Greek asterism is the IAU constellation Coma Berenices as described by Eratosthenes (d.194 B.C.E.). Compare to Ariadne's Coiled Hair (above).

This asterism is the open cluster Melotte 11, the Coma Berenices Cluster.

Ariadne's Necklace:

This Minoan asterism is the IAU constellation Corona Borealis. The Uppsala Archaeoastronomical Project proposed this Minoan asterism. This asterism was passed on to me by Dana Corby of Ariadne's Tribe in Tacoma, Washington in November 2023.

Ariadne's Tiara:

This English asterism is the IAU constellation Corona Borealis as described by Keats in his *Lamia*.

Ariadne's Wreath:

This Egyptian asterism is one of the paranatellonta of the 3rd decan of Libra as listed in the *Sphaera Barbarica* described by Teucros (Mosenkis, date n/k) and is the IAU constellation Corona Borealis.

Aries:

The brightest star in Aries is Alpha (α) Arietis (Hamal) at number 49 on the list of 90 brightest stars. None of its stars are brighter than 2nd magnitude. The stars of this constellation appear in 211 of the asterisms in this handbook.

The IAU constellation Aries (IAU abbreviation Ari) first appeared in the Babylonian MUL.APIN tablets as "the Hired Man" (see below), although archeologists have located boundary stones dating from 1350 to 1000 B.C.E. that depict a zodiacal Ram. The Greeks turned this Babylonian "MUL.HUN.GA" ("hired man"), into a ram (Aries) possibly due to a translation error. The character "LU" is a determinative for "people" in Sumerian, but has no use in Babylonian, so they used another character "LU", meaning "ram". In Akkadian this is "Agru" which sounds like "o kriou", which is Greek for "ram".

Aries is the golden ram from Greek mythology that rescued Phrixus and Helle on the orders of the God Hermes. This constellation appears as "Κριός" or "Crius" (see Ram, below) in Ptolemy's *Almagest* (2nd century), and John Hill lists this name in his *Urania* in 1754. Another Greek name for this constellation is "Αἰγόκερως" or "Aigókeros", though this is more commonly used in reference to the IAU constellation Capricorn. Aries ("ram") is the name that the Romans gave to this constellation.

The Temple of Khnum at Esna has a Latopolitan zodiac on the ceiling of the pronaos dating to the age of Ptolemy II Euergetes (246 – 221 B.C.E.) depicts Aries as a ram (Bullinger 1882, Seiss 1882).

The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) depicts this constellation as a ram running to the left, looking back over his left shoulder: The vernal equinox point is marked between the front legs of Aries.

The Mainz Globe from the eastern end of the Roman empire (c. 150 – 220 C.E.) depicts Aries the same as the Kugel Globe.

This constellation appears in the Leiden *Aratea* (816) as a ram leaping to the right through a circle while looking back over its right shoulder (Katzenstein & Savage-Smith, 1988): The circle represents the vernal equinoctial colure, which, according to Eudoxan astronomy, passes through the middle of this constellation.

The 9th century Berlin 130, Madrid 3307, Monza F.9/176 and Vat lat 645 manuscripts of the *De ordine ac positione stellarum in signis* depict Aries with a belt around his middle. The Los Angeles, Getty Ludwig XII, 5 and Paris BN lat 8663 manuscripts of the *De ordine ac positione stellarum in signis* depict Aries looking rearward. The Paris BN lat 8663 manuscript of the *De ordine ac positione stellarum in signis* depicts a ring around the middle of Aries.

Aries is listed several editions of the 8th century *Revised Aratus Latinus*:

- Several editions (Dresden DC 183, Paris BN 12957, Prague IX. C. 6, Gottweig 7 (146), Siena L. IV. 25) show him looking over his shoulder while moving to the left with a disc around his middle (there's that vernal equinoctial colure again),
- In the Paris BN n.a. 1614, Munich 560 and Vat Reg lat 1324 editions Aries is looking forwards,
- In the Cologne 83 II edition he is moving to the right and looking over his shoulder and has a ring around his middle.

It appears in the *Epitome Catasterismorum*, a summary of the lost Katasterismoi ("constellations" or "placings among the stars") attributed to Eratosthenes of Cyrene (c. 276 – 195 B.C.E.), the 15th century *De Astronomica* ("the astronomy"), also known as the *Poeticon Astronomicon*, attributed to the Roman historian Gaius Julius Hyginus (1st century B.C.E.), the *Scholia Basileensia* (MS AN.IV.18) of Fulda (820 – 835), De ordine ac positione in signis, a 9th century text, the *Aratus Latinus*, and the *Scholia Strozziana.* In the *Scholia Basileensia* it appears as a ram looking back over its right shoulder, but without the circle. The *De ordine ac positione stellarum in signis* ("*On the order and position of the stars in the signs*") in the Salzburg compilation (810 – 818) of Abbot Arno of Salzburg (785 – 821) lists it as "Ariues".

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi's son offers right and left profile views of Aries on one page. Both depict a ram with curly horns. One is going to our left, looking over its left shoulder and the other is going to our right, looking over its right shoulder.

The oldest known Islamic celestial glove, made between 1080 – 1085 by Ibrahim ibn Sa'id al-Wazzan and his son Mohammad, depicts as a ram laying down, facing to our left but looking over its left shoulder.

Aries appears as a ram looking over its left shoulder in the 11th century *De signis Caeli*. The Padua 27 manuscripts of *De signis caeli* depicts a belt around his middle. The Klosterneuberg 685, Paris BN 5239, Paris BN 5543, Vat lat 643, and Zwettl 296 manuscripts of *De signis caeli* depict him with a long tail, leaping to the left. All but the Klosterneuberg and Zwettl manuscripts show a ring around his middle. The Durham Hunter 100 manuscript of *De signis caeli* depicts Aries walking to the left.

Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) depicts Aries as a ram.

A Hebrew translation of the Almagest from Catalonia (c1361), Philadelphia (USA), University of Pennsylvania Libraries, Lawrence Schoenberg Collection, ms. ljs057 (old Ms.Sassoon 823), ff.56v, 57r, depicts Aries as a ram laying down facing to our left, looking over its left shoulder.

The BAV *Astronomia* text, Vatican. lat. 3110 - Florence, ca. 1370; owned by Coluccio Salutati (1331-1406) and the Madrid texts (Bibl. Nacional, Matritensis 1983, fol. 116v and Vatican, BAV, Vat. lat. 3121, fol. 12r., Bibl. Nacional, Matritensis 1983, fol. 115v and Vatican, BAV, Vat. lat. 3121, fol. 10v.) depict the triangle of Deltoton (Triangulum) on the head of Aries Mc Gurk, Patrick (1966).

A quadrans novus found at the House of Agnes site in Canterbury in 2005 in soil dated to c 1375-1425 lists Aries (Dekker 2007).

Geoffrey Chaucer (c.1340s – 1400) and some other English writers between the 14th and 16th centuries gave it the Italian name "Ariete", which also appeared in some Latin texts in the 17th century.

The Cusanus celestial globe of Cardinal Nicholas Cusa (1414) depicts Aries as a Ram galloping to our left, looking over its left shoulder.

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Aries as a ram galloping to our left, looking over its left shoulder.

The mid 15th century Wein, Oesterr. National Bibl., manuscript Lat 5415, ff.168v-169r depicts "Aries" as a ram laying down facing to our left and looking over its left shoulder.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.70v-71r depicts "Aries" as a ram facing to our left looking over its left shoulder.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Aries as a small four-legged creature resembling a dog with is walking to our left and looking over its left shoulder. It is not labelled.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Aries as a ram trotting to our left. The ram is looking straight ahead.

A translation of The *Liber de signis* of Scottish polyglot Michael Scot (1175 – c.1232) in the second half of the 15th century, Darmstadt, Hessische Hochschulebibliothek, Ms 266, depicts "Aries" as a ram walking to our right. The ram is looking straight ahead.

The vault of the Old Sacristy of the Basilica di S. Lorenzo in Firenze, Italy (1442) depicts Aries as a ram running to our right looking over its right shoulder.

De Astronomica ("the astronomy"), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This depicts "Aries" as a ram walking to our left while looking over its left shoulder.

The *Germanicus Aratea* (Siciliensis, c. 1469) and the *Germanicus Aratea* with scholia Strozziana (c. 1475) depict Aries as a ram running to our left looking over its left shoulder.

Aries appears on the *Imagines constellationum Australium* chart of Romanian theologian Johannes Honter (1498 – 1549) as a ram lying down facing to our right, looking over its right shoulder, and labelled with the astrological sign for Aries.

The Constance Celestial Globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts "Aries" as a ram looking over its shoulder.

The early 16th century Real Academia de Historia, manuscript D-97, f.101v depicts Aries as a ram running to our left, looking over its left shoulder. It is not labelled. Real Academia de Historia, manuscript D-97, f.104v – 105r depicts this reversed, with Aries running to our right.

The "Nuremburg Maps" *(Die Karte des Nördlichen Sternenhimmels* inv.-Nr. Hz 5576), a pair of celestial planispheres made in 1503 by Conrad Heinfogel depicts "Aries" as a ram facing to our left looking over its left shoulder.

The *imagines coeli septentrionales cum duodecint imaginibus zodiaci* ("images of the northern sky with twelve images of the zodiac"), commonly known as the *Northern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius (Dekker & Lippincott, 1999) depicts Aries as a ram leaping out of a cloudy ring.

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depict "Aries" as a ram galloping to our left and looking over its left shoulder.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts "Aries" as a ram facing left, looking over its left shoulder, with a cloudy ring around its middle.

The *Horoscopion generale* (1533) of Petrus Apianus (1495 – 1552) depicts Aries as a ram walking to our left. It is looking straight ahead.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts Aries in the same manner as Dürer et al.

Dele Stelle Fisse ("Of the Fixed Stars") by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as "Del Montone, o vero Ariete". The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as the "Ram".

The Northern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Aries as a ram laying down facing to our left, looking over its left shoulder.

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists this constellation as "Aries" in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts Aries as a ram lying down facing to our left, looking over its left shoulder, and labels it with the astrological symbol of Aries.

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicts “Aries” as a ram running to our left, looking over its left shoulder.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts “le Belier” as a ram laying down, facing to our right, looking over its right shoulder.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts “Aries” as a ram galloping to our left, looking over its left shoulder.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts “Aries” as a ram running to our left who is looking over his left shoulder.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) “Aries” as a ram leaping to the right through a large ring. The ram is looking over its right shoulder.

Aries is listed on the *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) and depicted as a ram lying down, facing to our left.

Aries is listed in Danish astronomer Tycho Brahe’s *Astronomiae Instauratae Progymnasmata* (1602).

German uranographer Johann Bayer (1572 – 1603) depicts Aries as a ram running to our right, looking over its right shoulder, in his *Uranometria* in 1603. Bayer lists these names for Aries: “Aries, Princeps signorum coelestium, Dux gregis, Aequinoctialis, Veruex, Chrysomallus, Jupiter Ammon, Arietinum Caput, Elhemal, Elhamel”.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts “Aries” as a ram lying down to our left looking over its left shoulder.

“Aries” is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and depicted as a ram lying down, facing to our right, looking over its right shoulder.

Giovanni Paolo Gallucci’s *Theatrum Mundi, et Temporis* (1614) depicts “Aries” as a ram running to our left, looking over its left shoulder.

The *Tabulae Rudolpinae* (1627) of Johannes Kepler (1571 – 1630) lists the name “Aries” for this constellation.

“Aries” is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a ram lying down facing to our right, looking over its right shoulder.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts “Aries” as a lamb (no horns) laying down facing to our left, looking over its left shoulder.

The huge *Gottorf Globe* (c1650) made for the Duke of Holstein, Frederick III, one of the world’s first planetariums, depicts Aries as a lamb laying down facing to our right, looking over its right shoulder.

Aries is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661.

Dutch cartographer Frederik de Wit’s *Planisphaerium Coeleste* (1670) depicts Aries as a white ram looking back over its left shoulder.

The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678 by English uranographer James Clerk depicts “Aries” as a ram lying down looking over its right shoulder.

English uranographer John Seller’s *A coelestiall planisphere* (1678) depicts “Aries” as a ram lying down facing left looking back over its left shoulder.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts “Aries” as a ram lying down facing to our left with the ram looking over its left shoulder.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this “Le Belier”, “Aries”, and “Κριός” and depicts a ram laying down facing to our left looking over its left shoulder.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley’s pirated catalogue of Flamsteed’s observations of 1712, depicts Aries as a ram running to the right looking over its right shoulder.

Aries is listed in English astronomer John Flamsteed’s *Atlas Coelestis* in 1729: It is depicted as a galloping ram looking over its right shoulder.

A wooden precession globe (1730) by German uranographer Johann Georg Puschner (Dekker 2003) lists this constellation as “Aries”.

The *Atlas Coelestis* of German astronomer Johann Gabriel Doppelmayr (1742) depicts “Aries” as a ram laying down facing right, looking over its right shoulder.

German engraver and cartographer Tobias Conrad Lotter’s *Planisphaerium Coeleste* (1750) depicts Aries as a running Ram with a cloudy ring around its middle.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Aries as a ram running to our right, looking over its right shoulder.

French uranographer Gabriel Phillipe de la Hire’s *Planisphere Celeste* (1760) depicts “Le Belier” as a ram.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts “le Belier” (“the ram”) a ram galloping to our right, looking over its right shoulder.

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts “Aries” as a ram lying down looking over its left shoulder.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts “Aries” as a goat facing to our left looking over its left shoulder.

German astronomer Johann Elert Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) as well as editions of his *Jahrbuch* lists this constellation as “Widder”.

American uranographer William Croswell (1760 – 1834) depicts Aries on his *Mercator Map of the Starry Heavens* in 1810 as a ram lying down and looking over its left shoulder.

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Widder" and depicts it as a ram running to our right looking over its right shoulder.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Aries in his *Celestial Atlas* and his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822): It is depicted as a ram lying down and looking over its right shoulder.

"Aries" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as a ram lying down facing to the right, looking over its right shoulder.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depict "Aries" as a ram running to our left, looking over its left shoulder.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts "Aries" as a ram lying down facing to our right looking over its right shoulder.

Aries is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822. He is depicted seated facing to the right, looking over his right shoulder.

"Aries" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It is depicted as a ram trotting to our right, looking over its right shoulder.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this constellation on its chart as the "Ram" but refers to it as "Aries, the ram" in the text.

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Aries, The Ram" as an official constellation "recognized in the catalogue of the British Association".

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as "Aries, the Ram".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Aries" in his *Star Atlas* (1893) and describes it as "The Ram".

American astronomer Winslow Upton's *Star Atlas* (1896) lists "Aries" as and describes it as a "Ram".

The celestial map of Sandor Nagy (1915) lists this constellation as "Kos" and depicts it as a Ram.

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Aries" as "the Ram".

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) redesigned the lines of Aries in his book *The Stars - A New Way to See Them* (1952):

- His "head" is the triangle of stars Alpha (α) Arietis (Hamal), Beta (β) Arietis (Sheratan) and Lambda (λ) Arietis,
- His "tail" is the triangle of stars 41, 39, and 35 Arietis,
- His "body" is formed by 41, 35, Alpha (α), Eta (η) and Epsilon (ε) Arietis,

- One “leg” runs from Epsilon (ε) Arietis to a “foot” at Delta (δ) Arietis, and
- One “leg” runs from Eta (η) Arietis to a “foot” at Gamma (ϕ) 1 and 2 Arietis.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Aries in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* as a line of the three stars Alpha (α) Arietis (Hamal), Beta (β) Arietis (Sheratan), and Gamma (γ) Arietis.

Arion’s Lyre:

This Latin asterism “Lyra Arionis” is the IAU constellation Lyra. This asterism is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

Aristaeus:

This Greek asterism is the IAU constellation Ophiuchus. Aristaeus was a minor God, son of Cyrene and Apollo, and the discoverer of many pastoral arts such as beekeeping and cheese making. Johann Bayer’s *Uranometria* (1603) lists Aristaeus as a name for Aquarius.

Ark of the Covenant:

This asterism is a combination of the stars of the IAU constellations Corvus and Crater and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the “pagan” names of constellations with Biblical and early Christian figures. This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as “Arca Foederis” This is listed in Edward Sherburne’s Sphere of Marcus Manilius in 1675 and in John Hill’s *Urania* in 1754 (where Hill only mentions Crater) and in R. H. Allen’s *Star Names* in 1899.

Arkab:

See Hamstring, below.

Arkab Posterior:

See Hamstring, below.

Arkab Prior:

See Hamstring, below.

Arkenstone of Thrain:

This **telescopic** asterism is the globular cluster Messier 22 (NGC 6656) in the IAU constellation Sagittarius. It was discovered by German amateur astronomer Abraham Ihle in 1665 and included in Charles Messier’s catalogue in 1764. It is GC 4424 in the *General Catalogue* of 1864. American astronomer Sherburne Wesley Burnham (1838 – 1921) noted in *Burnham’s Celestial Handbook* that it had always seemed to him “that J. R. R. Tolkien, in his delightful fantasy The Hobbit, unwittingly created an exquisite description of M22 when he spoke of the fabulous jewel called the ‘Arkenstone of Thrain’: ‘It was as if a globe had been filed with moonlight and hung before them in a net woven of the glint of frosty stars.”

Arki:

This Babylonian ziqpu "mulMAS.TAB.BA EGIR-i" from cuneiform text AO 6478 (Schaumberger 1952) is Beta (β) Geminorum (Pollux) in the IAU constellation Gemini. Compare this to the ziqpu Arkiti (see below).

Arkiti:

This Babylonian ziqpu "mulSUDUN ANSU EGIR-ti" or "Arkiti" from cuneiform text AO 6478 (Schaumberger 1952) is Xi (ξ) Boötis in the IAU constellation Boötes. Schaumberger indicates that the other star is Omicron (ο), Pi (π), or Zeta (ζ) Boötis. Compare this to the ziqpu Arki (see above).

Arm:

This Arabic star is Epsilon (ε) Persei in the IAU constellation Perseus and is part of their asterism Al Thurayya (see Little Abundant One, below).

This Latin star "Brachium" is Sigma (σ) Lyrae in the IAU constellation Lyra and was approved as a name for Sigma (σ) Lyrae A by the IAU Working Group on Star Names in 2016.

This Vedic star "Bahu" or "Bāhú" is Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion as listed as listed in the *Maitrayani Samhita* and *Kathaka Samhita* (Leitz 2019) and the Rig-Veda and *Taittirīya Brāhmana* (Ivanković 2021) and in R. H. Allen's *Star Names* in 1899. It is an alternate name for their nakshatra Ardra (see Moist One, below).

This Persian star "Besn" is Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion as listed in R. H. Allen's *Star Names* in 1899.

Armlet:

This Coptic lunar mansion "Κλαρία" or "Klaria" is Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion as listed in R. H. Allen's *Star Names* in 1899, who translates it as "armlet" and gives the alternate name "Bestia seu Statio Typhonis" ("beast or typhoon station"), attributing this to Athanasius Kircher (1602 – 1680). Yeats listed it as "the shoulder blade of the twin" in *A Vision* in 1917, basing it on German Jesuit astronomer Athanasius Kircher's *Lingua Aegyptiaca Restituta* in 1636, where Kircher describes it as "scapulas Geminorum" ("shoulder of Gemini"), indicating that they placed it somewhere in Gemini. Kircher also gives the supposedly Arabic name "Albenaab". Edward Sherburne in his *Sphere of Marcus Manilius* lists "Klaria" as the IAU constellation Cancer in 1675.

Arm of Sacrifice:

This Coptic lunar station "Ὀπέυτυς", "Opéytys", "Eupeutōs", "Opeutus", or "Hopeutus" is made up of stars in the IAU constellation Capricornus and was listed by Edward Sherburne in his *Sphere of Marcus Manilius* in 1675. German Jesuit astronomer Athanasius Kircher (1602 – 1680) listed it under the name "Brachium Sacrificii" in his *Lingua Aegyptiaca Restituta* in 1636. John Hill lists "Hopeutus" in his *Urania* in 1754. Yeats lists it as "The Sacrifice of Arm" in *A Vision* in 1917.

Arm of the North:

This Poluwatese star "Pááyefang" is Gamma (γ) Aquilae in the IAU constellation Aquila (Holton et al 2015) and is part of their asterism Mailap (see above). NOTE: "Pää" can be translated as "arm" or "wing".

Arm of the South:

This Poluwatese star "Pááyéér" is Beta (β) Aquilae (Alshain) in the IAU constellation Aquila (Holton et al 2015) and is part of their asterism Mailap (see above). NOTE: "Pää" can be translated as "arm" or "wing".

Arm Sockets of the Crab:

This Latin star "Acetabula" is Alpha (α) Cancri (Acubens) in the IAU constellation Cancer as listed by Pliny the Elder (23 – 79 C.E.) in his *Naturalis Historia*.

Armadillo:

This Tukano asterism, "Pamõ" or "Tatu", is the IAU constellation Delphinus. Cardoso (2015) lists it as the stars of Aquila and Delphinus (Cardoso 2015, Cardoso 2016). This asterism is divided into "Pamõ Oaduhka" ("Armadillo's bone"), "Pamõ Duhpoa" ("Armadillo's head"), "Pamõ Ohpu" ("Armadillo's body"), and "Pamõ Pihkoro" ("Armadillo's tail"), each related to a particular flood season.

This Barasana asterism "Hamo" is the IAU constellation Corona Borealis (Hugh-Jones 2006, Kemp et al 2022).

This Tupi asterism "Tatu" is the IAU constellation Corvus (De Freita Mourão 2009).

This Wichi asterism was first noted in 1935 but the stars have not been identified (Mariani 2017).

Armadillo's Bone:

This Barasana asterism is a line of three stars near the IAU constellation Corona Borealis (Hugh-Jones 2006). In Barasana mythology the Moon is thought to come down to Earth during eclipses as an armadillo and devour bones of the dead.

Armed King:

This Irish asterism "Caomai" is the IAU constellation Orion, listed as "early Irish" by R. H. Allen in his *Star Names* in 1899.

Armed One:

This Arabic asterism "Al Ḥāmil Luzz" ("armed one" or "spear bearer"), latinized to "Alkameluz", is a line of three stars in the IAU constellations Boötes and Canes Venatici. This is how it is put together:

- The "body" is Alpha (α) Boötis (Arcturus), 12 Boötis, and AW Canum Venaticorum (HIP 67665).
- The "Spear" is a line of three stars crossing the line of stars forming the "High One": Epsilon (ε) Boötis, Eta (η) Boötis, and Tau (τ) Boötis. At each end of the "spear" is a "tassel":
- The "Rear Spear Tassel" or "Flag of the High One" is the star Upsilon (υ) Boötis.
- The "Front Spear Tassel" is the star Rho (ρ) Boötis.

This is part of the Arabic asterism Uplifted Ones (see below).

The Armed One shows up in later atlases and charts:

- Johann Bayer's *Uranometria* (1603) lists "Kolanza" as a name for Alpha (α) Boötis (Arcturus).

- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Azimech" and "Azimeth" as names for Boötes.
- German poet Philipp von Zesen (1619 – 1689) listed it as "Al Kameluz".
- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) lists "Kolanza"
- German astronomer Johann Bayer (1572-1625) as "Kolanza".
- Variations include "Azimeth Colanza".

Armory:

This Korean lunar mansion "Gyu" is a rough oval of stars in the IAU constellations Andromeda and Pisces. From Nu (ν) Andromedae (next to the Andromeda Galaxy, Messier 31) at one end, one side runs through Mu (μ) Andromedae and Beta (β) Andromedae (Mirach), 82 Piscium, Tau (τ) Piscium, Upsilon (υ) Piscium, Phi (φ) Piscium, and Chi (χ) Piscium, ending at Psi (ψ) Piscium. From Psi (ψ) Piscium the other side runs back through Eta (η) Piscium, Zeta (ζ) Piscium, Epsilon (ε) Piscium, Delta (δ) Piscium, and Eta (η) Piscium, and HIP 2942 and 32 Andromedae, ending back at Nu (ν) Andromedae.

Armour Winged:

This Latin asterism "Armiger Ales" is the IAU constellation Aquila.

Armpit:

This Latin star with the Late Latin name "Ascella" is Zeta (ζ) Sagittarii in the IAU constellation Sagittarius, and this name appears in the 1515 edition of the *Almagest*. The IAU Working Group on Star Names approved Ascella as the name for Zeta Sagittarii A in 2016.

This Latin star "Rutilicus" is Zeta (ζ) Herculis in the IAU constellation Hercules. This is a corruption of the Latin word "titillicus" ("armpit") which indicates the location of this star in the constellation:

- R. H. Allen incorrectly suggested that it may have been derived from "the diminutive of rutilus, 'golden red' or 'glittering'" in his *Star Names* in 1899: This may be because the 1515 edition of the *Almagest* lists it as "Rutillico" but Allen also admits that the 1551 edition adds "penes axillam seu scapulam" ("resting on the axilla or shoulder") which is a clear indication of what the name means.
- Johann Bayer's *Uranometria* (1603) lists "Rutilicum" as a name for Beta (β) Herculis (Rasalgethi).
- "Rutilicum" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch, who describes it as "brachium dextrum" ("right arm").
- German astronomer Christian Ludwig Ideler (1776 – 1846) suggested it was derived from "rutellum", the diminutive of "rutrum", a sharp instrument of husbandry or war.
- This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Rutilicus": The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822.
- The *Century Cyclopedia* of 1894 lists "Rutilico".
- NOTE: The name Rutillicus has also been used to describe the star Beta (β) Herculis (Kornephoros).

Arms of the Scorpion:

This Latin asterism "Brachia Scorpij Viligio" ("the arms of the scorpion watch") is the IAU constellation Libra as listed in the *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638).

Army:

This Chinese star “Bu” from the Three Kingdoms to the Ming Dynasty is Eta (η) Ursae Majoris in the IAU constellation Ursa Major.

Arneb:

See Hare, below.

Arrernte Boy:

This Luritja star is Alpha (α) Centauri (Rigil Kentaurus) in the IAU constellation Centaurus (Maegraith 1932). Maegraith writes that this represents an Arrernte boy who is the “child of Acrux and Mimosa of marriage class Paltara” who “lives with his parents in the creek Ulbaia, the Milky Way.”

Arrernte Camp:

This large Arrernte asterism is made up of the stars of the IAU constellations Musca, Pavo, Grus, and Piscis Austrinus: This is the stars of Musca plus Alpha (α) Piscis Austrini (Fomalhaut), Alpha (α) Pavonis, and Beta (β) Gruis. The Arrernte and Luritja peoples divided the sky between them, with this being the Arrernte camp (Clarke 2009). The Milky Way divides the sky into these two camps. See Luritja Camp (below) for the other.

Arrernte Man:

This Arrernte star is Beta (β) Trianguli in the IAU constellation Triangulum as listed by Maegraith in 1932. Maegraith writes that this represents an Arrernte man who is “father of Beta Centauri” (see Luritja Cousin, below) and who belongs to the Knaria marriage class.

Arrernte Woman:

This Arrernte asterism is Alpha (α) Trianguli in the IAU constellation Triangulum as listed by Maegraith in 1932. Maegraith writes that this represents an Arrernte woman who is “mother of Beta Centauri” (see Luritja Cousin, below) and belongs to the Ngala marriage class.

Arrival of Macassans:

This Yolgnu asterism is the IAU constellation Scorpius (Hamacher and Norris 2011).

Arrow:

This Mesopotamian star “KAK.SI.DI” from the *Three Stars Each* tablet from 1100 B.C.E. is Alpha (α) Canis Majoris (Sirius). It is part of their asterism “Ban” (see Bow, below).

This Babylonian and Sumerian star “MUL.KAK.SI.SÁ” listed in the Ura = hubulla XXII list (Yigal, Block, and Horowitz 2015), “KAK.SI.SÁ” or “shukudu” (Anthony 1996), or “MUL.GAG.SI.SA” (Hunger 1992, Parpola 1993) from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.), and “mugag-si-sá” in star names and constellations on planisphere K 8538 (Koch 1989) is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major. It is listed in the Babylonian star catalogue BM 78161 (Liechty 1988) as “kak-si-sa” and as the star Beta (β) Canis Majoris (Mirzam). It is listed in the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period as “mul kak.ban” or “mul kak.si.sa” (Koch-Westenholz 1995). Holberg writes in his *Sirius* in 2007 that “Kak-shisha has been translated variously as ‘the dog who leads’ and ‘a Star of the South’”. One Egyptologist suggests that this is possibly the IAU constellation Canis Minor (Berio 2014).

This Babylonian star “kak-si-sa” in the Babylonian star catalogue BM 78161 (5th – 7th century B.C.E.) is Beta (β) Canis Majoris (Mirzam) in the IAU constellation Canis Major.

This Akkadian star “šu-ku-du”, “šiltaḫu”, “šukūdu”, or “sukudu” (Hunger 1992, Parpola 1993, Panaino 1999) from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) and the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is Alpha (α) Canis Majoris (Sirius).

This Assyrian star “GAG.SI.SA” is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major.

This Persian star “KAK.SI.DA” from the list of Lumasi Stars from the Persian (Achaemenid) Period (539 – 331 B.C.E.) is Alpha (α) Canis Majoris (Sirius) as listed by Alfred Jeremias in *Handbuch der Altorientalischen Geisteskultur* in 1929. Ernst Weidner lists it as “kak-si-sa” in his *Fixsterne* in 1971. In later Persian culture it was known as "Tir” or “arrow” (Holberg 2007).

This Asterism “sukudu” from the list of Lumasi stars from the lists K 250 and VAT 9418 from the Persian (Achaemenid) Period (539 – 331 B.C.E.) is the stars Alpha (α) Canis Majoris in the IAU constellation Canis Major and Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor (Boll 1918).

This Greek asterism “Oistos” (Ὀιστός – “arrow”) is the IAU constellation Sagitta as mentioned in Aratus’ poem *Phaenomena* (270 B.C.E.) and as originally described by Ptolemy (c.100 – c.170) in his *Almagest*: It is identical to the modern IAU constellation Sagitta except the star Eta (η) Sagittae is missing.

This Arabic asterism “al-Sahem” (سهم) is the IAU constellation Sagitta as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

This Vedic asterism is the belt of Orion in the IAU constellation Orion (see Orion below). The Vedic names for the three stars are:

- Usa: Zeta (ζ) Orionis (Alnitak),
- Aniruddha: Epsilon (ε) Orionis (Alnilam), and
- Chitralekha: Delta (δ) Orionis (Mintaka).

There are two Arabic asterisms with the name “Sahm” (سهم):

- One is the IAU constellation Sagitta.
    - Giovanni Batista Riccioli (1598 – 1671) lists it as “Schaham”.
    - John Chilmead lists it as “Alsoham” in his *A Learned Treatise of Globes* in 1889, which he derived from Robert Hues’ *A Learned Treatise of Globes* (1659).
    - John Hill lists the names “Sah’m” or “Al Sah’m” in his *Urania* in 1754
    - English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “El sahm, the arrow” and describes it as being depicted with this name on “the Dresden globes” and appearing as “Sham” in the Palermo Catalogue.
    - R. H. Allen lists “Al Sahm” in his *Star Names* in 1899. and Italian astronomer Giovanni Piazzi (1786 – 1846) as “Sham”.
- One, later latinized to “Sham” or “Alsahm” is the star Alpha (α) Sagittae in the IAU constellation Sagitta. In 2016 the IAU approved the name Sham for Alpha (α) Sagittae.

This Northern Andean asterism “Jorge Trujillo” is an arrow created by the stars Beta (β) Cassiopeiae (Caph), Alpha (α) Cassiopeiae (Shedar), Gamma (γ) Cassiopeiae (Navi), Delta (δ) Cassiopeiae (Ruchbah)

and Kappa (κ) Cassiopeiae in the IAU constellation Cassiopeia (Quinatoa 2018). This "arrow" is being held by the warrior Ana Jaramillo de Velastegui (see Warrior, below).

This Khoikhoi asterism "≠ab" the sword of Orion in the IAU constellation Orion (Alcock 2014). This is the arrow of Tsui //Goab (see below).

In Jū/Wãsi and Nama sky lore the star Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus represents the husband of the daughters of their Sky God Gao ǂN!a. The daughters are the Pleiades cluster in the IAU constellation Taurus. When Gao ǂN!a shot his arrow (Orion's sword) at three zebras (the belt of Orion) it fell short (see Orion below). He didn't recover his arrow as a lion (Alpha (α) Orionis (Betelgeuse)) was watching. Some versions add that he left his bag of ostrich eggs in the sky (see Bag of Ostrich Eggs, below).

This Chukchi, Koryak, Yakut, and Nganasan star is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus. This is related to their asterism Hunter (see Hunter, below).

This Suku Bali asterism "Ru" is the belt of Orion in the IAU constellation Orion.

This Yana asterism "Coyote's Arrow" is the belt of Orion in the IAU constellation Orion.

This Chemehuevi asterism is the sword of Orion in the IAU constellation Orion and part of their asterism Hunters (see Hunters, below).

This German asterism is the IAU constellation Sagitta as described by German poet Philipp von Zesen (1619 – 1689), who imagined it as the arrow shot by Joash at Elisha's command, or an arrow shot by Jonathan at David.

The stars of this Tanacross asterism "k'a'" are unidentified at present (Cannon 2021).

This Sahtúotine star "k'I" is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga (Cannon 2021).

This Chinese Chenzhuo xing guan "Shi" is the stars Omicron (o) 1 & 2 Canis Majoris in the IAU constellation Canis Major.

There are eight **telescopic** "Arrow" asterisms:

- One is in the IAU constellation Fornax is made up of 6th magnitude stars one degree west of the galaxy NGC 1365. It is also known as "Chi (χ) 1 2 3", which is a reference to the three stars that it contains: Chi (χ) 1, 2, and 3 Fornacis. This is listed by South African astronomer Auke Slotegraaf in his observations from Sutherland in 2009 and in *Asterisms: Small Star Patterns for Telescopes and Binoculars* by Dutch astronomer Demelza Ramakers in 2011.
- One is the Bold Arrow Cluster, open cluster NGC 2439 in the IAU constellation Puppis, which was discovered by English astronomer John Herschel in 1847. It is GC 1566 in the *General Catalogue* of 1864.This has also been described as a "Horseshoe" see below, and "Arc de Triomphe" (see above).
- One is open cluster Collinder 65 in the IAU constellation Orion and is found on the asterisms list of American astronomer John Davis, who calls it "Orion's Arrow".
- One is Sánta 69, listed in 2007 by Hungarian astronomer Sánta Gábor, which is described by Gábor as an "arrow-like asterism of 15 nearly equal 11 – 12 [magnitude] stars" in the IAU constellation Puppis.
- One is in the IAU constellation Andromeda and is Corder 62 on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. It is centered on Sigma (σ) Andromedae, and includes HIP 1579, 1333A, 1403, and 1336A. Size 60' X 30'.

- One, the Arrow Cluster, is made up of eight 7th to 8th magnitude stars in the IAU constellation Cassiopeia 40 arcminutes northwest of open cluster Messier 52. Five stars form the "arrowhead": 4 Cassiopeiae, HIP 115218, HIP 115245, HIP 115141 and HIP 114904A. This is also known as the Party Balloon (see below) or Airplane (see above).
- One is six stars in the IAU constellation Pegasus, forming an arrow pointing at the star Gamma (γ) Pegasi (Algenib). This is Corder 36 on the observing list of American astronomer Jeffrey Corder. A triangle of three 8th – 9th magnitude stars including HIP 856 form the "arrowhead" and a line of three 9th – 10th magnitude stars form the shaft. Size 30'.
- One is globular cluster NGC 6934 (Caldwell 47) in the IAU constellation Delphinus. It was discovered by English astronomer William Herschel in 1785 who listed it as "I 103". It is GC 4585 and 4586 in the *General Catalogue* of 1864. South African astronomer Magda Streicher (1998) described it as an "arrow shape" and goes on to say that "to the south a few minutes away a bright star leads the way with other stars to form an arrow which points away to the south."
- One is made up of stars of the IAU constellation Scutum. It was posted by American astronomer "NYJohn S" on *Cloudy Nights* in September 2022. Its "shaft" is the stars HIP 92322, HIP 92351, HD 174225, and Gaia DR3 4251988451630286976. The "arrowhead" is the "V" of stars HD 174515, HD 174514, HIP 92510, HD 174395 and S Scuti. NYJohn S describes it as an arrow or spear, so I've chosen the first suggestion.

Arrow and Hunter:

This Seri asterism is the IAU constellation Taurus (the Hunter) and the star Alpha (α) Aurigae (Capella-the Arrow).

Arrow Applied to the Arc:

This Latin asterism "Sagitta arcui applicate" is the IAU constellation Sagittarius.

Arrow Bearer:

This asterism with the Greek name "Οϊστοφόρος" or "Οϊstofóros" was depicted on a Turkish globe as the IAU constellation Boötes according to German astronomer Johann Bayer (1572-1625).

Arrow Chain:

This **telescopic** asterism has the name Arrow Chain as it is a colorful chain of about nine stars alongside the three-star "arrow" of the IAU constellation Sagitta, a triangle made up of Alpha (α) Sagittae (Sham), Beta (β) Sagittae and Delta (δ) Sagittae. The chain starts with Zeta (ζ) Sagittae at one end and runs through a line of stars including HIP 97135 and 96936 to Sham. This is Lorenzin 4 and is listed in *Asterisms: Small Star Patterns for Telescopes and Binoculars* by Dutch astronomer Demelza Ramakers in 2011. Size 35' X 10'. Jeffrey Corder lists this as Corder 3989.

Arrow Game:

This Lakota star "Oglechkutepi" is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes.

Arrow of the Three Knots:

This Vedic asterism "iṣus trikāṇḍā" is the belt of Orion in the IAU constellation Orion (Panaino 1999).

Arrowhead:

There are two Arabic stars wit this name:

- One, “Zujji n-Nashshāba” (زُجِّ النشابة), later latinized to “Nushaba” or “Nash” is the star Gamma (γ) Sagittarii in the IAU constellation Sagittarius:
    - Edward Sherburne lists it as “Zugi al Nushaba” in his *Sphere of Marcus Manilius* in 1675.
    - The IAU is considering approving the name Nash for Gamma (γ) 1 Sagittarii A.
- One, “al-naşl” (النصل), literally meaning “the point of the arrow”, later latinized to “Alnasl”, “Al Nasl”, “Nash”, “El Nasl”, or “Alnasr” is the star Gamma (γ) 2 Sagittarii in the IAU constellation Sagittarius as listed by 16th century Arab astronomer Al Tizini:
    - R. H. Allen listed “Al Nasl” in his *Star Names* in 1963.
    - The IAU approved the name Alnasl for the star Gamma (γ) 2 Sagittarii.

This Sahtúotine star “k’ı̨ dáre” is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Cannon 2021).

This Babylonian asterism from the MUL.APIN tablets “Gagsisa” is the star Alpha (α) Canis Majoris (Sirius), with a triangle of stars around it: 7 and 20 Canis Majoris with HIP 31827 at the tip. It is part of their asterism “Quastu” (see Bow, below).

There are nine **telescopic** “arrowhead” asterisms:

- One, also known as the Unicorn’s Horn, is made up of six blue/white 8th to 9th magnitude stars in the IAU constellation Monoceros 7 degrees north of Alpha (α) Canis Majoris (Sirius) near the star HIP 32064. Size 7’X 6’. This is Harrington 5 on the asterisms list of American astronomer Phil Harrington and Corder 1152 on Jeffrey Corder’s list.
- One is the open cluster NGC 7510 in the IAU constellation Cepheus, which was discovered by English astronomer William Herschel in 1787 who listed it as “VII 44”. It is GC 4902 in the *General Catalogue* of 1864. It is also known as the Dormouse (see below).
- One is the globular cluster Messier 71 (NGC 6838) in the IAU constellation Sagitta. It was discovered by Swiss astronomer Philippe de Chéseaux in 1745 and included in French astronomer Charles Messier’s list in 1780. It is listed in John Herschel’s General Catalogue of 1864 as GC 4520.
- One is Sánta 203, listed in 2015 by Hungarian astronomer Sánta Gábor, which is described by Gábor as a “little arrowhead shape asterism… of stars 11.5 – 14 [magnitude]” in the IAU constellation Lacerta.
- One is Simonic 9 from the list of Hungarian astronomer Ilona Simon Mogyorósi, which is in the IAU constellation Eridanus. This is Ennis 14 listed by Canadian astronomer Charles Ennis. Size 180’.
- One is Cseh 34 listed by Hungarian astronomer Viktor Cseh, which is in the IAU constellation Pictor. Cseh describes it as a “3’ X 2’ small star group whose four members form an arrowhead.
- One is in the IAU constellation Canes Venatici and was listed as Corder 2414 on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 9’. This includes the stars HIP 62490, 62545, 62594, and 62634.
- One is the open cluster Messier 11 (NGC 6705) in the IAU constellation Scutum. It was discovered by German astronomer Gottfried Kirch in 1681. It is listed in John Herschel’s General Catalogue of 1864 as GC 4437. American astronomer Walter Scott Houston describes it as forming “an arrow-head”. It is also known as the Wild Duck Cluster (see below), the July Salt and Pepper Cluster, the Scutum Salt and Pepper Cluster (see Salt and Pepper, below), the Cluster of the Shield of Sobieski (see below), and “V” (see below).

- One is “Mucronátus Fornácis” (“arrowhead of Fornax”), which is the barred spiral galaxy NGC 1255 in the IAU constellation Fornax. It was discovered by American astronomer Edward Emerson Barnard in 1883. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it the name “Mucronátus” (“Having a sharp point”) as it “looks like an arrowhead”.

Arrows:

This Teleut asterism is made up of two stars:

- The arrow that hit its target is Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion which is a blood red colour (Kuperjanov 2006). The Hunter, represented by the star Sirius (see Hunter, below) is hunting three deer (the belt of Orion).
- An arrow that fell short is Beta (β) Orionis (Rigel) in the IAU constellation Orion (Kuperjanov 2006).

Arsenal:

This Chinese xing guan “Kùlóu” (库楼) is a long bending line of stars in the IAU constellation Centaurus: Starting at Zeta (ζ) Centauri, the line goes to a bend at Eta (η) Centauri, then through Theta (θ) Centauri to another bend at 2 Centauri. From here it runs through d Centauri to a bend at f Centauri, then through Gamma (γ) and Tau (τ) Centauri to a final bend at HIP 60517, ending at Sigma (σ) Centauri. Their xing guan “Railings” (see below) is in the middle of the big curve, and all around it is a series of two-star xing guans called “Pillars in Horn Mansion” (see below).

This Chinese Chenzhuo xing guan “Kùlóu” is roughly question mark pattern of stars in the IAU constellations Centaurus and Lupus. Starting at Zeta (ζ) Centauri the line runs through Alpha (α) Lupi, Eta (η) Centauri, Theta (θ) Centauri, Iota (ι) Centauri, HIP 64348, and Gamma (γ) Centauri to HIP 60710, then looping back through Sigma (σ) Centauri and Tau (τ) Centauri to Gamma (γ) Centauri.

Arsenal Added 1:

This Chinese xing guan “Kùlóu Zēng I” (库楼增一) is the globular cluster NGC 5139, Omega Centauri.

Ārt:

This Egyptian decan “Ārt” was in the IAU constellation Taurus. In later Hellenistic texts it was named “ϫωογ” (“Xau”). In the *Testament of Solomon*, it became “Horopel”, 2nd century Jewish philosopher Aristobulus of Paneas called it “Gisan”, in Greek Hermeticism it became “Soou”, in Latin Hermeticism “Jaus”, 4th century Roman astrologer Julius Firmicus Maternus called it “Suo” or “Asicat”, Cosmas of Maiuma (d. 760) called it “Charis”, French scholar Joseph Justus Scaliger (1540 - 1609) called it “Asicath” and German Jesuit astronomer Athanasius Kircher (1602 – 1680) called it “ⲥⲉⲣⲁⲡⲓⲥ” (“Serapis”). It has been depicted as a ram’s head with curls with scepters resting on its shoulders.

Art Car:

This American asterism is the IAU constellation Capricornus and was created by Brad and Kathryn Templeton for *The Vault of Heaven* star map for the 2004 Burning Man event held in Black Rock Desert in Nevada (Kuperjanov 2006). It is depicted as a car shaped like a shoe.

Arteries:

This Arabic star “al-niyāţ” (النياط) translated as “the aorta” or “the arteries”, later latinized to “Alniyat” or “Al Niyat” is Sigma (σ) Scorpii in the IAU constellation Scorpius. It has this name as it is next to Antares, which they called “Heart of the Scorpion”:

- “al-Nīyāt” is listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Al niyát, the praecordia, or out-works of the heart”.
- The IAU approved the name Alniyat for the star Sigma (σ) Scorpii Aa1.

Artist:

This American asterism is made up of stars of the IAU constellation Andromeda and was created by Brad and Kathryn Templeton for *The Vault of Heaven* star map for the 2004 Burning Man event held in Black Rock Desert in Nevada (Kuperjanov 2006).

Arthur’s Chariot:

This English asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Ottescu 2009).

Arthur’s Harp:

This Welsh asterism “Talyn Arthur” is the IAU constellation Lyra as listed by Victorian folklorist Marie Trevelyan (1852 – 1922) in her *Folk-lore and Folk-stories of Wales* (1909).

Arthur’s Plough:

In John Lydgate’s *Troy Book* (early 1400s) he associates King Arthur with the IAU constellation Ursa Major, calling the Big Dipper asterism “Arthouris Plowe” (Pinard 2022). Victorian folklorist Marie Trevelyan (1852 – 1922) lists “Arthur’s Plough Tail” as a Welsh name for Ursa Major in her *Folk-lore and Folk-stories of Wales* (1909). Ian Freer (2004) lists it as the “Great Plough Tail”.

Arthur’s Wain:

This Celtic asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Pinard 2022). It appears in Walter Scott’s *Lay of the Last Minstrel* in 1805.

Arthur’s Yard:

This is a Welsh name for the IAU constellation Orion as listed by Victorian folklorist Marie Trevelyan (1852 – 1922) in her *Folk-lore and Folk-stories of Wales* (1909). Freer (2004) lists this simply as the “Yard”.

Aruadorka Kerencséje:

This Hungarian asterism “Aruadorka Kerencséje appears on the celestial map of Hungarian uranographer Sandor Nagy (1915), who depicts it as a figure seated on the ground, facing to our right, who appears to be reading a book. NOTE: Nagy’s 1915 chart is beautifully illustrated, but some of the labels are hard to make out and I find it difficult to match the hand drawn stars on his chart with actual star patterns in the sky. The stars are currently unidentified.

Arula:

This Greek asterism is the IAU constellation Ara.

Arundhati:

This Vedic star is 80 Ursae Majoris (Alcor) in the IAU constellation Ursa Major. It is part of their asterism Seven Sages (see below).

As rup e noka-nociw:

This Ainu asterism is the IAU constellation Gemini.

As-Shali:

This Bedouin star "as-Shali" (السهلي) or "al-Shali" is Alpha (α) Eridani (Achernar) in the IAU constellation Eridanus.

Asar Battlefield:

This Norse asterism "Asar Bardagi" is the IAU constellation Auriga. This is the battlefield where they believe that the battle Ragnarok will occur. Compare this to the Old Icelandic asterism "Battle of the Æsir" (below).

This Saxon asterism "Asenkampf" is the IAU constellation Auriga as depicted in the *Nördliche Sternhimmel* sky map of O. S. Reuters based on the work of German astronomer Johann Elert Bode (1747 – 1826).

Asare:

This Xerénte star is Beta (β) Orionis (Rigel) in the IAU constellation Orion. Asare is a cultural hero and half-brother to the Sururu Brothers, which is their name for the Pleiades (see Sururu Brothers, below). NOTE: Dechend (1975) lists this as Kappa (κ) Orionis in the IAU constellation Orion.

Asbila:

This asterism is the IAU constellation Draco as listed in John Hill's *Urania* in 1754: He describes it as "one of the old Greek names of that constellation", but I can find no record of this.

Ascella:

See Armpit, above.

Asclepius:

This Egyptian asterism is one of the paranatellonta of the decans of Scorpius as listed in *the Sphaera Barbarica* described by Teucros (Mosenkis, date n/k) and is the IAU constellation Ophiuchus. The 11th century *De signis caeli ("of the signs of heaven*") lists this as a name for Ophiuchus. Asclepius is the son of Apollo and Coronis in Greek mythology and becomes a hero and God of medicine.

Asellus Australis:

See Southern Donkey Colt, below.

Asellus Borealis:

See Northern Donkey Colt, below.

Asellus Secundus:

See Second Donkey Colt, below.

Asellus Tertius:

See Third Donkey Colt, below.

'Ash:

This Hebrew asterism from their *Tanakh*, "'Ash" (עָשׁ ʻĀš), or "'Ayish" (Rubin 2019) may be the Hyades cluster, the star Alpha (α) Boötis (Arcturus), the IAU constellation Ursa Major, or even the planet Venus as the "evening star". In his *Urania* in 1754, John Hill describes it as the star Alpha (α) Aurigae (Capella) in the IAU constellation Auriga and then later describes it as a Hebrew term for "moth" and associates it with the Pleiades. Edward Sherburne lists it as "Ash" and "Aish" in his *The Sphere of Manilius* in 1675. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "'Aïsh" as Arcturus. R. H. Allen writes in his *Star Names* in 1899 that it is related to the Arabic asterism Daughters of the Bier (see below) which would make it Ursa Major.

Ashdena:

This asterism is the IAU constellation Draco as listed in John Hill's *Urania* in 1754. He describes this name as "Persian". There are multiple stars in this constellation with Arabic names relating to hyenas, wolves, and jackals that could have been corrupted to arrive at this name, including "'aḍ-Ḍibaāʿ" (see Hyena, below), "'adh-Dhi'bayn" (see Two Hyenas, below), and "adzh Dzhi'bayn" (see Two Wolves, below).

Ashera:

This Bedouin asterism from the Negev desert is made up of stars of the IAU constellations Ursa Minor and Cepheus. This is the Caananite fertility Goddess Ashera, cognate with the Phoenician Astarte. Her head would be in the area of Alpha (α) Ursae Minoris (Polaris), and her body aligned with Cepheus (Steiner 2016).

Ashtaroth:

This star is Alpha (α) Coronae Borealis (Alphecca) in the IAU constellation Corona Borealis. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists it as "Ashtaroth, the Syrian Venus".

Ashvins:

This Vedic star "Ashvins" " is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major as listed in the Rig-Veda (Ivanković 2021). The Ashvins or Aśvin (meaning "horse possessors"), also known as "Ashwini Kumara" and "Asvinau" are twin Hindu gods associated with medicine, health, dawn and sciences. They are guardians travelling in a chariot drawn by horses that are never weary. Ushas is often described as their consort (see Ushas, below). The heliacal rising of this star marked the beginning of the Vedic year, and the twins represented the light and dark halves of the year.

Asilki:

This Belarussian asterism is the constellation Orion (Avilin 2009). Asilki bagatyr is the name of an epic Belarussian hero. It is also known as "Traiko" (see Three Times, below), "Karomyselko" (see Small Yoke, below), "Grabli" (see Rake, below), "Kastsy" (see Mowers, below), "Try Karali" (see Three Kings,

below), “Kasar” (see Mower, below), “Kreselca Pana Jezusa” (see Lord Jesus’ Chair, below), “Tri Siostry” (see Three Sisters, below), “Prahi” or “Prapradki” (see Yarn Spinners, below), “Matawila” (see Wheel, below), “Kosy” (see Scythes, below), “Kigachi ragachy” (see Shaft of a Plough, below), “Kryzhe” (see Cross, below), “Lisa” (see Fox, below), and “Trohkutnaia” (see With Three Corners, below).

Asiňao:

This Carib asterism “Asiňaoyuman”, “Asiňao”, or “Achinnao” represents a Carib who became a star. It is said to cause high winds, rains, and lightning, but its present location is unknown (Magaña, and Jara, 1982).

Asleha:

This Hindu asterism is the IAU constellation Leo as listed in R. H. Allen’s *Star Names* in 1899.

Asmeat:

See Albez, above.

Asp:

This Greek lunar mansion “Egyptian Asp” is listed in the Magical Papyrus 121, preserved in the British Museum, and dated to the 3rd century C.E. (Mosenkis, date n/k). Mosenkis is unsure whether this is stars in Lynx, Eridanus or Orion.

Asperand of Centaurus:

This **telescopic** asterism “Asperánda Centaúri” is the barred spiral galaxy NGC 3742 in the IAU constellation Centaurus. It was discovered by John Herschel in 1828. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They call it this as it resembles an asperand (@).

Asphalt Path:

This **telescopic** asterism is the dark nebula Barnard 168 (LDN 1055) in the IAU constellation Cygnus. Size 100’X 20’. René Merting describes it on the *Faint Fuzzies* website: “The dark nebula starts faintly in the west and then pulls east as a dark well-defined tube… south of the nebula a prominent star chain pulls from SW to NE and ends near Cr 470.” NOTE: This is next to IC 5146, the Cocoon Nebula (see below). It is Lorenzin 12 on Tom Lorenzin’s list and listed in Gary Seronik’s *Binocular Highlights* and in Steve Coe’s *Best of Barnard’s Dark Nebulae*. This is in the catalogues of American astronomer Beverly Turner Lynds (1929 – 2024). It is also known as the Caterpillar (see below), and the Dark Cigar (see below).

Aspidiske:

See Shield, below.

Aspiring of Virgo:

This **telescopic** asterism “Aspirans Vírginis” is the lenticular galaxy NGC 4856 in the IAU constellation Virgo. It was discovered in 1785 by William Herschel who listed it as “I 68”. It became GC 3337 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by

astronomers Gerard Bodifee and Michel Berger (2010): They called it this because they consider it to be “a transition case between and SO and Sa type”.

Assai Fruit:

This Barasana asterism is unidentified stars in the area of the IAU constellation Corvus (Hugh-Jones 2006). This is the fruit of the Euterpe oleracea, a type of palm.

Assembly:

This KhoiKhoi asterism “/hũseti” or “/kxũseti” is the Pleiades cluster in the IAU constellation Taurus (Alcock 2014).

This Tuareg asterism “El-Djema’at” is made up of a rough triangle of stars in the IAU constellation Ursa Major: The stars Psi (ψ), Lambda (λ), Mu (μ), Nu (ν), and Xi (ξ) Ursae Majoris (Holbrook 2020). They are a group conspiring to kill a black woman, Polaris. This is part of a larger asterism Black Woman (see below).

Assembly of Matariki:

This Māori asterism “Huihui o Matariki”, also known as “Matariki” (“chief’s eyes”, “small face” or “small eyes”), “Tātai o Matariki”, “Hoko-kumara” or “Ao-Kai” is the Pleiades cluster in the IAU constellation Taurus.

Assembly of Sirius:

The Māori call the star Alpha (α) Canis Majoris (Sirius) “Rehua” so this Māori asterism “Te Huinga-o-Rehua, also called “Te Putahi-nui-o-Rehua” and “Te Kahui-Takurua”, ("The Assembly of Rehua" or "The Assembly of Sirius") included both the IAU constellations Canis Minor and Canis Major, along with some surrounding stars.

Assert:

This “Arabic” name for the IAU constellation Cancer is listed by Edward Sherburne in his *Sphere of Marcus Manilius* in 1675.

Assistant:

This Chinese xing guan “Fǔ” (辅), the full name being “Assistant of Northern Dipper” or “Vassal of Northern Dipper”, is the star 80 Ursae Majoris (Alcor) in the IAU constellation Ursa Major, which the Chinese call the Northern Dipper (see below). This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Fu” is the star 80 Ursae Majoris in the IAU constellation Ursa Major. It is part of their xing guan Northern Dipper.

Astarte:

This Phoenician asterism is the IAU constellation Virgo as listed in R. H. Allen’s *Star Names* in 1899. Astarte or Ashtoreth is a Hellenized form of the ancient Near Eastern fertility Goddess Ashtart or Athtart, closely related to Ishtar.

Asterion:

See “Stars” below.

Asterope:

This star “Asterope” or “Sterope” is the double star 21 Tauri in the IAU constellation Taurus. Sterope is one of the Pleiades sisters in Greek mythology, and this is part of the Pleiades cluster:

- Scottish uranographer Alexander Jamieson (1782 – 1850) lists it as “Asterone” in his *Celestial Atlas* in 1822.
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists the name “Asterope” for this star.
- American astronomer Winslow Upton’s *Star Atlas* (1896) lists “Asterope”.
- The 1st edition of British schoolmaster Arthur P. Norton’s *A Star Atlas and Telescopic Handbook* (1910) and the 14th edition (1959) list “Asterope” for this star.
- The IAU has approved the name Asterope for 21 Tauri A.

Astraea:

There are two Greek asterisms named for the Goddess Astraea, whose name means “star maiden” or “starry night”:

- One is the IAU constellation Libra: Astraea is the virgin goddess of justice, innocence, purity, and precision, which is why her name is associated with Libra.
- One is the IAU constellation Virgo: Astraea is associated with this constellation as she is a virgin. “Astraea” is listed as an alternate name for Virgo in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch. *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) describes Libra as constellation as the “scales of Astraea (Virgo)”.

Astrologer:

This Chinese xing guan “Hòu” (候) is the star 55 Ophiuchi in the IAU constellation Ophiuchus. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Hou” is the star Alpha (α) Ophiuchi (Rasalhague) in the IAU constellation Ophiuchus.

Astronomical Observatory:

This Chinese xing guan “Língtaí” (灵台) is a shallow triangle of stars in the IAU constellation Leo: 58, 59, and 63 Leonis. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Língtái” is a triangle of stars in the IAU constellation Leo: 75 Leonis, 65 Leonis, and 61 Leonis.

Astronomical Tube:

This English asterism “Tubus Astronomicus” was a common name for the IAU constellation Telescopium (see below) in the 18th century.

Asumpha:

This star is Beta (β) Leonis (Denebola) in the IAU constellation Leo as listed by John Chilmead in his *A Learned Treatise on Globes* in 1889 and in R. H. Allen's *Star Names* in 1899. Chilmead attributed this to Abbasid astronomer Abū al-ʿAbbās Aḥmad ibn Muḥammad ibn Kathīr al-Farghānī (Alfraganus, d 861 C.E.). English astronomer Francis Baily (1774 – 1844) listed this as "Serpha", and Allen writes that English orientalist Thomas Hyde (1636 – 1703) changed it to "Mutatrix" (Latin for "mutator").

Asvatthah:

This Vedic star is Gamma (γ) Aquilae in the IAU constellation Aquila as listed in the *Kataka Samhita* (Leitz 2019).

Asymmetrical of Sextans:

This **telescopic** asterism "Dyssýmmetrus Sextántis" is the intermediate spiral galaxy NGC 3023 in the IAU constellation Sextans. It was discovered by Édouard Stephan in 1880. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as its symmetry is broken by its interaction with nearby galaxy NGC 3018.

At the End is a Tail:

This Hebrew star "Be-sof ha-zenav" is Eta (η) Ursae Majoris in the IAU constellation Ursa Major as listed in the star list of Abraham Bar Hiyya in 1104 (Goldstein 1985).

Atakoraka:

This **telescopic** Togo star "Atakoraka" is WASP-64 in the IAU constellation Canis Major (magnitude 11) and received this name in the IAU NameExoWorlds Campaign. This is the name of the Atacora, the largest mountain range in Togo. It has an exoplanet named Agouto: Agouto ("Mount Agou") is the highest mountain in this range.

Atargatis:

This asterism is the IAU constellation Virgo. Atargatis (known as Derceto by the Greeks) was the chief Goddess on Northern Syria, representing fertility and well being. "Atargatis" is listed in Johann Bayer's *Uranometria* (1603) as a name for Virgo. The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Atargatis" as an alternate name for Virgo.

Athebyne:

See Two Wolves, below.

Athene:

This Egyptian asterism is one of the paranatellonta of the first decan of Aries as listed in the *Sphaera Barbarica* described by Teucros (Mosenkis, date n/k). Mosenkis describes this as the "tail" of the IAU constellation Cetus plus stars of Triangulum. However, Triangulum is quite a distance away and the triangular constellation Sculptor is right next to the "tail" of Cetus.

Athlete's Foot Galaxy:

This **telescopic** asterism "Fußpilzgalaxie" or "Athlete's Foot Galaxy" is the spiral galaxy NGC 7025 in the IAU constellation Delphinus. It was discovered by German astronomer Albert Marth in September 1863. It is GC 5984 in the *General Catalogue* of 1864. It was listed under this name by German astronomers Robert Zebahl and René Merting on their *Faint Fuzzies* website. They gave it this name as it is situated at the foot of the Toadstool asterism (French 1, see Toadstool, below).

Atik:

See Shoulder of Al Thurayya, below.

Atlantides:

This Greek asterism is the Pleiades cluster in the IAU constellation Taurus as listed by as listed by Mosenkis in his *Mycenaean Oecumene* (date n/k). The *De ordine ac positione stellarum in signis* ("*On the order and position of the stars in the signs*") in the Salzburg compilation (810 – 818) of Abbot Arno of Salzburg (785 – 821) lists Atlantides. The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch also lists "Atlantides" as a name for the Pleiades. *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), mentions this alternative name for the Pleiades. The Pleiades were also known as the Dodonides (see below).

Atlantis:

This star is 17 Tauri (Electra) in the IAU constellation Taurus as listed by Roman poet Ovid (b. 43 B.C.E.) and as listed in R. H. Allen's *Star Names* in 1899. This is a reference to Electra's father Atlas.

Atlantis of Octans:

This **telescopic** asterism "Atlántis Octántis" is the doubled barred spiral galaxy NGC 7098 in the IAU constellation Octans. This was discovered in 1835 by John Herschel who listed it as h 3876 and later as GC 4686 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the structure of this galaxy with its impressive inner and outer rings is reminiscent of Plato's description of the legendary city of Atlantis".

Atlas:

This Greek asterism is the IAU constellation Orion as listed by Mosenkis in his *Mycenaean Oecumene* (date n/k).

This Greek star "Atlas" or "Pater Atlas" is the triple star 27 Tauri in the Pleiades cluster in the IAU constellation Taurus. In Greek mythology Atlas was a Titan condemned to hold up the sky for eternity and was the father of the Pleiades:

- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) named it "Pater Atlas".
- German astronomer Hermann Joseph Klein (1844 – 1914) lists "Atlas" in his *Star Atlas* (1893).
- English astronomers Crossley, Gledhill, and Wilson list "Atlas" in *A Handbook of Double Stars with a Catalogue of Twelve Hundred Double Stars and Extensive Lists of Measures* (1879).
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as "Atlas".
- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Atlas".

- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and the 14th edition (1959) list this star as "Atlas".
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this star as "Atlas".
- The IAU has approved the name Atlas for 27 Tauri Aa1.

Atlas Born:

This Greek asterism "Ἀτλάγενης" ("Atlágenis") is the Pleiades cluster in the IAU constellation Taurus as listed by the Greek poet Hesiod (d. ~650 B.C.E.) and is listed in R. H. Allen's *Star Names* in 1899.

Atoms for Peace:

This **telescopic** asterism is NGC 7252 (Arp 226), an interacting galaxy in the IAU constellation Aquarius. It was discovered in 1785 by English astronomer William Herschel who listed it as "III 458". It is GC 4780 in the *General Catalogue* of 1864. It is a reference U.S. President Dwight D. Eisenhower's "Atoms for Peace" speech in December 1953: The merging galaxies resemble nuclear fusion, and the giant loops resemble electron orbits. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010) as "Pacífica Aquárii" ("peace-maker of Aquarius").

Atri:

This Vedic star "Atri" or "Daksa" is Delta (δ) Ursae Majoris in the IAU constellation Ursa Major (Boutet 2014, Bhawath 2019). R. H. Allen lists it in his *Star Names* in 1899. Atri is one of the sons of Brahma, who appears as Vashishtha (the star Zeta (ζ) Ursae Majoris). The other sons of Brahma are the other stars in the Big Dipper asterism (see Seven Sages, below).

Atria:

Atria is the star Alpha (α) Trianguli Australis in the IAU constellation Triangulum Australe. The name is a contraction of "Alpha Trianguli Australis" and was approved by the IAU Working Group on Star Names in 2016.

Atropos of Draco:

This **telescopic** asterism "Átropos Dracónis" is the edge-on spiral galaxy NGC 5981 in the IAU constellation Draco. It was discovered by Irish physicist George Stoney in 1850. It became GC 4127 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it is "the westernmost member of a beautiful trio, which is reminiscent of the three Fates (Greek Moirai)." Atropos ("she who cannot be turned") was one of those three Fates. This is part of the NGC 5982 Cluster which is also known as the Dragon Slayer Group.

Attack:

This Chinese xing guan "fa" (伐) ("attack" or "behead") is the belt and sword of Orion in the IAU constellation Orion. It appears in the turtle plastrons and ox scapulae from the reigns of the last few kings of the Shang Dynasty (1250 – 1450 B.C.E.).

Attack (Adjunct to the Three Stars):

This Chinese Chenzhuo xing guan “Fa” is made up of stars of the IAU constellation Orion:

- The center is the three stars of the Belt of Orion asterism: Zeta (ζ) Orionis, Epsilon (ε) Orionis, and Delta (δ) Orionis,
- The “Left Foot” is Kappa (κ) Orionis,
- The “Right Foot” is Beta (β) Orionis (Rigel),
- The “Left Shoulder” is Alpha (α) Orionis (Betelgeuse), and
- The “Right Shoulder” is Gamma (γ) Orionis.

Atutahi-ma-Rehua:

This Māori star is Alpha (α) Carinae (Canopus) in the IAU constellation Carina.

‘Au-kele-nui-a-iku:

This Hawaiian star is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus and is named for a hero of Hawaiian legends.

Audiens:

This star “et nominator Audiens” is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes as listed in the 1515 edition of the *Almagest* and 1521 edition of the *Alfonsine Tables*. This doesn’t make much sense and R. H. Allen describes this in his *Star Names* in 1899 as seeming “unintelligible unless the word be a misprint for ‘Audens’, the Bold One”.

Auger:

To the Macedonians the “Svirdl” or “Svrdəl” (“the auger”) is found in the “Priest’s Straw” (“Popova Slama”- their name for the Milky Way). This is their name for the Northern Cross (see below) in the IAU constellation Cygnus (Cenev 2004 & 2014). It is also known as the Big Cross (see below).

This German asterism “Bohrer” is an alternate name for the asterism Terebellum (see Drill, below), given to that asterism by German astronomer Christian Ludwig Ideler (1776 – 1846).

Aumea:

This Polynesian (Cook Islands) star is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus as listed in R. H. Allen’s *Star Names* in 1899. Allen describes it as associated to “Sirius in their legend of the Pleiades”. Allen lists this as the “Hervey Islands” which is the former name given to the southern islands in the Cook Islands by Captain James Cook in the 18th century.

Aunt Margaret’s Mirror:

This is a **telescopic** asterism inside the open cluster Collinder 69 in the IAU constellation Orion. The star Lambda (λ) Orionis is the “mirror” and a straight line of three stars ending in HIP 26212 is the “handle”. NOTE: *My Aunt Margaret’s Mirror* was a short story in Sir Walter Scott’s *The Keepsake for MDCCXXIX*, which was published in December 1828. I do not know if this is a reference to that story.

Auriga:

The stars of this pentagon of constellations appear in 364 of the asterisms of the world’s sky cultures, which is not surprising since Alpha (α) Aurigae (Capella) is the 6th brightest star.

The IAU constellation Auriga (IAU abbreviation Aur) was first recorded by the Mesopotamians as a constellation "Gam" ("scimitar", "crook", or "throwing stick"- see Crook, below). The Greek Poet Aratus (315 – 240 B.C.E) mentioned it in his poem *Phaenomena* (270 B.C.E.). Many Greeks associated Auriga with the mythical hero Erichthonius of Athens, the son of the smith God Hephaestus: Erichthonius is credited with the invention of the quadriga, a four-horse chariot, which is why the modern constellation is referred to by some modern cultures as the "charioteer". Another Greek myth associates this constellation with Myrtilus, charioteer son of Hermes. Ptolemy (c.100 – c.170) called it "'Ηνίοχος" ("'Iníochos") in his *Almagest* (see Charioteer, below). One ancient Greek name for this is Eniochos ("rein holder"). The name Auriga ("charioteer") is a Roman name for this constellation, and another Roman variation of this name is Aurigator ("driver").

The Temple of Khnum at Esna has a Latopolitan zodiac on the ceiling of the pronaos dating to the age of Ptolemy II Euergetes (246 – 221 B.C.E.) depicts Auriga as a male figure holding harness in his hands walking to our right (Bullinger 1882, Seiss 1882).

The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) depicts this constellation as a charioteer in a biga.

Auriga appears in various forms in the 8th century Revised Aratus Latinus:

- In several editions (Dresden DC 183, Paris BN 12957, Prague IX. C. 6) Auriga is a figure kneeling to the right with a flail in his right hand and two kids standing on his outstretched left arm,
- In the Cologne 83 edition he has two goats on his outstretched arm,
- In the Paris BN 12957 edition there is a goat standing in front of Auriga,
- In the Paris BN n.a. 1614 edition there are no goats shown and Auriga is in a horse drawn cart,
- In the Vat Reg lat 1324 edition he is in a horse-drawn cart accompanied by rabbits instead of goats,
- In two editions (Gottweig 7 (146), Siena L. IV. 25) Auriga is depicted with a halo.

This constellation appears in the Leiden *Aratea* (816) as a crowned male in long robes and a cape, holding a whip in his right hand: He has a goat perched on his left shoulder and is holding baby goats in his left hand.

The 9th century Berlin 130, Madrid 3307, Monza F.9/176 and Vat lat 645 manuscripts of the *De ordine ac positione stellarum in signis* depict Auriga driving a biga and carrying kids on his left forearm, except the Vat lat 645 manuscript omits the kids. The Vat Reg lat 309 manuscript of the *De ordine ac positione stellarum in signis* depicts a beardless charioteer and no kids, but the Paris BN 12117 manuscript depicts a long flowing beard and kids on his right forearm. The Los Angeles, Getty Ludwig XII, 5 and Paris BN lat 8663 manuscripts of the *De ordine ac positione stellarum in signis* omit the chariot and goats, replacing the kids with some unidentified animals. The Los Angeles, Getty Ludwig XII 5 manuscript of the *De ordine ac positione stellarum in signis* depicts rabbits rather than kids and has Auriga holding a lamprey like creature.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi's son depicts Auriga as a clean-shaven male with ear length hair. He is wearing a turban, pants, and knee-length robes. On one page he is turned slightly to our left, holding harness in front of him with his right hand and brandishing a two-thong whip in his left hand. On the other page he is turned slightly to our right, holding harness in front of him with his left hand and brandishing a two-thong whip in his right hand.

The 12th century Vienna ÖNB Vindob 12600 manuscript of the *De ordine ac positione stellarum in signis* depicts Auriga with the reins and a flail in his left hand.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Auriga as a seated male in full dress and wearing a turban. His right arm is crossed in front of him, and his left hand is holding a two-thong whip.

Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) depicts Auriga as a bearded male charioteer wearing a turban. He is squatting facing partially to our left, holding reins in front of him in his right hand and brandishing a two thong whip in his left hand.

The BAV *Astronomia* text, Vatican. lat. 3110 - Florence, ca. 1370; owned by Coluccio Salutati (1331-406) and the Madrid texts (Bibl. Nacional, Matritensis 1983, fol. 116v and Vatican, BAV, Vat. lat. 3121, fol. 12r., Bibl. Nacional, Matritensis 1983, fol. 115v and Vatican, BAV, Vat. lat. 3121, fol. 10v.) depict Auriga in a chariot Mc Gurk, Patrick (1966).

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Auriga as a male in calf length robes stepping to our right. He has what appears to be a skull cap helmet on his head. He is holding harness in his right hand and holding reins in front of himself with his left hand.

The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.168v-169r depicts "Agitator" as a nude male viewed from behind. He is kneeling on his left knee, has harness draped over his right wrist, and has a goat perched on his left shoulder. He is looking at this goat.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.71v-72r depicts Auriga as a figure striding to our right as viewed from behind. There is a goat perched on the figure's left shoulder and the figure has harness draped over his extended right forearm. It is not labelled and poorly drawn.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Auriga as a curly haired figure running to our left while looking over his left shoulder. The figure appears to be swinging a set of harness in his left hand and has a goat perched on his right shoulder. It is not labelled.

The vault of the Old Sacristy of the Basilica di S. Lorenzo in Firenze, Italy (1442) depicts Auriga as a male in a knee length tunic running to our left. He has a goat perched on his left shoulder and is carrying a pair of kids in his left elbow.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Auriga as a male standing in what appears to be a four wheeled quadriga pulled to our right by four horses. He is crowned. His right hand is holding an upright pole in the right rear corner of this wagon. His extended left hand is holding the reins of the horses. Two kids are perched on the back of his left hand and a goat is perched on his left shoulder.

The Vault of Cappella de'Pazzi of the Basilica di S. Croce in Firenze, Italy (1459-60) depicts Auriga as a male in a knee length tunic running to our left. He has a goat perched on his left shoulder and is carrying a pair of kids in his left elbow.

The *Germanicus Aratea* (Siciliensis, c. 1469) and the *Germanicus Aratea* with scholia Strozziana (c. 1475) depict Auriga as a male in a rectangular biga being drawn to our right by two horses. He is holding a spear in his right hand.

The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts "Auriga aut Agitator" is a male viewed from the rear. He is wearing a tunic, boots, and a brimmed hat holding harness in his right hand and what appears to be a wheel in his left hand. He has a goat perched on his left shoulder.

The "Nuremburg Maps" *(Die Karte des Nördlichen Sternenhimmels* inv.-Nr. Hz 5576), a pair of celestial hemispheres made in 1503 by Conrad Heinfogel, labels this constellation "Agitator". He is depicted as a bearded nude male kneeling on his left knee as viewed from behind. He is looking to his left and a goat is perched on his left shoulder. In his right hand he is holding reins and harness.

The early 16th century Real Academia de Historia, manuscript D-97, f.101v depicts Auriga as a nude male who appears to be seated and turned slightly to our left. He appears to have a club raised in his left hand and holding a whip and harness in front of his crotch in his right hand. It is not labelled. Real Academia de Historia, manuscript D-97, f.104v – 105r depicts Auriga in a similar fashion: Here we see him turned slightly to our right and that what he is holding in his right hand is a whip and what he is holding in front of his crotch with his left hand is harness.

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts "Agitator" as a fully armoured knight walking away from us to our right holding a three thong whip in his right hand and having a goat perched on his left shoulder. A celestial globe (1522) of German polymath Johann Schöner (1477 – 1547) depicts "Erichthonius" as a nude male with his back to us. He is holding harness in his right hand and has a goat perched on his left shoulder.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts "ERICHTHONIVS" as a nude male viewed from behind. He is kneeling on his left knee and looking over his left shoulder. There is a goat perched on his left shoulder, and he is holding harness for a horse in his right hand.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as Eniochus the "Rein Holder" and Auriga the "Charioteer".

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) labels this constellation "Erichthonius" and depicts him as a nude male facing away from us kneeling on his left knee. He has a goat perched on his left shoulder and his holding harness in his right hand.

The Northern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Auriga as a nude male with is back to us, kneeling on his left knee. He is looking to his left at a goat perched on his shoulder. It is hard to tell if he has anything in his left hand: Some straight lines fanning out beneath this hand suggest a multi thonged whip.

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists this constellation as "Auriga, qui et Heniochus, sev Erichtonius" in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts "Erichthonius" as a male in thigh length tunic, tall boots, and a jaunty hat with a feather in it, holding reins and harness in his left hand and a whip in his right hand. A goat labelled "Capra" is perched on his right shoulder.

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicted “Agitator sive Auriga vel Erichthonius” (“Agitator or Auriga or Erichthonius”) as a nude bearded male, running to our right, with a goat perched on his left shoulder.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts this constellation as a male in medieval clothing holding harness in his right hand and having his left fist on his left hip. There is a goat perched on his shoulder. The label beside this figure is unintelligible but is certainly not “Auriga”.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts “Auriga” as a clean-shaven nude male viewed from behind. He is kneeling, turned slightly to our right, looking over his left shoulder. His left hand is concealed and his right hand is holding a whip and harness. No goats are depicted.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts “Auriga” as a nude male viewed from the rear who appears to be in the process of kneeling. He is holding harness in his right hand and is looking over his left shoulder, where a goat and kids are perched.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) describes this constellation as “Est etiam Aurigae facies, siue Atthide terra Natus Erichthonius” (“It is also the face of Auriga, or Attide, the land where Erichthonius was born”). Grotius depicts Auriga as a young crowned male in a long robe and cape walking to our right. He is holding a whip in his right hand, the handle of which is resting on his right shoulder. A goat is perched on his left shoulder and he is holding two more in his left hand.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts “Auriga” as a male viewed from behind who is kneeling. He is holding a whip and harness in his right hand and there is a goat perched on his left shoulder. His left hand is holding two baby goats behind his back. The alternate name “Aurigator” is also listed.

German uranographer Johann Bayer (1572 – 1625) depicts this in his *Uranometria* in 1603 as a charioteer viewed from behind walking away from us holding a three-thong whip and reins in his left hand: He has a goat perched on his right shoulder and has two baby goats in his right hand behind his back. Bayer lists these names for this constellation: “Auriga, Aurigator, Agitator currus, Custos caprarum, Myrtilus, Retinens habenas, Erichtheus, Erichthonius, Habenifer, Habens hircum capellas hoedos oleniam capram, Mulus clitellarus, Alhaiot, Alharod”.

“Auriga” is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as a male in a thigh length tunic kneeling on his left knee. He has a whip and harness in his right hand and is cradling a goat with his left arm. Batsch lists the alternative name “Aurigator”.

Giovanni Paolo Gallucci’s *Theatrum Mundi, et Temporis* (1614) labels this constellation “Aeritonio” (“Erichthonius”), “Agitator”, “Auriga”, and “Heniochus” and depicts him as a nude bearded male viewed from behind kneeling on his left knee with a got sitting on his left shoulder.

The *Tabulae Rudolpinae* (1627) of Johannes Kepler (1571 – 1630) lists the names “Auriga”, “Heniochus”, and “Ericthonius” for this constellation.

"Auriga" is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a male with a pointed hat and a thigh length tunic holding a whip and harness in his right hand and cradling a goat under his left arm.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts "Auriga vel Erichthonius" as a clean shaven nude male kneeling with is back to us, turned slightly to our right. He is holding a two thong whip and harness in his right hand. His left hand is behind his back supporting two kids and a goat.

The huge *Gottorf Globe* (c1650) made for the Duke of Holstein, Frederick III, one of the world's first planetariums, depicts Auriga as a kneeling male viewed from behind, turned slightly to our left. He has a soft cap on his head. His left hand is holding harness, and his right arm is cradling a goat and two kids behind his back.

Auriga is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "Auriga vel Erichtonius" and is depicted as a seated nude male facing away from us holding a whip and harness in his right hand. An animal resembling a goat is clinging to his back.

The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678 by English uranographer James Clerk depicts "Auriga" as a nude male viewed from behind kneeling on his right knee holding a whip and reins in his left hand and cradling a goat on his right shoulder.

Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) labels this constellation both "Auriga" and "Erichthonius" and depicts him as a robed male viewed from behind with a goat on his left shoulder and a whip and reins in his right hand.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts "Auriga" a male in a calf length tunic and feathered cap as viewed from the rear, knees bent, holding reins and harness in his right hand and cradling a goat and its kids on his right shoulder with his left arm.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this "Auriga" and "'Ηνίοχος" as well as "Le Char…" (the end of this word is off the edge of the image I am using) and depicts it as a bearded male who is kneeling in a knee length tunic. He is cradling a goat and her kids in his right arm and is looking toward them. In his left hand he is holding a whip with two thongs.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, depicts Auriga as a male in a green toga and a red cap with his back to us, facing right, with a goat perched on his right shoulder.

Auriga is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729: He is depicted as a seated bearded male wearing furry boots. He is holding reins in his right hand and cradling a goat in his left arm.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts "Auriga" as a male seated facing us cross legged holding a whip in his right hand and cradling a goat in his left arm.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts "Auriga" as a kneeling male facing away from us with a whip and harness in his left hand. He has a goat on his right shoulder and his holding a pair of kits behind his back in his right hand.

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) depicts Auriga as a robed male viewed from behind holding reins in his right hand with a goat on his right shoulder.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Auriga as a male kneeling with is back to us, slightly turned to his left. He is wearing a knee length tunic a soft cap. He has harness and a three-thong whip in his left hand. He is holding his right hand behind his back where in his palm he holds two kids. A female goat is perched on his right shoulder and Auriga's face is turned towards it.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts "Auriga" as a male viewed from the rear, looking to his left. He is wearing a hat with a feather and a short tunic. He is holding a goat in his left arm and a harness and a whip in his right hand.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "le Cocher" as a seated male looking over his left shoulder, cradling a goat ("le Chevre") in his left arm on its northern hemisphere chart. On a later close-up chart it is labeled "le Cocher d'Ericton" and he is shown holding reins and harness in his right hand and is cradling at got labeled "la Chevre" as well as a kid in his left arm.

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts "Auriga" as a nude male kneeling with his back to us holding reins and harness in his right hand and cradling a goat on his left shoulder.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts "Auriga" as a kneeling male holding a whip in his left hand and cradling a goat in his right arm.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists "Auriga vel Markab" (both terms translating as "driver") in his *Celestial Atlas* in 1822: He is depicted as a seated male in a knee length tunic wearing a furry cap and boots and holding a goat and two baby goats in his left arm and reins and horse bit in his left hand. Jameison's *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822) depicts him the same way but simply labels this constellation "Auriga".

American uranographer Elijah Burritt's *The Constellations for each Month in the Year* (1835) depicts "Auriga the Waggoner" as a male with a furry cap and a goat perched on his right shoulder.

"Auriga" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) as a male facing away from us with knees bent, holding a whip and harness in his left hand. He has a goat on his right shoulder and his cradling a baby goat in his right hand behind his back.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts "Auriga" as the upper half of a male facing to our right cradling a goat in his left arm.

Auriga is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on Jamieson's *Celestial Atlas*. He is depicted seated, dressed in a knee length tunic, wearing what appears to be a furry cap: He has a she-goat and two kids gathered in his left arm and is holding a horse bit and reins in his right hand.

The French edition of Flamsteed's work, the *Atlas Céleste,* which was revised in 1778, lists this constellation as "Le Cocher d'Ericton". He is depicted seated, wearing a knee length tunic, wearing a feathered cap and furry boots. He is holding reins and a bit in his right hand and is cradling a goat in his left arm.

"Auriga" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877). He is depicted as a seated figure facing us in a long tunic holding a whip in his right hand: A goat is perched on his left shoulder, and he is holding two kids in his left hand.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) describes this constellation as "Auriga, the charioteer or wagoner".

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Auriga, The Waggoner" as an official constellation "recognized in the catalogue of the British Association".

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as "Auriga, the Charioteer".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Auriga" in his *Star Atlas* (1893) and describes it as "The Waggoner".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Auriga" and describes it as the "Charioteer".

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Auriga".

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) redesigned the lines of Auriga in his book *The Stars - A New Way to See Them* (1952). The standard IAU chart depicts this constellation as the ring of stars Beta (β) Aurigae (El Nath), Theta (θ) Aurigae, Beta (β) Aurigae (Menkalinan), Alpha (α) Aurigae (Capella), Zeta (ζ) Aurigae, and Iota (ι) Aurigae, with the star Beta (β) Aurigae being connected to Taurus. Rey depicts this constellation this way:

- His "head" is the triangle of stars Alpha (α) Aurigae (Capella), Beta (β) Aurigae (Menkalinan), and Delta (δ) Aurigae,
- His body is formed by Alpha (α), Beta (β), Eta (η), Iota (ι), and Theta (θ) Aurigae, and
- One "arm" runs from Alpha (α) Aurigae to an "elbow" at Epsilon (ε) Aurigae to a "hand" at Zeta (ζ) Aurigae.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Auriga in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* the same as the IAU standard version except they omit the line between Beta (β) Aurigae and Iota (ι) Aurigae.

Sky and Telescope Magazine, founded in 1941, depicts Auriga in their magazine and publications as the oval of stars depicted on standard IAU charts with two additions:

- Lines run out from Alpha (α) Aurigae (Capella) and Beta (β) Aurigae to Delta (δ) Aurigae, forming a triangle, and
- A line runs from Capella through Epsilon (ε) Aurigae to Zeta (ζ) Aurigae.

Auriga Salt and Pepper Cluster:

See Salt and Pepper below.

Auriga's Hexagon:

This Western asterism is in the IAU constellations Auriga and Taurus. It is made up of the stars Alpha (α) Aurigae (Capella), Beta (β) Aurigae (Menkalinan), Theta (θ) Aurigae, Beta (β) Tauri (Elnath), Iota (ι) Aurigae, and Zeta (ζ) Aurigae. This name was listed in May 2023 in *Constellation Guide* (https://www.constellation-guide.com/category/asterism/).

Aurvandil:

This Norse asterism "Orwandil" is the IAU constellation Orion as listed in R. H. Allen's *Star Names* in 1899, though he does not identify the source, and modern ethnoastronomers don't agree with this. Orwandil is a corruption of the Old Norse name "Aurvandil", which appears in Old English as "Ēarendel", Old High German as "Aurendil", and Lombardic as "Auriwandalo". The Old High German Aurendil also appears as "Orentil" or "Orendel". Aurvandil was a warrior in Norse mythology and appears in the asterism Aurvandil's Toe (see below).

Aurvandil's Toe:

This Norse asterism "Aurvandil's Toe" or "Orendel's Toe" is the IAU constellation Corona Borealis. Aurvandil ("luminous one") was a Norse warrior hero mentioned in the Skáldskaparmál section of Snorri Sturluson's Prose Edda: When his toe froze the God Thor threw it up into the sky. Bender pointed out in 2020 that the Viking name for toe is "tá", so the original name might be "Aurvandil's Tá". As Corona Borealis is a spring constellation indicating the end of winter, and as a similar story appears in Gesta danorum written by Saxo Grammaticus, this seems to be the most likely asterism involved (Persson 2022). Some suggest that it is the star Beta (β) Orionis (Rigel) as this is the foot of Orion, however it is depicted in the 1934 *Nördliche Sternhimmel* sky map of O. S. Reuter based on the work of German astronomer Johann Elert Bode (1747 – 1826) as Corona Borealis. In Old English this name is Éarendel, which is referred to as the morning star in the Old English poem *Crist I* (ll. 104–108) by Cynewulf. J. R. R. Tolkien (1892 – 1973) used the name "Ēarendel" for the evening star in his *Lord of the Rings* trilogy. R. H. Allen incorrectly lists Beta (β) Orionis (Rigel) as "Aurvandil's Toe", probably because he also identifies Orion as Aurvandil (see above). In the 2nd edition of Allen's *Star Names* this is shifted to the star 80 Ursae Majoris (Alcor), and Ferguson (2009) and Grant (1990) also suggest this. However, in 2020 Bender states that "no proper or individual Viking (or Anglo-Saxon) name for Alcor for Aurvandril's [sic] toe is known" but points out that the shape of Corona Borealis fits the description of the end of a toe or toenail. Grim in 1882 and Littleton in 2002 suggest that Aurvandil's toe may be Venus as the morning star.

This Saxon asterism "Aurvandilsta" is the IAU constellation Corona Borealis as depicted in the *Nördliche Sternhimmel* sky map of O. S. Reuters based on the work of German astronomer Johann Elert Bode (1747 – 1826).

Auspice of Auspices:

This Arabic asterism “sa’d as-su’ud”, called “Auspice of Auspices”, “Luck of Lucks”, “Luckiest of the Lucky Stars”, or “Lucky Stars of the Lucky Ones” is one of their Auspicious Asterisms. It later became the Arabic and Bedouin manzil “Saad Al-Saud”, “Saʿd al-suʿūd”, “Al Sa’d al Su’ud”, (سعد السعود),“Saʿd bulaʿ” (سعد بلع), “Saʿdu ʾs-Suʿud” (سَعْدُ ٱلسُّعُود) or “ʾAs-Suʿud” (ٱلسُّعُود),later latinized to “Sadalsuud” or “Sadalsud”:

- The earliest version of this on the list of Auspicious Asterisms is in the IAU constellations Aquarius and Capricornus and is the stars Beta (β) Aquarii (Sadalmelik) and Xi (ξ) Aquarii. Ibn Qutaybah (828 – 889) later included the star Lambda (λ) Capricorni, and other lists include 46 Capricorni.
- Dorn (1829) lists this as the “Beneficent Star of Fortune” and describes it as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya’ al-Qazwini (1203 – 1283).
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “sa’d as su’úd, the luckiest of the lucky”.
- English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) gives the name “Sadalsuud” to Beta (β) Aquarii.
- The 1st edition of British schoolmaster Arthur P. Norton’s *A Star Atlas and Telescopic Handbook* (1910) lists “Sadalsuud” and “Sadalsund” for Beta (β) Aquarii, but the 14th edition (1959) lists “Sadalsuud” for this star.
- The IAU approved the name Sadalsuud for the star Beta (β) Aquarii A.

This Yemeni manzil “Sa’d al-su’ūd” is made up of stars of the IAU constellation Aquarius and Capricornus (Varisco 1995): 46 Capricorni, Beta (β) Aquarii (Sadalmelik) and Xi (ξ) Aquarii. This appears in the *Kitāb al-Tabşira Fī’ilm al-Nujūm* of 13th century Rasulid ruler al-Malik al-Ashraf ‘Umar ibn Yūsuf (d 1296).

Auspice of Lambs:

This Arabic asterism “Sa'ad ul-Biham” (سعد البهام), “Saʿd al Bahāim”, or “sa’d al’bah’aim”, its name later latinized to “Baham” or “Bihām”, called “Auspice of Lambs”, “Luck of the Young Beasts”, “Good Luck of the Two Beasts”, or “Lucky Star of the Young Sheep” is a line of two stars: Theta (θ) and Nu (ν) Pegasi in the IAU constellation Pegasus as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986):

- Persian astronomer Ulugh Beg Mirza (1394 – 1449) listed just Theta (θ) Pegasi and in the 17th century *Calendarium* of Al Achsasi al Mouakket three stars are listed: Theta (θ), Zeta (ζ), and Nu (ν) Pegasi.
- Dorn (1829) lists this as “Beneficent Star of the Hero” and describes it as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya’ al-Qazwini (1203 – 1283).
- R. H. Allen’s *Star Names* in 1899 lists this asterism. Compare this to “Bright Fortunate One of the Two Beasts”, (below).
- The IAU approved the name Biham for the star Theta (θ) Pegasi.

Auspice of Rain:

This Arabic star “al-Saʿad ul-Maṭar” (سعد مطر) or “Al Saʿd al Maṭar”, known as the “Auspice of Rain” or the “Lucky Star of Rain” is Eta (η) and Omicron (ο) Pegasi in the IAU constellation Pegasus, later latinized

to “Sadalmatar” or “Matar”. Some sources only list Eta (η) Pegasi. This asterism heralds the heavy rains of autumn:

- Dorn (1829) lists this as “Beneficent Star of Rain” as depicted on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya’ al-Qazwini (1203 – 1283).
- R. H. Allen translates it as “fortunate rain” in his *Star Names* in 1899 and notes that both stars appear on American uranographer Henry Whitall’s planisphere (1871).
- Robert Burnham also translates this as “the Fortunate Rain” in his *Burnham’s Celestial Handbook* in 1978.
- Matar is the name approved by the IAU for Eta (η) Pegasi Aa.

Auspice of the Aspiring One:

This Arabic asterism “Saʿad al-Humām” (سعد الهمام), later latinized to “Homam” (in the1814 *Palermo Catalogue*), “Homan”, or “Al Hammam” has been translated as “Auspice of the Aspiring One”, “Lucky Star of the High Minded” or “Lucky Star of the One with Great Endeavor”:

- It is found in the IAU constellation Pegasus and was listed by Persian astronomer Ulugh Beg Mirza (1394 – 1449). This is a line of two stars: Zeta (ζ) Pegasi and Xi (ξ) Pegasi.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Homam… from Sa’d al homâm, the hero’s happy star.
- English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists Zeta (ζ) Pegasi as “Homan”.
- The 1st edition of British schoolmaster Arthur P. Norton’s *A Star Atlas and Telescopic Handbook* (1910) lists “Homam” and “Homan” for this star, but his 14th edition (1959) only lists “Homam” for this star.
- Burnham (1978) translates this as “Lucky Star of the Hero” and notes that English linguist and historian Thomas Hyde (1636 – 1703) “derived it from “Al Hammam”, which seems to mean “The Whispering One”.
- The IAU approved the name Homam for the star Zeta (ζ) Pegasi A.
- NOTE: R. H. Allen translates this as “Lucky Star of the Hero” in his *Star Names* in 1899 and writes that English orientalist Thomas Hyde (1636 – 1703) believed the original name was “Al Hammām” (“Whisperer”). Dorn (1829) translates this as “Beneficent Star of the Hero”.

Auspice of the Exalted One:

This Arabic asterism “saʿd al-bāriʿ” (سعد بارع) or “Saʿad ul-Bāriʿ, later latinized to “Sadalbari”, is Mu (μ) and Lambda (λ) Pegasi in the IAU constellation Pegasus. This has been translated as “Auspice of the Exalted One”, “Lucky Star of the Splendid One”, “Good Luck of the Excelling One”, “Lucky Star of the Excellent One”, and “Auspicious Star of the Splendid One” and is part of their list of Auspicious Asterisms. The IAU approved the name Sadalbari for Mu (μ) Pegasi in 2016.

Auspice of the King:

This Arabic asterism “Saʿad ul-Malik” (سعد الملك) or “sa’d al-malik”, later latinized to “al Sa’d al Malik”, “Sadalmelik”, or “Sadalmelek”, and called “Auspice of the King” or “Lucky Star of the King”, is a line of

two stars in the IAU constellation Aquarius and is part of their list of Auspicious Asterisms: Alpha (α) Aquarii and Omicron (ο) Aquarii. Some sources include 32 Aquarii:

- Zakariya al-Qazwini (1203 – 1283) and Ulugh Beg Mirza (1394 – 1449) listed the name "Al Saʿd al Mulk",later latinized to "Sadalmulk".
- American astronomer Elijah Burritt (1794 – 1838) listed it as "El Melik" and "Phard".
- English Admiral Henry William Smyth's *Prolegomena* of 1844 lists "Sadalmelik" and his *Bedford Catalogue* in 1844 lists "Sadalmelik, properly Sa'd al melik, the king's lucky star"; but others read Sa'd al mulk, the lucky star of the kingdom".
- This is listed as "Sa'd el Melik" in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822.
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Sadalmelik" as a name for Alpha (α) Aquarii.
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as "Sadalmelik" and interprets this as an Arabic name meaning "king's lucky star".
- "Sadalmulk" is translated by R. H. Allen in his *Star Names* in 1899 as "Lucky One of the Kingdom".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists "Sadalmelik" and "Sadalmulk" for Alpha (α) Aquarii, but the 14th edition (1959) lists "Sadalmelik" for this star.
- The IAU approved the name Sadalmelik for the star Alpha (α) Aquarii A and the name Sadalmulk is used for Omicron (ο) Aquarii but not approved by the IAU.

Auspice of the Slaughterer:

This Arabic asterism "Saʿad udh-Dhābiḥ" (سّعد الذّابح) or "Al Saʿd al Dhābiḥ", later latinized to "Dabih", "Dahabeh", and "Dschäbbe", is a line of two stars in the IAU constellation Capricornus: One is the five-star system Beta (β) Capricorni, and the other is Alpha (α) Capricorni (Algedi):

- Dorn (1829) lists this as "Beneficent Star of the Butcher" and describes it as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283).
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Sa'd adh dhábih."
- This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Dshabeh": The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822. Compare this to the later asterism Lucky Star of the Slaughterer, below.
- W. Brennand lists this as "Al-Dabih" in his *Hindu Astronomy* in 1896 and describes it as "four stars in Capricorn".
- R. H. Allen lists it as "Dabih Major" in his *Star Names* in 1963.
- The name Dabih was approved for the star Beta (β) 1 Capricorni Aa by the IAU.
- NOTE: "Dabih Minor" is the star Beta (β) 2 Capricorni in the five-star system Beta (β) Capricorni. It got this name as Beta (β) 1 Capricorni Aa is "Dabih" or "Dabih Major".

Auspice of the Wooden Tents:

This Arabic asterism "Saʿad ul-Akhbiyyah" (سعد الاخبية) or "sa'd al'akhbiya", its name later latinized to "Sadachbia", "Sadalachbia", or "Sadachiba", is four stars in the IAU constellation Aquarius and is part of

their list of Auspicious Asterisms. It is translated as “Auspice of the Wooden Tents” or “Lucky Star of the Tents” and consists of the stars Gamma (γ) Aquarii, Eta (η) Aquarii, Zeta (ζ) Aquarii, and Pi (π) Aquarii. Three of the stars represent the three poles used in a “khiba’”, the traditional wooden tent, with one star in the middle:

- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Sadachbia…derived from the Arabian sa’d al akhbiyah, the lucky star of hidden things.”
- W. Brennand lists this as “Al-Achbiya” in his *Hindu Astronomy* in 1896.
- R. H. Allen notes in his *Star Names* in 1899 that people have mistranslated this as “Lucky Star of Hidden Things or Hiding Places”.
- The 1st edition of British schoolmaster Arthur P. Norton’s *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list “Sadachbia” for this star.
- The IAU approved the name Sadachbia for the star Gamma (γ) Aquarii Aa.
- NOTE: This later became the manzil Lucky Stars of the Tent Dwellers (see below).

Auspicious:

This Vedic asterism “Sidhya” is in the IAU constellation Cancer and is the stars Gamma (γ), Delta (δ), and Theta (θ) Cancri (Ivanković 2021). It is also known as “Pusya” (see Nourisher, below).

Auspicious Asterisms:

This is an early Arabic system of Auspicious Asterisms (“as-su’ud”) or “Fortunate Stars” (“Al Suʿūd al Nujūm”) consisting of pairs of stars (one being composed of four stars), all located in the IAU constellations Aquarius, Capricornus, and Pegasus. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists this as “Su ‘udu l nujúm”. When manzils (lunar stations) were later created, some of these Auspicious Asterisms were incorporated into those. They are:

- Auspice of the Exalted One: sa’d al-bari’
- Auspice of the Aspiring One: sa’d al-humam
- Auspice of the Wooden Tents: sa’d al’akhbiya
- Auspice of Rain: sa’d matar
- Auspice of Lambs: sa’d al’bah’aim
- Auspice of the King: sa’d al-malik
- Auspice of Auspices: sa’d as-su’ud
- Voracious Auspice: sa’d bul’
- Scattering Auspice: sa’d Nashira
- Auspice of the Slaughterer: sa’d adh-dahbih

Variations of the names are all listed here: Bright Fortunate One of the Two Beasts, Lucky One of the Kingdom, Lucky Star of Nashirah, Lucky Star of Rain, Lucky Star of the Camel Striving to Get Pasture, Lucky Star of the High Minded, Lucky Star of the King, Lucky Star of the Slaughterer, Lucky Star of the Splendid One, Lucky Star of the Tents, Lucky Star of the Young Sheep, Lucky Stars, Lucky Stars of the Lucky Ones, Lucky Stars of the Swallower, and Lucky Stars of the Tent Dwellers.

Auspicious Star of the Splendid One:

See Auspice of the Exalted One, above.

Australian Kestrel:

This Boorong asterism “Karik Karik”, also known as the “Spear Thrower” was listed by Stanbridge (1857), Morieson (1999), and Hamacher and Frew (2010). It is made up of stars of the IAU constellations Sagittarius and Scorpius:

- The tip of the “tail” is Lambda (λ) Scorpii,
- The “body” is a line running through the star Kappa (κ) Scorpii, and
- The “wingtips” are the stars Eta (η) Scorpii and Eta (η) Sagittarii.

NOTE: This is the Australian Kestrel (Falco Berigora).

This Wotjobaluk asterism “Karik Karik” is Lambda (λ) and Nu (ν) Scorpii in the IAU constellation Scorpius (Hamacher 2011).

Austronotus:

This is an unusual asterism because it never actually existed. Before European explorers began to map the southern skies, it assumed that as there was a north star and a constellation associated with it, there must be a southern equivalent. They created Austronotus to be this constellation (once they found it). Of course, there isn’t a naked eye star that could serve as a “south star” for navigators: The IAU constellation in which the southern celestial pole is located is Octans, and its closest principal star is Delta (δ) Octantis, which is just over 6° away from the south celestial pole:

- The *Germanicus Aratea* with scholia Strozziana (c. 1475) depicts Austronotus as a rather androgynous looking centaur galloping to our left holding carnations in its outstretched hands.
- The *Germanicus Aratea* (Siciliensis, c. 1469) depicts Austronotus as a half human, half cow, leaping to our left. She holds bunches of flowers in each of her outstretched hands. She has 9 stars around her head, one in each fore-hoof, two in her chest, three in her hind flank, three in her left hind foot and three in her tail.
- The Vat Urb lat 1358 manuscript depicts Austrontus as a male centaur.
- The planispheres in Florence Laur 89 sup 43 and Madrid 8282 both depict the human half of Austronotus as a nude female with long hair.
- The planispheres in Vat Barb lat 77 and Vat Urb lat 1358 depict the human half of Austronotus as a short-haired male figure. The animal half is either a lion or, perhaps, a dog.
- A male Austronotus also appears in London BL Add 15819, fol. 62r: He is carrying flowers like those found in Vat urb lat 1358.

Autahi:

This Māori star is Alpha (α) Carinae (Canopus) in the IAU constellation Carina.

Autumn:

This Venda asterism “Tshifhefho” is the Large Magellanic Cloud. It is unsure what the seasonal association is here.

Autumn Star:

This Kaurna star “Parna” is Alpha (α) Piscis Austrini (Fomalhaut) in the IAU constellation Piscis Austrinus (Hamacher 2011 & 2015, Clarke 2015). Its rising marked the beginning of the wet season, “Wadlworngatti”. Parna was the father of the Tinniinyaranna (see Young Hunters, below).

This Ngarrindjeri star is Alpha (α) Piscis Austrini (Fomalhaut) in the IAU constellation Piscis Austrinus. Its rising marked the beginning of the wet season.

This Greek star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major as it appears in the 8th century B.C.E. poet Homer's *Iliad* (Theodossiou et al 2011).

Auxiliary Road:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is the star Delta (δ) Cassiopeiae in the IAU constellation Cassiopeia.

This Chinese xing guan "Fùlù" (附路) is the star Zeta (ζ) Cassiopeiae in the IAU constellation Cassiopeia. The IAU approved Fulu as the name for Zeta (ζ) Cassiopeiae.

There are two Chinese Chenzhuo xing guans by the name "Fùlù" in the IAU constellation Cassiopeia:

- One is the star HIP 5361.
- One is the star Phi (ϕ) Cassiopeiae.

Avery's Island:

This **telescopic** asterism is the open cluster NGC 2353 in the constellation Monoceros, which was discovered in 1785 by William Herschel who listed it as "VIII 34" in his catalogue. It was GC 1506 in the *General Catalogue* of 1864. It was named for English Captain Avery, who in 1695 captured a ship belonging to the Great Mogul of India and retired to an island a rich man. The person who chose this name was Astronomy Magazine contributing editor Stephen James O'Meara, and is O'Meara 37 in his *Hidden Treasures Catalogue* (2007).

Avid of Aries:

This **telescopic** asterism "Polygónius Aríetis" is the interacting spiral galaxy NGC 935 (Arp 276) in the IAU constellation Aries. It was discovered by Lewis Swift in 1885. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). They called its interaction with its partner NGC 935 as "avid, desiring grasping".". It's partner, IC 1801, they called "Desirous of Aries" (see below).

Avior:

This English star "Avior" is Epsilon (ε) Carinae in the IAU constellation Carina. This name was assigned to the star by H.M. Nautical Almanac Office in the late 1930s during the creation of *The Air Almanac* for the Royal Air Force. It is uncertain why this name was chosen: The memoirs of the Superintendent of H.M. Nautical Office at the time, Donald Sadler, do not explain this choice. It was later approved by the IAU.

Awara Palm:

This Carib asterism "Awarayuman" or "Awara" represents the Awara Palm (Astrocaryum segregarum) and announces the short dry season in January when the fruits of this palm are ripe. Its present location is unknown (Magaña, and Jara, 1982).

Axe:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a bent line of three stars in the IAU constellation Sculptor: Gamma (γ) Sculptoris (the determinative star), HIP 115833, and Beta (β) Sculptoris.

This Chinese xing guan "Fùyuè" (傅说) is the star G Scorpii in the IAU constellation Scorpius. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore. The IAU approved the name Fuyue for G Scorpii.

There are two Chinese Chenzhuo xing guans called "Fūyuè":

- One is a bent line of three stars in the IAU constellation Aquarius: HIP 113204, 113673, and 113562.
- One is the star HIP 87261 in the IAU constellation Scorpius.

This Romanian asterism or "Barda" ("axe") or "Topor" or "Toporul" ("little axe") is the IAU constellation Perseus (Ottescu 2009, Lite, Lodina, and Ignat 2018). Alpha (α) Persei (Mirfak) and Beta (β) Persei (Algol) are "Coada Bardei" ("axe's tail") while Mirfak alone is "Muchia Bardei" ("axe edge"). Gamma (γ) and Eta (η) Persei are the "Gura Bardei" ("axe's tongue").

This **telescopic** asterism is in the IAU constellation Ursa Major and is listed as Corder 2158 on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size40' X 25'. A triangle of five stars including HIP 54979, 54992, and 55073 is the "axe head". The "handle" runs down through two 9^{th} – 10^{th} magnitude stars to HIP 55218.

Axe of the Grindstone:

This Arabic asterism "'Fa's al Rahā" is an oval of stars in the IAU constellation Ursa Minor: It starts with a star they call "The Kid" (al-Juday), Alpha (α) Ursae Minoris (Polaris) and runs around through HIP 62572A, 4 Ursae Minoris, 5 Ursae Minoris, Beta (β) Ursae Minoris (Kochab), Zeta (ζ) Ursae Minoris, Epsilon (ε) Ursae Minoris, and Delta (δ) Ursae Minoris. Their asterism Two Oryx Calves (see below) is attached at Kochab. "'Fa's al Rahā" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010). Sufi appears to have gotten this from the Persian polymath Abū Hanīfa al-Daīnawri (d. 895).

Axle Hole:

This Arabic star "Al Fass" is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor as listed by R. H. Allen in his *Star Names* in 1899.

Axolotl:

See Water Animal, below.

Ayela:

The stars of this Quechua asterism are unidentified at present (Ciancia 2018).

Ayeyarwady:

This **telescopic** Myanmar star "Ayeyarwady" is HIP 13993 (HD 18742) in the IAU constellation Eridanus (magnitude 7.81) and received this name in the IAU's NameExoWorlds Campaign. It is their name for the

Irrawaddy River. It has an exoplanet named Bagan, which is the name of one of its ancient cities beside this river.

Az-u:

This Persian (Achaemenid Period 539 – 331 B.C.E.) asterism "Az-u" from the K 250 and VAT 9418 lists as listed in Franz Boll's *Ancient Observations of Coloured Stars* in 1918 is not yet identified.

Azazel:

This German asterism is the IAU constellation Capricornus as listed by German poet Philipp von Zesen (1619 – 1689) and astronomer Guillaume Postel (1510 – 1581). Azazel was the Scapegoat of Leviticus. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists this scape goat, attributing it to Postellus.

Azelfafage:

See Horse Track, below.

Azha:

See Ostrich Nest, below.

Azha Al Naam:

This is listed as the "Arabic name" for the IAU constellation Corona Australis in Edward Sherburne's *Sphere of Marcus Manilius* in 1675 and in John Hill's *Urania* in 1754. Sherburne translates "Az'ha Al Naâm" as "Nidus Struthonius, ['Ostrich Nest'] as being near two Stars in the Leg of Sagittarius called Al Naâim, whereof one is called Al Naâm al Sadir, i. e. Struthio adiens aquam ['An ostrich going to the water'], the other Al Naâm Al Wârid, i. e. Struthio rediens ab Aqua {'an ostrich returning to the water']". This is a misinterpretation of the Arabic asterism awwal al-naʿām" or "awwil al naʿāmāt (see First Ostrich, below), which is the star Eta (η) Ceti in the IAU constellation Cetus and is part of their asterism Hen Ostriches (see below).

Azure Emperor:

This Chinese star "Cangdi" from the Three Kingdoms to Ming Dynasty is Omicron (o) Leonis in the IAU constellation Leo and is part of their xing guan Seats of the Five Emperors (see above).

Azure One of Reticulum:

This **telescopic** asterism "Cyáneus Retículi" is the barred spiral galaxy NGC 1559 in the IAU constellation Reticulum. It was discovered by James Dunlop in 1826. This became 2634 on John Herschel's list and later GC 843 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Azure One of Ursa Major:

This **telescopic** asterism "Azúreus Úrsae Majóris" is the barred spiral galaxy NGC 3319 in the IAU constellation Ursa Major. It was discovered in 1788 by William Herschel who listed as "III 700". It became GC 2165 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One*

Thousand Named Galaxies by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to its colour.

B:

One is the open cluster NGC 3766 (Caldwell 97) in the constellation Centaurus. It was discovered by French astronomer Nicolas Louis de Lacaille in 1751-2 who listed it as "III 7" in his catalogue. It is GC 2468 in the *General Catalogue* of 1864. It is also known as the Pearl Cluster, Hilda's Cluster, the Eye, and the Rich Man's Jewel Box. South African astronomer Pierre de Villiers (2016) describes it as an "open cluster with a 'B' shape".

Bā:

This Chinese star "Bā" from the 3 Kingdoms and Ming Dynasty Period is the star Epsilon (ε) Serpentis in the IAU constellation Serpens and is part of their xing guan Heavenly Market West Wall (see below).

Baade's Galaxy A:

This **telescopic** asterism PGC 2906 is a galaxy in the IAU constellation Andromeda. It was discovered by English astronomer William Herschel in December 1785. It is named for American astronomer Walter Baade (1893 – 1960) and is next to the Andromeda Galaxy.

Baade's of Cetus:

This **telescopic** asterism "Baádius Céti" is the irregular dwarf galaxy IC 1613 (Caldwell 51) in the IAU constellation Cetus. It was discovered by Max Wolf in 1906. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this to honor Walter Baade, who identified this galaxy as a nearby system".

Baade's Window:

This is an area relatively free of interstellar dust in the IAU constellation Sagittarius. It was discovered by Walter Baade in the mid 1940s.

Baaltis:

This Assyrian asterism "Baaltis", "Belat", "Belit", or "Beltis" is the IAU constellation Virgo as listed in R. H. Allen's *Star Names* in 1899. Baaltis is the wife of the God Bel.

Baayami:

This Ngiyampaa (Ngemba) asterism representing their mythical hero is made up of stars in the IAU constellations Lepus, Orion, and Taurus (Fuller et al 2014):

- His "head" is the star Beta (β) Orionis (Rigel),
- One "arm" runs to Alpha (α) Tauri (Aldebaran),
- One "arm" runs down through the sword of Orion to a "boomerang" in his hand made up of the stars Theta (θ) Leporis, Eta (η) Leporis, Zeta (ζ) Leporis, Alpha (α) Leporis (Arneb) and Beta (β) Leporis (Nihal), and
- His "feet" are the stars Alpha (α) Orionis (Betelgeuse) and Gamma (γ) Orionis (Bellatrix).

Baba:

This Egyptian decan “Baba” was in the IAU constellation Pisces. In later Hellenistic texts it was named “ϰγ” (“Biu”). In the Testament of Solomon, it became “Autoth” or “Autothith”, Aristobulus of Paneas called it “Achaf”, in Greek Hermeticism it became “Tetimo”, in Latin Hermeticism “Fambais”, 4th century Roman astrologer Julius Firmicus Maternus called it “Acha” or “Atapiac”, Cosmas of Maiuma (d. 760) called it “Okeanos”, French scholar Joseph Justus Scaliger (1540 - 1609) called it “Archatapias” and German Jesuit astronomer Athanasius Kircher (1602 – 1680) called it “ρεφαν” (“Rephan”). This has been depicted as an old man in a blue robe wrapped from chest to heels with a flask in his right hand.

Babaniman:

This Kiribati star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Trussel and Groves 1978).

Babcock’s Star:

This **telescopic** rotating variable star, “Babcock’s Star” or “Babcock’s Magnetic Star” is HIP 112247 in the IAU constellation Lacerta (magnitude 8.82). It was named for the astronomer who found it: American astronomer Horace W. Babcock (1947).

Baboon Nebula:

This **telescopic** asterism is the reflection nebula NGC 6726 in the IAU constellation Corona Australis. It was discovered by German astronomer Albert Marth (1828 – 1897) observing from Malta. It is GC 5935 in the General Catalogue of 1864. Scottish astronomer Robert T.A. Innes (1861 – 1933) referred to it as part of a complex nebula he calls “Schmidt’s Nebula” in 1896: This would be Johann Friedrich Julius Schmidt, who was director of the National Observatory of Athens from 1858 – 1884. A photo on the Sky page of Facebook by American astrophotographer Chuck Ayoub bore this name on 1 August 2025. It is also known as the “Anteater Nebula”.

Baby:

This Polish asterism “Niemowlę” is the Pleiades cluster in the IAU constellation Taurus. This “baby” asterism appears elsewhere in central and eastern Europe.

Baby Camel:

This Arabic star is HIP 86782 in the IAU constellation Draco and is in the middle of their asterism Mother Camels (see below).

This Tuareg asterism “Aourâ” is the stars of the Little Dipper minus the star Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Holbrook 2020). Polaris represents a black woman, Lemkechen (see Black Woman, below) who is holding this baby to be suckled by her mother, “Tâlemt” (see Mother Camel, below).

Baby Dumbbell Nebula:

This **telescopic** asterism is planetary nebula PK 086-08.1 in the IAU constellation Cygnus.

Baby Eagle Nebula:

See Vulture Head Nebula (below).

Baby Llama:

This Inca asterism “Uñallamacha”. (“baby llama” or “suckling baby llama”) is part of their asterism “Yana Llama”, “Yacana”, or “Yaqana” (see Black Llamas, below), which represents a mother llama and its baby (Gamarra & Gamarra 2009, Urton 1981 & 2022). The body of the mother llama is the dark nebulosity in the Milky Way stretching between the IAU constellations Centaurus and Scorpius and the baby llama is suckling at her mother’s breast.

This Quechua asterism “Llamita” (Ciancia 2018) is identical to the Inca asterism “Uñallamacha” (above). This is also known as “Mamalita” (see Woman, below).

Baby Nebula:

See Soul Nebula.

Baby Pointers:

This asterism is Corder 2014 in the IAU constellation Carina and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 110’. This asterism is the stars p and q Carinae, which point to the False Cross (see below).

Baby Scorpion:

See Scorpion below.

Baby Snakes:

This Estonian asterism “Põhjamadu” is the IAU constellation Draco and appears in the *Sky of Ests (Chudes)* by Aleksander Heintalu (Sass of Vigala) (Kuperjanov 2006).

Bacchus’ Stars:

This Latin asterism “Bacchi Sidus” is the IAU constellation Leo. Bacchus was often associated with this constellation in ancient times. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Bacchi Sidus”.

Back:

This Arabic star “Dhur” (ظهر) is Delta (δ) Leonis in the IAU constellation Leo. Compare this to Lion’s Back, below.

Back Leg:

This Latinized Arabic star is Mu (μ) Ursae Majoris in the IAU constellation Ursa Major. This is listed on the 14th century astrolabe #4560 from Christian Spain as “Rigorca”, which is probably derived from “Rig(el) Orsa(e), a combination of Arabic and vernacular Latin for “rijl Ursae” (King 2002): King notes that the proper Arabic form would be “rijl al-dubb”, the “back leg of the Bear”.

Back of Al Jawza:

This Bedouin (Western Saudi Arabia) asterism “Ẓahr al-Ǧawzā” (ظهر الجوزا) is the belt of Orion in the IAU constellation Orion (see Orion below, and Al Jawza, above).

Back of the Bear:

This Arabic star "Kāhil ud-Dubb" (كاهل الدّب) is Alpha (α) Ursae Majoris (Dubhe) in the IAU constellation Ursa Major. It comes from "żahr ad-dubb al-akbar" (ظهر الدب الاكبر) meaning "the back of the Greater Bear":

- This is listed as "Zahr al-dubb al-akhbar" on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992) and Savage-Smith translates this as "brighter of the two calves": This star was part of the Arabic asterism "Two Calves" (see below).
- This was later latinized to "Dubhe" (in the *Alfonsine Tables*- Kunitzsch 1986), "Dubbe", "Dubon", "Dubb" (first appearing in the 15th century *Alfonsine Tables*), "Ak Dubb", and Robert Browning, in his *Jochanan Hakkadosh*, listed "Dob".
- Sloane astrolabe BM SL 54 in the British Museum which dates to 1290 – 1300 lists "Edub" (Dekker 2000).
- The celestial globe (1480) of German mechanic Hans Dorn (c 1430 – 1506) lists "Dubhe".
- The mid 15th century Wein, Oesterr. National Bibl., manuscript Lat 5415, ff.168v-169r lists this star as "Dubhe".
- The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists "Dubhe"
- A celestial globe (1522) of German polymath Johann Schöner (1477 – 1547) lists this star as "Dubhe".
- The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) lists "Dubhe" for this star.
- Johann Bayer's *Uranometria* (1603) lists the names "Dubhe" and "Ovae in Humero" ("eggs on the shoulder") for this star.
- The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch lists "Dubhe vel Dubon" and "Dubolacharo" for this star.
- Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) lists "Dubhe".
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Dubhe".
- American uranographer William Croswell (1760 – 1834) lists this star as "Dubhe" on his *Mercator Map of the Starry Heavens* in 1810.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists this star as "Dubhe" in his *Celestial Atlas* in 1822.
- American uranographer Elijah Burritt's *The Constellations for each Month in the Year* (1835) lists this star as "Dubhe".
- English Admiral Henry William Smyth's *Prolegomena* in 1844 lists "Dubhe" and his *Bedford Catalogue* in 1844 lists "Dhuhr dub-al-akbar, the back of the Great Bear."
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich list this star as "Dubhe".
- This star is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Dubhe": The author is unknown, but it is based on the Jamieson's *Celestial Atlas*.
- German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this star as "Dubhe".
- *An Improved Moveable Planisphere* (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, lists this star as "Dubhe".
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as "Dubhe".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Dubhe".

- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Dubhe" and describes it as "She-bear".
- R. H. Allen listed the Arabic name "Ṭhahr al Dubb al Akbar" in his *Star Names* in 1899.
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list "Dubhe" for this star.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this star as "Dubhe".
- The IAU approved the name Dubhe for Alpha (α) Ursae Majoris A.

Back of the Crane:

This asterism is Corder 4632 in the IAU constellation Grus and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. This is the stars Beta (β), Delta (δ) 1 and 2, Mu (μ) 1 and 2, Lambda (λ), and Gamma (γ) Gruis.

Back of the Lion:

This Arabic star "Zhahr al-Asad" is Delta (δ) Leonis in the IAU constellation Leo:

- "Zhahr al-Asad" is listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- "Zhahr al-Asad" is listed on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992).
- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists "zahr al-asad".

Back of the Mouth of the Twins:

This Babylonian star "Arkū-sha-pu-u-mash-mashu" is Mu (μ) Geminorum in the IAU constellation Gemini as listed in R. H. Allen's *Star Names* in 1899. This seems unlikely as this star is located in the foot of the "twin" Castor. It is more likely to be Rho (ρ) Geminorum.

Back of the Snake Man's Hand:

This Arabic star "Mu'akhkhir Yad ul-Ḥawwā'" (مؤخّر يد الحوّاء) is Epsilon (ε) Ophiuchi in the IAU constellation Ophiuchus. It was later latinized to "Yed Posterior". The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) lists this star as "Yed". Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Yed". The IAU approved the name Yed Posterior for Epsilon (ε) Ophiuchi.

Back Side of the Bucket for Water Pouring:

This Arabic and Bedouin manzil "Al-Muakhar", "al-Mwaḫḫar", "Al-Muhhar" (المؤخر), "Farghu ʾd-Dalū ʾl-Muqdim" (فَرْغُ ٱلدَّلْو ٱلْمُقْدِم), or "ʾAl-Muqdim" (ٱلْمُقْدِم) is in the IAU constellation Pegasus and is the stars Beta (β) Pegasi (Scheat) and Alpha (α) Pegasi (Markab). An earlier version is their asterism Second Spout (see below):

- Dorn (1829) lists this as "Second Aperture of the Bucket" and describes it as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283).

- W. Brennand lists this as “Al-Pherg-Al-Muacher” in his *Hindu Astronomy* in 1896.
- NOTE: John Hill lists “Mosalsala” or “Al Mosalsala” as “one of the Arabic names” of the IAU constellation Andromeda in his *Urania* in 1754. It is probably a misinterpretation of this asterism, which is part of their asterism “Dilu Albir” (see Well Bucket, below).

This Yemeni manzil “al-Fargh al-Mu’akhkhar” is in the IAU constellations Andromeda and Pegasus and is the stars Alpha (α) Andromedae (Alpheratz) and Gamma (γ) Pegasi (Varisco 1995). This appears in the *Kitāb al-Tabṣira Fī’ilm al-Nujūm* of 13th century Rasulid ruler al-Malik al-Ashraf ‘Umar ibn Yūsuf (d 1296). NOTE: These two stars appear as the Arabic and Bedouin manzil Front Side of the Bucket for Water Pouring (see below).

This Persian asterism “Miyan” is the stars Beta (β) Pegasi (Scheat) and Alpha (α) Pegasi (Markab) as listed in R. H. Allen’s *Star Names* in 1899.

This Sogdian asterism “Bar Farshat” is the stars Beta (β) Pegasi (Scheat) and Alpha (α) Pegasi (Markab) as listed in R. H. Allen’s *Star Names* in 1899.

This Khorasmian asterism “Wabir” is the stars Beta (β) Pegasi (Scheat) and Alpha (α) Pegasi (Markab) as listed in R. H. Allen’s *Star Names* in 1899.

Backbone of the Serpent:

This Arabic star “Al Faḳār al Shujāʿ” is Alpha (α) Hydrae (Alphard) in the IAU constellation Hydra.

- Variations include “Suhel al Fard”.
- The star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985) lists the Arabic name “al-ward alladhī fī ‘unq al-shujā” and the Hebrew name “ha-adom she-hu’ be-savar ha menasse’h” (“The red that is in the neck of the victor”).
- “Al Faḳār al Shujāʿ” is listed in R. H. Allen’s *Star Names* in 1899.

Backside of the Lion:

This Arabic asterism “Al ‘Ajz al Asad” (عجز الأسد), translated as “Backside of the Lion” or “Rump of the Lion”, is the IAU constellation Corvus as listed by Iranian astronomer Abu Rayhan Muhammad ibn Ahmad al-Biruni (973 – c. 1050). This is close to, but not part of the earlier Arabic asterism Lion (see below):

- John Hill lists this as “Aigar al Asad” and gives the Latin translation “Clunes Leonis” (“buttocks of a lion”) in his *Urania* in 1754.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “’Azal al Asad, the lion’s rump”.

This Persian (Achaemenid Period 539 – 331 B.C.E.) star “GIS KUN A” is Theta (θ) Leonis in the IAU constellation Leo (Hunger and Sachs 1988).

Backward Galaxy:

This **telescopic** asterism is NGC 4622, a face on unbarred spiral galaxy with a prominent ring structure in the IAU constellation Centaurus: It is a member of the Centaurus Cluster (NGC 4622, 4616, 4622B, 4679, and 4709). This was discovered by English astronomer John Herschel in 1847 who listed it as “h 3409”. It is GC 3156 in the *General Catalogue* of 1864. It is called this as most of its spiral arms lead the rotation,

where in most galaxies they trail the rotation: It does have an inner "trailing" arm. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010) as "Anticámpe Centaúri" ("counterwinding of Centaurus").

Backwards 5:

This **telescopic** asterism that resembles a backwards number "5" is in the IAU constellation Hercules. The brightest star is at the end of the curve in the "5", HIP 81312 (magnitude 7.1). All the rest of the stars in this asterism are around 11th magnitude except for the one at the other end (magnitude 8.75). It is located 1 degree southwest of Zeta (ζ) Herculis. Size 20' X 10'. This is Harrington 23 in the asterism list of American astronomer Phil Harrington, and it is listed by Robert Zebahl on his *Faint Fuzzies* website. Jeffrey Corder lists it as Corder 3072.

Backwards F:

This **telescopic** asterism from *Pattern Asterisms* by American astronomer John A. Chiravalle is a backwards "F" which can be found in the IAU constellation Eridanus two degrees south of the star 21 Eridani. It includes the stars HIP 16989, 16960, 17063, 17088, and 17143.

Backwards Gamma:

This **telescopic** asterism is in the IAU constellation Taurus and is Corder 601 on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. This includes HIP 18046 and 18106. Size 12'.

Backwards L:

This **telescopic** asterism is in the IAU constellation Eridanus and is Corder 587 on the observing list of American astronomer Jeffrey Corder. Size 60'. This includes HIP 17744, 17727, and the double star HIP 17895.

Backwards S:

This **telescopic** asterism is in the IAU constellation Capricornus and is Corder 4554 on the observing list of American astronomer Jeffrey Corder. Size 55'. This is twelve 7th – 9th magnitude stars including HIP 108717 and 108716.

Backwards Sigma:

This **telescopic** asterism is in the IAU constellation Eridanus and is Ennis 62 on the observing list of Canadian astronomer Charles Ennis. Size 95' X 20'. This is nine 6th – 9th magnitude stars resembling a backwards capital Greek letter Sigma (Σ) including HD 26704, HIP 19689, HIP 19626, SAO 131027, Gaia DR3 3203688506352880256, HD 26641, SAO 131032, HIP 19700 and HD 26599. This includes stars of Corder 642 on Jeffrey Corder's observing list, which Corder describes as "nearly check mark shaped".

Baden:

This asterism "Baden" is made up of the stars of the IAU constellation Triangulum Australe by German astronomer Erhard Weigel (1625 – 99) who produced his *Astrocopium Orbi Europaeo Sacrum* chart in 1661, 1681 and 1688 in which he tried to replace existing constellations a new system based upon the heraldry of the nation states and principalities of seventeenth century Europe, as well as of its principal hierarchies and social classes. This is depicted with a gold crown having a pair of antlers rising from it.

Next to this is another crown with a slightly different set of antlers attached which appears to be made up of the stars of the IAU constellation Musca: The label for this asterism starts with an “S” but is otherwise unintelligible in the JPEG I was examining.

Badwuja’s Brother:

This Kokatha and Ngalea star is Beta (β) Orionis (Rigel) in the IAU constellation Orion.

Baekdu:

This Korean star is 8 Ursae Majoris in the IAU constellation Ursa Major and received this name in the IAU NameExoWorlds campaign. Baekdu is the highest mountain on the Korean peninsula, situated in North Korea. It has an exoplanet named Halla, which is the name of the highest mountain in South Korea and considered sacred.

Bag of Hupas:

This Filipino asterism “Supot ni Hupas” is the Pleiades cluster in the IAU constellation Taurus (Santos et al 2019). Chau (2008) lists it as “Supot ni Hudas”..

Bag of Ostrich Eggs:

This Jū /’hoansi asterism is the Pleiades cluster in the IAU constellation Taurus (Alcock 2014).

Bagdei:

This asterism was created to help memorize the principal stars of the IAU constellation Cassiopeia under their Bayer designations (β, α, γ, δ, ε, ι) and was listed in R. H. Allen’s *Star Names* in 1899. Allen attributes it to American astronomer Charles Augustus Young.

Bagir:

This “Turkish” name for the IAU constellation Sagittarius was listed by John Hill in his *Urania* in 1754.

Bahuchara Mata:

This Hindu star is Beta (β) Leonis (Denebola) in the IAU constellation Leo. R. H. Allen lists it as “Bahu” in his *Star Names* in 1899: This is an alternate name for their nakshatra Ardra (see Moist One, below). Bahucara Mata is the Hindu goddess of chastity and fertility.

Bahula:

This Vedic asterism is the Pleiades cluster in the IAU constellation Taurus as appearing in the *Rig Veda* (Leitz 2019).

Bahumehi:

This Guipunave asterism is the IAU constellation Crux. R. H. Allen lists this as a principal fish of the “Pareni Indians” in his *Star Names* in 1899.

Baieti:

This Kiribati star “Baieti” is currently unidentified (Trussel and Groves 1978).

Baikare:

This Kiribati star “Baikare” is probably the star Alpha (α) Virginis (Spica) in the IAU constellation Virgo (Trussel and Groves 1978).

Bailer of Makali’i:

This is the Hawaiian star line “Ke Ka o Makali’i”. This “bailer” scoops up Ka Hei-Hei o Na Keiki, the IAU constellation Orion (see Cat’s Cradle of the Children, below and Orion below) and the Makali’i, the Pleiades cluster. Its main stars north to south are:

- Hokulei: Alpha (α) Aurigae (Capella),
- Nanamua: Alpha (α) Geminorum (Castor),
- Nanahope: Beta (β) Geminorum (Pollux),
- Puana: Alpha (α) Canis Minoris (Procyon), and
- ‘A’a: Alpha (α) Canis Majoris (Sirius).

Delta (δ) Orionis (Mintaka) is an important star in this line because it rises/sets directly east or west giving the navigator an easy pointer star for direction. Beta (β) Canis Majoris (Mirzam) and Ke Ali’I Kona i Ka Lewa (Alpha (α) Carinae (Canopus)) connect to create a southern pointer. ‘Ekekeuehuehu (Theta (θ) Aurigae (Mahasim) and ‘Ekekeu’ena’ena (Beta (β) Aurigae (Menkalinan)) connect to form a northern pointer.

Baireke:

This Kiribati star “Baireke” is an unidentified star in their asterism “Kabairekereke” (see above) in the IAU constellation Scorpius (Trussel and Groves 1978).

Bairikaki:

This Kiribati star “Bairikaki” is currently unidentified (Trussel and Groves 1978).

Baitaere:

This Kiribati star “Baitaere” or “Nei Baitaere” is currently unidentified (Trussel and Groves 1978).

Baker’s Daughters:

This Teutonic asterism is the Pleiades cluster in the IAU constellation Taurus as listed in R. H. Allen’s *Star Names* in 1899. Allen reports a Teutonic tale of Jesus being refused a loaf of bread by a baker, whose daughters secretly give Jesus a loaf. As a reward they become the Pleiades, while the baker becomes a cuckoo.

Baker’s Peel:

This Gaelic asterism “Crannarain” is the Pleiades cluster in the IAU constellation Taurus as listed in R. H. Allen’s *Star Names* in 1899. Allen writes that this name was “a title shared with Ursa Major”.

Bakodlãk:

This Chakavian asterism is the IAU constellation Taurus.

BAL.UR.A:

This Babylonian asterism “BAL.UR.A” is listed by Bartel van der Waerden in his *Science Awakening II: The Birth of Astronomy* in 1974. The identity of this star is not known.

Balance:

This Babylonian asterism from the MUL.APIN tablets “RIN” is an alternate name for the asterism “Scales” (Boutet 2014). See Scales, below.

This Arabic asterism “Altawazun” (التوازن) is the IAU constellation Libra.

This Latin asterism “Bilanx” is the IAU constellation Libra as listed in the *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638).

This Tibetan khyim (zodiac constellation) “Sangwa” or “Srang” is the IAU constellation Libra (Johnson-Groh 2013).

This Vedic rashi “Tulā” or “Tula” is the IAU constellation Libra as listed in the Vedic *Candragarbha-parivarta* (Kotyk 2017, Rath 2022). The Chinese phonetically translated of “Tula” from the Vedic *Candragarbha-parivarta* in 566 as “Douluo” (Kotyk 2017). W. Brennan lists it as “Tula” in his *Hindu Astronomy* in 1896. Bhagwath (2019) lists it as “Thula” and writes that it represents the energy of the God Tvashtha.

This Tamil zodiac asterism “Tulam” or “Tolam” is the IAU constellation Libra.

This Romanian asterism “Balanţa” is the IAU constellation Libra (Ottescu 2009). It is also known as the “Scales” (see below).

Balances of the Book of Daniel:

This German asterism is the IAU constellation Libra as listed by German poet Philipp von Zesen (1619 – 1689). Edward Sherburne lists this in his *Sphere of Marcus Manil*ius in 1675.

Balayang:

This Kulin Nations star “Balayang” is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius (Massola 1968, Hamacher 2011).

Bald Ship:

This Welsh asterism listed by Victorian folklorist Marie Trevelyan (1852 – 1922) in her *Folk-lore and Folk-stories of Wales* (1909). Freer (2004) speculates that this refers to a ship without sails and may be the stars of the Hyades in the IAU constellation Taurus, or the stars of the IAU constellation Auriga.

Balick:

This “Turkish” name for the IAU constellation Pisces was listed by John Hill in his *Urania* in 1754 and in Edward Sherburne’s *Sphere of Marcus Manilius* in 1675.

Balk of Caelum:

This **telescopic** asterism “Trábs Caéli” is the barred spiral galaxy NGC 1572 in the IAU constellation Caelum. It was discovered in 1835 by English astronomer John Herschel who listed it as 2639 and later as GC 849 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Ball and Chain:

There are two telescopic “ball and chain” asterisms:

- One is Corder 4218 in the IAU constellation Vulpecula and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 6'. Corder describes it as "a nice circle of 6 stars at the southern end and a chain of 4 or 5 stars that are almost attached to the north side of the circle". These stars are all 10^{th} – 11^{th} magnitude.
- One is Corder 4710 in the IAU constellation Cepheus and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. The "chain" is an arc of stars magnitude 5.5 – 9, starting at 30 Cephei and running through HIP 111701, 111639, 111431, and 111316, to 111174. The "ball" starts at HIP 111174 and includes HIP 110919, 110841, 110634, and 110706, then through three more 7^{th} to 8^{th} magnitude stars to complete the circle.

Ball Bearer of Horologium:

This **telescopic** asterism "Pilúlifer Horológii" is the barred spiral galaxy NGC 1493 in the IAU constellation Horologium. It was discovered by James Dunlop in 1826. John Herschel listed it as 2600 on his list and later as GC 795 in his General Catalogue of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): The name refers to its "many small bright knots".

Ball Game of Octans:

This **telescopic** asterism "Pililúdium Octántis" is the lenticular galaxy NGC 6438 in the IAU constellation Octans. It was discovered in 1835 by John Herschel who listed it as h 3701 and later as GC 4330 in his *General Catalogue* of 1864 This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "this system consists of two perturbed galaxies and a well shaped round one."

Ball Game of Piscis Austrinus:

This **telescopic** asterism "Sphaeromachía Píscis Austríni" is the elliptical galaxy NGC 7176 in the IAU constellation Piscis Austrinus. This was discovered in 1834 by John Herschel who listed it as h 3911 and later as GC 4733 in his *General Catalogue* of 1864. This galaxy is part of a group of interacting galaxies including NGC 7173 (GC 4730), 7174 (GC 4731), and 7176. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "NGC 7173 and NGC 7176 are round systems, resembling balls, while NGC 7174 with its freakish dust bands looks like the active player."

Ball Game of the Stars:

This Aztec asterism "Citlaltlachtli" is the IAU constellation Gemini. The rectangular "ball court" is defined by the stars Beta (β) Geminorum (Pollux), Alpha (α) Geminorum (Castor), Mu (μ) Geminorum (Tejat), and Gamma (γ) Geminorum (Alhena). It is said that the movement of the ball within the playing field refers to the movement of the sun and moon.

Ball of Flour of Ursa Major:

This **telescopic** asterism "Óffa Úrsae Majóris" is the elliptical galaxy NGC 5322 in the IAU constellation Ursa Major. It was discovered in 1790 by William Herschel who listed it as "I 256". It became GC 3671 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it is "ball like".

Ball of Fornax:

This **telescopic** asterism "Pila Fornácis" is the elliptical galaxy NGC 1399 in the IAU constellation Fornax. It was discovered in 1835 by John Herschel who listed it as h 2569 in his catalogue and later as GC 748 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Ball Player of Leo:

This **telescopic** asterism "Pilárius Leónis" is the intermediate spiral galaxy NGC 3227 (Arp 94) in the IAU constellation Leo which is interacting with a dwarf elliptical companion. It was discovered by Prussian astronomer Heinrich d'Arrest and became "II 29" in William Herschel's catalogue and GC 2089 in the *General Catalogue* of 1864. This is O'Meara 18 in astronomer Stephen James O'Meara's *Hidden Treasures Catalogue* (2007). This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as it "has the appearance of a juggler throwing a ball in the air."

Balor:

This Celtic (Irish) star may be Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius (Mosenkis, N/K date). Balor was an evil giant with a large eye who led the Fomorians in Irish mythology who was killed by his grandson Lugh of the Tuatha Dé Danaan, causing his eye to go up into the sky. This is interpreted as becoming the sun in Irish mythology, but Mosenkis is connecting it with Antares here.

Baltic Sea:

This Swedish asterism is the IAU constellation Draco. Swedish explorer Olaus Rudbeck (1630 – 1702) saw this constellation as symbolizing the Baltic Sea according to English Admiral Henry William Smyth's *Bedford Catalogue* in 1844.

Bamboo:

This Anutan asterism "Te Kope" is a line of stars in the IAU constellation Grus, starting at the star Gamma (γ) Gruis (Aldhanab), running through Beta (β) Gruis (Tiaki) and ending with Epsilon (ε) Gruis.

Bamboo Joints:

This Japanese asterism "Take no Fushi" is the belt of Orion in the IAU constellation Orion (Renshaw and Ihara 2001). This is related to their asterism Two Sisters (see below).

Banana:

There are three **telescopic** "banana" asterisms:

- One is in the IAU constellation Antlia and is listed as Corder 1964 on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 60' X 30'. This curving asterism includes the stars HIP 50030, 49997, 49883A, and 49767.
- One is Pothier 7 in the IAU constellation Cassiopeia. Robert Zebahl lists it on his *Faint Fuzzies* webpage, where René Merting describes it "at 64X [as being] elongated like a banana." HIP 2454 is at one end of the "banana". Size 7' X 3'.
- One, the Banana Nebula, is HII region NGC 3199 in the IAU constellation Carina. This was discovered in 1847 by English astronomer John Herschel who listed it as h 3239 in his catalogue.

It is GC 2067 in the *General Catalogue* of 1864. It is also known as the "Carina Smile" (see below).

Band of Orion:

This asterism is the Belt of Orion asterism in the IAU constellation Orion: Zeta (ζ) Orionis (Alnitak), Epsilon (ε) Orionis (Alnilam) and Delta (δ) Orionis (Mintaka). *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this asterism, citing Job xxxviii.31.

Banga n waro:

This Kiribati asterism is made up of stars surrounding Alpha (α) Carinae (Canopus) in the IAU constellation Carina (Trussel and Groves 1978). One of their names for Canopus is Te Waro (see below).

Banjan:

This Wardaman star is Gamma (γ) Orionis (Bellatrix) in the IAU constellation Orion (Cairns and Harney 2003).

Bank Spread:

This Korean asterism "Eunhaeng Seupeuledeu" (은행 스프레드) is a line of three stars in the IAU constellation Capricornus: Upsilon (υ) and Tau (τ) Capricorni and HIP 102026.

Banner:

This Chinese Chenzhuo xing guan is a bent line of five stars in the IAU constellation Sagittarius: Xi (ξ) Sagittarii, Omicron (ο) Sagittarii, Pi (π) Sagittarii, 43 Sagittarii, Rho (ρ) Sagittarii, and Nu (ν) Sagittarii.

Banner of Three Stars:

This Chinese xing guan "Shēnqí" (参旗) is made up of a line of stars in the IAU constellation Orion. Despite the name, this line contains nine stars: Omicron (ο) 1 and 2, 6, and Eta (η) 1, 2, 3, 4, 5, and 6 Orionis. This is the "shield" of Orion. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan "Shēnqí" is a bending line of stars in the IAU constellation Orion: 15 Orionis, 11 Orionis, Omicron (ο) 2 Orionis, 6 Orionis, and Pi (π) 1, 2, 3, 4, and 5 Orionis.

Banner of Wine Shop:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of three stars in the IAU constellation Leo: Xi (ξ) Leonis (determinative star), 6 Leonis, and 10 Leonis.

This Chinese xing guan "Jiǔqí" (酒旗) is a bent line of three stars in the IAU constellation Leo: Psi (ψ), Xi (ξ), and Omega (ω) Leonis.

This Chinese Chenzhuo xing guan "Jiǔqí" is a triangle of stars in the IAU constellation Cancer: Pi (π) 1 & 2 Cancri, Alpha (α) Cancri (Acubens), and Kappa (κ) Cancri.

Banyan Star:

This Dravidian star is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Leitz 2019). The *Rig Veda* describes a Banyan Tree in the sky.

Baptizing Jordan:

This German asterism "Jordanem Baptizans" is the IAU constellation Aquarius and is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

Bar:

There are two **telescopic** "bar" asterisms:

- One is in the IAU constellation Centaurus and was listed as Corder 2319 on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 40' X 15'. This is a narrow rectangle of five 8th magnitude stars including HIP 59761, 59717, and 59657.
- One is Corder 3838 in the IAU constellation Sagittarius and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 25' X 15'. This is an elongated group of 5 8th – 9th magnitude stars including HIP 95122A and 95135.

Bar and Ring of Cetus:

This **telescopic** asterism "Trabianulátus Céti" is the barred spiral galaxy IC 302 in the IAU constellation Cetus. It was discovered by French astronomer Stéphane Javelle in 1892. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Bar Bearer of Draco:

This **telescopic** asterism "Tígnifer Dracónis" is the barred spiral galaxy NGC 6140 in the IAU constellation Draco. It was discovered in 1788 by William Herschel who listed it as "III 740". It became GC 4190 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the bar… in the central region in this galaxy".

Bar Stars:

This Estonian asterism "Vardatähde" is the belt of Orion asterism in the IAU constellation Orion (Kuperjanov 2003).

Bara:

This Persian asterism "Bara", "Bere", or "Berre" is the IAU constellation Aries.

Bara ni Kaue:

This Kiribati asterism is made up of stars of the IAU constellation Cepheus (Trussel and Groves 1978).

Baraitoa ae Nei Teraata:

The stars of this Kiribati asterism are currently unidentified (Trussel and Groves 1978).

Baraitoa eat e Are:

This Kiribati asterism is made up of four stars of the IAU constellation Hercules plus four stars of the IAU constellation Ophiuchus (Trussel and Groves 1978).

Baraitoa tew ae ni ma:

The stars of Kiribati asterism (Tabiteuea Is.) are currently unidentified (Trussel and Groves 1978).

Barani:

See Bearer, below.

Barantonga:

This Kiribati star "Barantonga" or "ana bara Ntonga" is currently unidentified (Trussel and Groves 1978).

Barbed of Eridanus:

This **telescopic** asterism "Hamátus Erídani" is the elliptical galaxy NGC 1421 in the IAU constellation Eridanus. It was discovered in 1785 by William Herschel who listed it as "II 291". It became GC 762 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): The name refers to the "hooky form at the north side of this galaxy".

Barbell Nebula:

This **telescopic** asterism is the planetary nebula Messier 76 (NGC 650) in the IAU constellation Perseus. This was discovered by French astronomer Pierre Méchain in 1780 and included in Charles Messier's catalogue. It was listed in the General Catalogue of 1864 as GC 386. It was first recognized as a planetary nebula in 1918 by American astronomer Heber Doust Curtis. Robert Burnham lists this name in his *Burnham's Celestial Handbook* in 1978. It is also known as the Butterfly Nebula, the Little Dumbbell Nebula, and the Cork Nebula.

Barbeque:

This Carib asterism "Siritjo sura-rï" has two versions, both representing the barbeque that Epietembo (see One-Legged Hunter) took up into the sky (Magaña, and Jara, 1982):

- One is the stars of Ursa Major,
- One is stars of Andromeda and Pegasus.

Barbeque Fork:

This **telescopic** asterism, Lorenzin 1, is found in the IAU constellation Taurus. A string of stars running east-west form the handle near the star Zeta (ζ) Tauri (Tianguan). This line starts at HIP 27120 and runs through HIP 26967 and 26912 to a triangle of stars forming the "handle" including HIP 26684. From HIP 27120 two curving lines form the prong tips, with the stars HIP 27205A and 27214 at one tip. Size 55' X 100'. It is found in *Pattern Asterisms* by American astronomer John A. Chiravalle.

Barbeque of the Sucker Catfish:

This Carib asterism "Pakamu suri-rï" or "Pakamu" is made up of stars of the IAU constellation Corvus, though which ones is not clear (Magaña, and Jara, 1982).

Barbon's Galaxy:

This **telescopic** asterism is PGC 71938 in the IAU constellation Pegasus. It is named for Italian astronomer Roberto Barbon (b. 1938).

Bark:

This Seleucid asterism “MA.GUR”, which they interpret as the hull of a ship, is the IAU constellation Corona Australis and does not appear in earlier Babylonian sky lore.

Bark Canoe:

This Salish asterism “ƛiyéʔ” is made up of the stars of the IAU constellations Gemini and Orion (Pete 2023). Compare this to the Yolgnu asterism “Boat and Fishline” (see below) and the Chinook asterism “Big Canoe” (see below). One end of the “canoe” is Alpha (α) Orionis (Betelgeuse) and the other end is Beta (β) Orionis (Rigel). The Belt of Orion is the seat across this “canoe”. Five male friends who built the canoe are represented by the stars Gamma (γ) Geminorum, Betelgeuse, Rigel, Gamma (γ) Orionis, Iota (ι) Orionis, and Kappa (κ) Orionis. NOTE: The story describing the creation of this asterism should only be told in the winter month. It is also known as “People Working” (see below).

Barker:

This Phoenician asterism “Hannabeah” is the IAU constellation Canis Major.

Barking Dog’s Face:

This **telescopic** asterism is the open cluster and reflection nebula NGC 7129 (vdB 146, LBN 497, Cr 441, Ced 196) in the IAU constellation Cepheus. It was discovered in 1794 by English astronomer William Herschel who listed it as “IV 75”. It is GC 4702 in the *General Catalogue* of 1864. The dog’s head is facing us, with largest of the three nebulae here, which is surrounding the star cluster, is the “dog’s snout”. The barking mouth is formed by dust clouds at one end. The two smaller reflection nebulae alongside are its “eyes”. Size 8’. This is Ennis 94 on the observing list of Canadian astronomer Charles Ennis. It is also known as the “Small Cluster Nebula” (see below), “Cosmic Rosebud”, and the “Cosmic Rose”.

Barley God:

This Egyptian asterism “Smati Osiris” is the IAU constellation Orion as listed in R. H. Allen’s *Star Names* in 1899.

Barnard’s E:

This **telescopic** asterism the “Triple Cave”, “Barnard’s E”, the “Double Dark Nebula” or the “E Nebula” is the dark nebulae Barnard 142 and 143 in the IAU constellation Aquila. This is named after American astronomer Edward Emerson Barnard (1857 – 1923), who created the Barnard Catalogue of dark nebula.

Barnard’s Galaxy:

This **telescopic** asterism is NGC 6822 (Caldwell 57), a barred irregular galaxy in the IAU constellation Sagittarius. It is named for American astronomer Edward Emerson Barnard (1857 – 1923), who discovered it in 1884. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010) as “Barnardínus Sagittárii” (“Barnard’s of Sagittarius”).

Barnard’s Loop:

This **telescopic** asterism is HII region Barnard’s Loop or Barnard’s Arc is in the IAU constellation Orion. It is part of the Orion molecular cloud complex and contains the Horse Head Nebula (see below) and Orion Nebula (see below). It covers a region of about 10° X 15°. In is named for American astronomer Edward Emerson Barnard (1857 – 1923) who photographed it in 1903.

Barnard's Merope Nebula:

See Merope Nebula (above).

Barnard's Star:

Barnard's Star is a red dwarf in the IAU constellation Ophiuchus (BD +04°3561a)) whose proper motion was measured by American astronomer Edward Emerson Barnard in 1916. It was first recorded on Harvard University photographic plates in 1888 and 1890. The IAU Working Group on Star Names approved this name for the star in 2017. It was also known as the "Greyhound of the Skies" due to its rapid motion.

Barragbarrag:

This Wardaman asterism is the stars Nu (ν) Cygni and Beta (β) Cygni (Albireo) in the IAU constellation Cygnus (Cairns and Harney 2003).

Barred Spiral:

This **telescopic** asterism Sánta 152, listed in 2009 by Hungarian astronomer Sánta Gábor, is a group of 9th – 14th magnitude stars in the IAU constellation Cancer. Gábor describes it as a "barred spiral like asterism, very nice, along NS… cluster-like, chain [of] 9 stars at the end of Omega [ω] 2 Cancri cascade".

Barramundi:

This Wardaman star "Guamba" or "Guwamba" is the star Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus (Cairns and Harney 2003) and one of the stars in their asterism "Little Fishes" (see below).

Barred of Virgo:

This **telescopic** asterism "Trábiger Vírginis" is the barred lenticular galaxy NGC 4665 (4664) in the IAU constellation Virgo. It was discovered in 1784 by William Herschel who incorrectly wrote down the location on his first observation and later observed it again, listing these observations as "II 39" and "I 142", the second time listing the correct location. This resulted in it being listed as GC 3196 and GC 3197 in the *General Catalogue* of 1864, which is why it ended up listed in the NGC twice. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Barrel:

This Latin asterism "Dolium" is the IAU constellation Aquarius. It is probably a Latinization of the Syrian "Daulo" or Persian "Dūl" (see Water Carrier, below). R. H. Allen lists it in his *Star Names* in 1899 as "water bucket".

Barrel of Meal:

This German asterism is the IAU constellation Piscis Austrinus as listed in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures. It appears in John Hill's *Urania* in 1754. This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "Hydria Sarepthara Al Piscis Notus": This translates as "Jar of Sarephthara" and Piscis Notus is an earlier name of

Piscis Austrinus. Edward Sherburne lists it as "the Barrel of Meal of the Widdow [sic] of Sarephtha" in his *Sphere of Marcus Manilius* in 1675.

Barred Owl:

This Mi'kmaq star "Ku Ku We" is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes. It is part of their asterism Muin and the Seven Hunters (see below).

Barren Lands:

This Hawaiian star "Ka Mole Honua" is Alpha (α) Crucis (Acrux) in the IAU constellation Crux.

Barrukill:

This Marra and Moporr asterism is the pentagon of stars that form the "head" of the IAU constellation Hydra: Epsilon (ε), Delta (δ), Sigma (σ), Eta (η) and Rho (ρ) Hydrae (Hamacher 2011).

Baršÿtje:

This Chakavian asterism is the IAU constellation Draco.

Bartholomew:

This German asterism "Bartholomew" or "Saint Bartholomew the Apostle" is the IAU constellation Scorpius as listed in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures. This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "S. Bartholomew Al Scorpio". It later appears in Edward Sherburne's *Sphere of Marcus Manilius* in 1675 and in John Hill's *Urania* in 1754.

Base of the Bear's Tail:

This Arabic star "al-Maghriz" (مغرز) or "Al Meghrez" is Delta (δ) Ursae Majoris in the IAU constellation Ursa Major, later latinized to "Megrez":

- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Megrez… from the Arabian Maghrez al dub al akbar, the root of the Great Bear's tail."
- This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Megrez": The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822.
- *An Improved Moveable Planisphere* (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, lists this star as "Megrez".
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as "Megrez".
- R. H. Allen translates this in his *Star Names* in 1899 as "root of the tail".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list "Megrez" for this star.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this star as "Megrez".
- The IAU approved the name Megrez for Delta (δ) Ursae Majoris.

Base of the Bowl:

This Arabic star “Qā’idat al-bātīyah” is Alpha (α) Crateris (Alkes) in the IAU constellation Crater as listed on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992).

Base of the Cup:

This Latin star “Fundus Vasis” is Alpha (α) Crateris (Alkes) in the IAU constellation Crater. Johann Bayer’s *Uranometria* (1603) lists “Fundis Vasis”.

Base of the Haystack:

This Estonian asterism “Kuhjalava” is the IAU constellation Corona Borealis (Kuperjanov 2006).

Base Ribs of a Canoe:

This Kiribati asterism “boto n aiai” or “te botonaia” is the Hyades cluster in the IAU constellation Taurus (Trussel and Groves 1978). They list it also as a name for the principal star, Alpha (α) Tauri (Aldebaran).

Baseball Cap:

This telescopic asterism is in the IAU constellation Aries and is Ennis 33 on the observing list of Canadian astronomer Charles Ennis. The “brim” of the cap is formed by the stars HIP 14621 and 14610 and a couple of 9th magnitude stars (Gaia DR3 112315804270897408 and Gaia DR3 112316938142256640). The “cap” is an arc of the double star HIP 14548, Gaia DR3 112382187285410304, Gaia DR3 112386241734515840, Gaia DR3 112392735725049984, and HD 19446. Size 40’.

Baseball Diamond:

This is a Canadian name for the Great Square asterism (see below) in the IAU constellation Pegasus that Kirsten Vanstone of the Toronto Center informs us was created by her Centre in for the 1991 Major League Baseball season.

Basilica of the Stars:

This Latin star “Basilica Stella” is Alpha (α) Leonis (Regulus) in the IAU constellation Leo as listed in R. H. Allen’s *Star Names* in 1899.

Basket:

This Japanese sei shuku or lunar station “Mi Boshi” is a quadrilateral of stars in the IAU constellation Sagittarius: Delta (δ), Epsilon (ε), Eta (η), and Gamma (γ) Sagittarii. Some versions leave out Eta (η) Sagittarii.

This Rapanui asterism “He Kete” or “Kete” is the Hyades cluster in the IAU constellation Taurus (Edwards and Edwards 2010, Edwards and Edwards 2016, Edwards et al 2018).

This Hawaiian asterism is the IAU constellation Corona Borealis (Kemp et al 2022).

This asterism “Cestus” is in the IAU constellation Cassiopeia. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 describes this “cestus of the seated Lady” as Eta (η) Cassiopeia “forming the apex of a right-angled triangle” with Alpha (α) Cassiopeiae (Schedar) and Beta (β) Cassiopeia (Caph).

Basket for Mulberry Leaves:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a rough triangle of stars in the IAU constellations Draco: HIP 92549, 91985, 89401, 89047, and 88732 and 46, 45, and 39 Draconis (with 39 Draconis being the determinative star).

This Chinese xing guan "Fúkuāng" (扶筐) is a rough triangle of stars in the IAU constellation Draco: 39, 45, 46, 48, 49, 51, and Omicron (o) Draconis. Compare this with the Korean asterism "Basket for Silkworm" (below): Mulberry leaves were fed to silkworms.

This Chinese Chenzhuo xing guan "Fúkuāng" is a roughly "V" shaped asterism of stars in the IAU constellations Cepheus, Cygnus, and Draco: From 64 Draconis two lines run out:

- One runs through Theta (θ) Cephei and Eta (η) Cephei to HIP 102431, and
- One runs through 66 Draconis and HIP 98073 to 33 Cygni.

Basket for Silkworm:

This Korean asterism "Nue Baguni" (누에 바구니) is four lines of stars (one forked) radiating out of the star Omicron (o) Draconis in the IAU constellation Draco:

- One line goes to 46 Draconis,
- One line goes to 45 Draconis,
- One line goes to 39 Draconis, and
- One line goes through HIP 91915A to HIP 91315 where it branches out to 42 Draconis in one direction and 36 Draconis in another.

Compare this with the Chinese xing guan "Basket for Mulberry Leaves" (above): Mulberry leaves were fed to silkworms.

Bastard:

Two Chinese stars from the Three Kingdoms to the Ming Dynasty bore the name "Shuzi":

- One is the star Tau (τ) Scorpii in the IAU constellation Scorpius and is part of their asterism Heart (see below).
- One is the star 5 Ursae Minoris in the IAU constellation Ursa Minor.

There are two Chinese Chenzhuo xing guans called "Shuzi"

- One is the star Tau (τ) Scorpii in the IAU constellation Scorpius.
- One is the star 5 Ursae Minoris in the IAU constellation Ursa Minor. It is part of their xing guan "Northern Pole".

Bastet:

This Egyptian star is Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor as listed in the 19th dynasty *Cairo Calendar* (Hardy 2003). Bastet or Bast is a Goddess of cats, women's secrets, childbirth, fertility, and protection of the home.

Bat:

This Mayan asterism "Zool" is made up of stars of the IAU constellations Sculptor and Cetus:

- The "body" is the star Beta (β) Ceti (Diphda),
- The "wing" on one side is bounded by the stars Eta (η) Ceti and Alpha (α) Sculptoris, and

- The “wing” on the other side is bounded by the stars Iota (ι) Ceti and Iota (ι) Sculptoris.

NOTE: In the postclassic *Paris Codex* this Mayan asterism has become the IAU constellation Aquarius.

This Tharumba star “Wunbula” is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major.

This star with the Latin name “Vespertilio” is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius as listed by 17th century Dutch astronomer Hugo Grotius (Huig de Groot, 1583 – 1645), who thought this was the correct translation of the original Greek name (Hafez 2010). Compare to Rival to Ares (below).

Bat and His Wives:

This Tharumba asterism “Munowra” is three stars in the IAU constellation Canis Major: Alpha (α) Canis Majoris (Sirius), Beta (β) Canis Majoris (Mirzam), and Delta (δ) Canis Majoris (Alwazn). It represents the bat “Wunbula” and his two wives “Murrumbool” (Mrs. Brown Snake) and “Moodtha” (Mrs. Black Snake).

Bat Nebula:

See Albino Butterfly nebula, above.

Bat of Canes Venatici:

This **telescopic** asterism “Vespertílio Cánum Venaticórum” is the galaxy MCG +06-28-44 (Mrk 54) in the IAU constellation Canes Venatici. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because this “couple of merging galaxies resembles a flying bat”.

Baten Kaitos:

See Belly of the Sea Monster, below.

Batena:

This Kiribati star “Batena” is currently unidentified (Trussel and Groves 1978).

Batere:

This Kiribati star “Batere” or “Nei batere” is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga (Trussel and Groves 1978).

Bath:

This Latin asterism “Bathilus” is the IAU constellation Ara and is listed under the name “Bathillus” by John Hill in his *Urania* in 1754.

Bathsheba:

This German asterism is the IAU constellation Cassiopeia as listed in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the “pagan” names of constellations with Biblical and early Christian figures. “Bathseba” is listed as a name for Andromeda in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch. It appears in Edward Sherburne’s *Sphere of Marcus Manilius* in 1675 and in John Hill’s *Urania* in 1754. Bathsheba was the mother of Solomon. NOTE: Stevenson (1921) writes that Schiller named this “Maria Magdelena”.

Batiga:

This “Persian” name for the IAU constellation Crater was listed by John Hill in his *Urania* in 1754.

Batignon:

This “Tuscan” name for the IAU constellation Eridanus was listed by John Hill in his *Urania* in 1754.

Batirara:

This Kiribati star “Batirara” is currently unidentified (Trussel and Groves 1978).

Battery of Volta:

This asterism was created by British physician and Egyptologist Thomas Young in 1806 using two stars in the IAU constellation Pegasus to honor Volta’s invention of the electric battery: 1 and 9 Pegasi.

Battle Axe (Adjunct to Eastern Well):

This Chinese Chenzhuo xing guan “Yue” is the star Eta (η) Geminorum in the IAU constellation Gemini.

Battle Axe (Vassal of Well):

This Chinese xing guan “Yue” from the Three Kingdoms to the Ming Dynasty is the star Eta (η) Geminorum in the IAU constellation Gemini. NOTE: this is on the edge of the Jellyfish Nebula (Gemini A) IC 443.

This Chinese xing guan “Yuè” (钺(附井宿)) is a line of two stars coming off the corner of their xing guan “Well” (see below) in the IAU constellation Gemini: Mu (μ) and Eta (η) Geminorum.

Battle Chariots:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a triangle of three stars in the IAU constellation Libra: 12, KX, and Sigma (σ) Librae (with Sigma Librae being the determinative star).

This Chinese xing guan “Zhènchē” (阵车) is a three-star line in the IAU constellations Hydra and Lupus: 58 and 60 Hydrae and 2 Lupi.

This Chinese Chenzhuo xing guan “Zhènchē” is a triangle of stars in the IAU constellation Libra: Sigma (σ) Librae, HIP 73184, and 12 Librae.

Battle of the Æsir:

This Old Icelandic asterism is the IAU constellation Auriga. Compare this to the Norse asterism “Asar Battlefield” (above).

Battledore Racket:

This Italian asterism “la Racchetta” is the Pleiades cluster in the IAU constellation Taurus as listed by R. H. Allen in his *Star Names* in 1899. Battledore is an early version of Badminton.

Bau n Rimoa:

The stars of this Kiribati asterism are currently unidentified (Trussel and Groves 1978).

Bau n Rimwimata:

This Kiribati asterism “Bau n Rinwimata” is the stars Sigma (σ) and Tau (τ) Scorpii in the IAU constellation Scorpius (Trussel and Groves 1978).

Bavaria:

This asterism "Bavar" was created of the stars of the IAU constellation Perseus by German astronomer Erhard Weigel (1625 – 99) who produced his *Astrocopium Orbi Europaeo Sacrum* chart in 1661, 1681 and 1688 in which he tried to replace existing constellations a new system based upon the heraldry of the nation states and principalities of seventeenth century Europe, as well as of its principal hierarchies and social classes. This represents Bavaria and is depicted as a green sphere with a gold band running around its equator and a gold band running from front to back over the top with a cross atop it.

Beacon:

This Korean asterism "Bonghwasbul" (봉홧불) is a quadrilateral of stars in the IAU constellation Cancer: Iota (ι), Rho (ρ) 2, Tau (τ), and Sigma (σ) 3 Cancri.

Beacon Fire:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a quadrilateral of stars in the IAU constellation Cancer: Chi (χ) Cancri (the determinative star), Phi (ϕ) Cancri, Upsilon (υ) 1 Cancri, and Lambda (λ) Cancri.

This Chinese xing guan "Guàn" (爟) is a quadrilateral of four stars in the IAU constellation Cancer: 15, Phi (ϕ) 1, Lambda (λ), and Psi (ψ) Cancri. Nearby is the star Kappa (κ) Geminorum, which the Chinese call "Pile of Firewood".

This Chinese Chenzhuo xing guan is a "box" of stars in the IAU constellation Cancer: Iota (ι) Cancri, Rho (ρ) 1 & 2 Cancri, Tau (τ) Cancri, and Sigma (σ) Cancri

Beak:

This Chinese Chenzhuo xing guan is a line of two stars in the IAU constellation Orion: Lambda (λ) Orionis and Phi (ϕ) 1 & 2 Orionis.

Beam:

This Latin asterism "Toma" is the three stars of the "handle" of the Big Dipper asterism in the IAU constellation Ursa Major as listed by English linguist John Minsheu (1560 – 1627): Epsilon (ε), Zeta (ζ), and Eta (η) Ursae Majoris. R. H. Allen writes in his *Star Names* in 1899 that this term originated with Roman writer Quintus Ennius (d. 169 B.C.E.) and that it was adopted by Roman statesman Marcus Tulius Cicero (d. 43 B.C.E.), Roman poet Publius Ovidius Naso (Ovid, d. 17 B.C.E.), Roman poet Publius Papinius Statius (d. 96 C.E.), and Roman polymath Marcus Terentius Varro (112 – 27 B.C.E.).

This Romanian asterism "Rază" is the IAU constellation Sagitta (Ottescu 2009). This is found only in Northern Romania.

Beam of the Scale:

This Persian star "šāhin tarāzu" (شاهین ترازو) is the star Gamma (γ) Aquilae in the IAU constellation Aquila:

- This was later latinized to "Shahin Tarazed", "Tarazed", and "Tarazad.
- English Admiral Henry William Smyth's *Prolegomena* lists "Tarazed" and his *Bedford Catalogue* in 1844 lists "sháhin tárá-zed, the soaring or star-striking falcon": This is Smyth confusing this

asterism with the star “aš-šāhīn” or “Alshain” which is Beta (β) Aquilae (see Peregrine Falcon, below).

- English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists this star as “Tarazed”.
- The 1st edition of British schoolmaster Arthur P. Norton’s *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list this star as “Tarazed”.
- In 2016 the IAU approved the name Tarazed for this star.

Bear:

This ancient Vedic asterism from the *Rig Veda*, “Ṛkṣa” (ऋक्ष), is the Big Dipper Asterism in the IAU constellation Ursa Major (see Big Dipper below).

This Wampanoag (Algonquin) asterism "Maske" is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper below).

This Lenape asterism “Maxkw” is the Big Dipper asterism in the IAU constellation Ursa Major (Frank 2021).

This Diné asterism “Shash” is the IAU constellation Sagittarius (Childrey 2008).

This Skidi asterism is the IAU constellation Sagittarius. Brady (2013) reports that a Skidi “sky map dated earlier than the arrival of the white settlers in the sixteenth century apparently shows a constellation of a bear using the same stars as Ursa Major (Hagar 1900: 92, Buckstaff 1927: 282; also see Frazier 1979)”.

In eastern Siberia the bucket of the Big Dipper asterism in the IAU constellation Ursa Major is a bear: Delta (δ) Ursae Majoris (Megrez), Gamma (γ) Ursae Majoris (Phecda), Beta (β) Ursae Majoris (Merak), and Alpha (α) Ursae Majoris (Dubhe). The hunters are the handle of the Big Dipper (see Hunters, below).

This Ainu asterism “Siarasarus Kamuy Noka nociw” (シアラサルシ カムイ) is the IAU constellation Ursa Major.

This Hebrew asterism “Dōbh” (דוב) is the IAU constellation Ursa Major.

This Phoenician asterism “Dub” is the IAU constellation Ursa Major.

This Romanian star “Ursul” is Eta (η) Ursae Majoris in the IAU constellation Ursa Major (Ottescu 2009). The next two stars in the handle of the Big Dipper are the oxen pulling the Great Chariot (see below) and are frightened by the Bear. Cthor’sompare to Wolf (below).

Bear and Three Hunters:

This Musquakie (Iroquois) asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Berezkin 2005). The bucket of the dipper is the bear, and the stars of the handle are the hunters. The double stars Zeta (ζ) Ursae Majoris (Mizar) and 80 Ursae Majoris (Alcor) are to the Musquakie peoples a small dog called “Hold Tight” (see below). Compare this to Muin and the Seven Hunters, below.

Bear Carrier:

This asterism “Portitor Ursae” is the IAU constellation Boötes as described by 1st century Roman poet Publius Papinus Statius.

Bear Claw Galaxy:

See Bear’s Paw.

Bear Claw Nebula:

This **telescopic** asterism is planetary nebula Sh2-200 in the IAU constellation Cassiopeia.

Bear Driver:

This English asterism is the IAU constellation Boötes. It is derived from the Greek asterisms Bear Watcher (see below) and Guardian of the Bear (see below). *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists the names "Bear Driver" and "Bear Diver", the later of which is probably a typographical error.

Bear Hunting Arcas:

This German asterism "ursum in venatione insectans Arcas" ("Bear hunting Arcas") is the IAU constellation Ursa Major as listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

Bear of Maenalis:

This Latin asterism "Maenalia Arctos", "Maenalis", or "Maenalis Ursa" is the IAU constellation Ursa Major and is a reference to a high mountain in Arcadia. Johann Bayer's *Uranometria* (1603) lists the name "Maenalis" for Ursa Major.

Bear Watcher:

This Greek asterism "Ἀρκτοφύλαξ" or "Arktofýlax" ("bear watcher" or "bear keeper") later latinized to "Arctophylax" or "Artophilaxe", is the IAU constellation Boötes and is related to the Greek myth of Arcas and Callisto. In one version of the myth Zeus turns Callisto into a bear and her son Arcas into the constellation Boötes. Compare this to the asterism Arcas, above. Eudoxus of Cnidus (4th century B.C.E.) lists this name and attributes it to Hipparchus (c. 190 – 120 B.C.E.). 7th century B. C.E. Greek poet Hesiod lists this name in his *Works and Days*.

The *De ordine ac positione stellarum in signis* ("*On the order and position of the stars in the signs*") in the Salzburg compilation (810 – 818) of Abbot Arno of Salzburg (785 – 821) lists "qui Graece Arctophylax" ("who in Greek is Arctophylax") as does Kauffmann's translation of the *De ordine ac positione stellarum in signis* in 1888.

De Astronomica ("the astronomy"), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This lists "Arctophilax" as a name for Boötes but also gives the name "Boetes".

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as the "Herdsman" and "Bear Keeper".

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) depicts "Arctophylax" as a young male in a tunic with a crook in his right hand resting on his right shoulder gesturing to the left with his left hand in a sort of warding gesture.

Danish astronomer Tycho Brahe's *Astronomiae Instauratae Progymnasmata* (1602) lists "Arctophylax" as a name for Boötes.

Johann Bayer's *Uranometria* (1603) lists "Arcturus" and "Arctos Major" as alternate names for Ursa Major.

The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch lists "Arctophylax" for Boötes.

The *Tabulae Rudolpinae* (1627) of Johannes Kepler (1571 – 1630) list the names "Arctophylax" and "Bootes" for this constellation.

Robert Hues lists "Arctophylax" as a name for Boötes in his *A Learned Treatise of Globes* in 1659.

John Hill lists "Arctophylax" as a name for Boötes in his *Urania* in 1754.

American uranographer William Croswell (1760 – 1834) depicts "Bootes Arctophylax" on his *Mercator Map of the Starry Heavens* in 1810 as a male in a kilt and boots with the leashes of Canes Venatici in his right hand and a club in his left hand.

Bear with a Little Boy:

This French asterism with the Latin name "Ursa cum Puerulo" is the IAU constellation Ursa Major as listed by French astronomer Joseph Jérôme Lefrançois de Lalande (1732 – 1807). This is a reference to the mythical figure Arcas.

Bearded of Boötes:

This **telescopic** asterism "Barbátus Boótis" is the spiral galaxy NGC 5676 in the IAU constellation Boötes. William Herschel listed this as "I 189". John Herschel listed this as h 1842 and later as GC 3935 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the elongated, vague southwestern part of this galaxy makes it look like a bearded head."

Bearer:

This Vedic nakshatra (lunar mansion) "Bharani" ("bearing star") is in the IAU constellation Aries and is the stars 35, 39, and 41 Arietis. It is related to Yana, God of the dead. Ivanković (2021) lists this as "Bháranī", lists the earlier name "Apabháranī" (see Taking Away, below) and relates it to the deity Yama, who is God of death and dharma. It is listed as "Bháranī" in the *Atharveda* (Leitz 2019, Ivanković 2021). Leitz identified it as "the star Arietis": Of course, Arietis is a suffix which could be applied to any star in Aries. Leitz also lists this as appearing on the nakshatra lists of the maharshis Varahamihir and Parasara. W. Brennand lists this as "Bharani" in his Hindu Astronomy in 1896 and translates this as "Yoni or Bhaga". Bhagwath (2019) lists the Yoni as the symbol of this nakshatra: Yoni is a symbol of the Goddess Shakti and Bhaga is the Vedic God of wealth.

This Tibetan gyukar (lunar house) "Bra Nye" or "Dranye" is in the IAU constellation Aries and is the star 35 Arietis (Johnson-Groh 2013).

This Myanmar nekkhat (lunar mansion) "Barani" (ဘရဏီ) is in the IAU constellation Aries and is the stars 35, 39, and 41 Arietis.

Bearer of the Demon's Head:

This Arabic asterism "Hamil Ras Alshaytan" (حامل رأس الشيطان) is the IAU constellation Perseus:

- "Hāmel Ra's al-Ghūl" is listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- Robert Hues lists this as "Chamil Ras Algol" in his *A Learned Treatise of Globes* in 1659.
- John Hill lists the name as "Hamil" or "Hamil Ras Al Ghul" in his *Urania* in 1754
- English Admiral Henry William Smyth lists it as "Hámil rás al ghúl" in his *Bedford Catalogue* in 1844 and adds the German "Träger des Medusenkopfe".
- R. H. Allen lists it as "Hāmil Rāʿs al Ghūl" in his *Star Names* in 1899. Allen lists the variation "Almirazgual" as appearing in "Moorish Spain", as does Robert Burnham in his *Burnham's Celestial Handbook* in 1978.

Bearer of Medusa's Head:

This German asterism "Träger des Medusen Kopf" is the IAU constellation Perseus as listed in R. H. Allen's *Star Names* in 1899.

Bearing a Knot of Perseus:

This **telescopic** asterism "Nodifera Pérsei" is the barred lenticular galaxy NGC 1023 (Arp 135) in the IAU constellation Perseus. This galaxy was discovered in 1784 by William Herschel who listed it as "I 156". It became 244 on his son John Herschel's list and GC 574 in the *General Catalogue* of 1864. Astronomer Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) lists this as O'Meara 10. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name due to its faint dwarf companion (NGC 1023A) appearing as "a hazy knot". It is also known as the Perseus Lenticular Galaxy.

Bearing a Tail of the Phoenix:

This **telescopic** asterism "Caudifera Phoenicis" is the spiral galaxy NGC 92 in the IAU constellation Phoenix. It is part of Robert's Quartet (see below). It is 2319 in John Herschel's catalogue and GC 46 in the General Catalogue of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as it appears to have a long "tail".

Bears and Dragon:

This Latin asterism "Arcto et Draco" is the IAU constellations Ursa Major, Ursa Minor, and Draco as labelled on many manuscripts and books as late as the 17th century. This is because Draco winds around between the two "bears".

Bear's Den:

This Iroquois asterism is the IAU constellation Corona Borealis.

This Mi'kmaq asterism "Mskegwŏm" is the IAU constellation Corona Borealis (Kemp et al 2022). This is Muin's den (see Muin and the Seven Hunters, below).

Bear's Head:

This Lenape asterism is the IAU constellation Corona Borealis (Frank 2021).

Bear's Lodge:

This Dakota/Lakota/Nakota asterism **"**Mato Tipila" ("Bear's Lodge" or "Bear's Tipi") is the brightest stars of the IAU constellation Gemini.

Bear's Paw:

This **telescopic** asterism the "Bear's Paw" or "Bear's Claw" is NGC 2537 (Arp 6), a blue compact dwarf galaxy in the IAU constellation Lynx. It was discovered in 1788 by English astronomer William Herschel who listed it as "IV 55" in his catalogue. It is GC 1629 in the *General Catalogue* of 1864. This name appears as "Árctopus Lýncis" ("bear paw of Lynx") in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

It is also known as the Bear Claw Galaxy.

Beast:

This Greek asterism "Θηρίον" ("Thiríon") is the IAU constellation Lupus as originally described by Aratus (315 – 240 B.C.E), Hipparchus (190 – 120 B.C.E.), and Ptolemy (c.100 – c.170) in his *Almagest*. Vitruvius called it "Bestia" ("beast"), Hyginus "Hostia" (one of the meanings being "sacrificed animal"), which became "Hostolia" ("sacrifices") as listed by German astronomer Johann Bayer(1572-1625). Cicero (106 – 43 B.C.E.) called it "Quadripes Vasta" ("Vast Four Legged").

An early Latin name is "Belua" ("monster"). Ptolemy's "beast" looks like this:

- The "body" starts at the base of the "neck" at the star Gamma (γ) Lupi, then runs through Mu (μ) Lupi on the back to the "backside" at Zeta (ζ) Lupi and then down through Alpha (α) Lupi, Beta (β) Lupi and Delta (δ) Lupi to Gamma (γ) Lupi again,
- The "neck" is the line of two stars Gamma (γ) and Eta (η) Lupi,
- The "head" is the triangle of stars Eta (η), Theta (θ) and Psi (ψ) Lupi,
- A "tail" runs from Zeta (ζ) Lupi to Rho (ρ) Lupi,
- The "back leg" runs from Alpha (α) Lupi to the double star Tau (τ) Lupi, and
- The "front leg" runs from Delta (δ) Lupi to HIP 73493.

"Bestia" appears in editions of the 8th century *Revised Aratus Latinus* as a merger of the stars of Centaurus and Lupus.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as "the Beast held by the Centaur".

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists this constellation as "Bestia Centauri, sive Lupus" in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicts "Bestia Centauri siue Lupis" as a wolf with a spear point in its jaws. Centaurus is not depicted in this illustration: He appears in another illustration where Lupus is off the edge of the page.

Italian astronomer Giovanni Battista Riccioli (1598 – 1671) called it "Bestia Centauri" ("centaur beast") and "Victima Centauri" ("victim of a centaur"): Lupus is right next to the IAU constellation Centaurus, so could be seen as the centaur's prey.

Flemish cartographer Jodocus Hondius (Joost de Hondt 1563 – 1612) listed "Fera" on his globe in 1598 and on his *Hemelglobe* (1600) and depicts it as a wolf being speared by Centaurus.

Johann Bayer's *Uranometria* (1603) lists "Bestia", "Bestiola", and "Hostiola".

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Fera” and “Bestiola” as alternate names for Lupus.

This Egyptian Dendera asterism (Hoffmann 2017) is basically identical to the Babylonian asterism Uridimmu (see Mad Dog, below).

Beast of Prey:

This Arabic asterism “Alwahsh Aljariha” (الوحش الجارحة) is the IAU constellation Lupus. This is influenced by the Greek asterism Therion (see Beast, above).

Beastly:

This Latin asterism “Bellua” is the IAU constellation Cetus.

- Johann Bayer’s *Uranometria* (1603) lists “Bellua”.
- “Bellua” is listed in the *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638).

Beatitude of Beatitudes:

This Coptic lunar station “Upeuineutês” is the stars Beta (β) Aquarii (Sadalsuud) and Zeta (ζ) Aquarii in the IAU constellation Aquarius and was listed by Yeats in *A Vision* in 1917, which was derived from German Jesuit astronomer Athanasius Kircher’s *Lingua Aegyptiaca Restituta* in 1636, in which Kircher described it as ”Beatitudo Beatitudinum” (“beatitude of beatitudes”) and “Sive Brachium Absconditum” (“or the hidden arm”). R. H. Allen lists it as “Upuineuti” in his *Star Names* in 1899 and translates that as “foundation”.

Beautiful:

There are two stars with the Latin name “Pulcherrima” (“beautiful” or “loveliest”):

- One is Epsilon (ε) Boötis in the IAU constellation Boötes. The 1st edition (1910) and 14th editions of British schoolmaster Arthur P. Norton’s *A Star Atlas* (1959) lists “Pulcherrima” for this star.
- One is Zeta (ζ) Ursae Majoris in the IAU constellation Ursa Major. “Pulcherrima” listed in Richard A. Proctor’s *A New Star Atlas* (1887), translated as “most beautiful” and described “as a name given by modern astronomers to express the extreme beauty of this double star (orange and green) viewed with a good telescope”.

This **telescopic** Taiwanese star “Formosa” is HIP 56508 (HD 100655) in the IAU constellation Leo and was given this name in the IAU NameExoWorlds campaign. It is magnitude 6.44. Formosa is the name of Taiwan in the 17th century. This star has an exoplanet named Sazum (“water”), a traditional name for a township in Nantou county where the famous Sun-Moon lake is found.

Beautiful Arms of Coma Berenices:

This **telescopic** asterism “Callipéchys Cómae Bereníces” is the barred spiral galaxy NGC 4548 (Messier 91) in the IAU constellation Coma Berenices. It was discovered by Charles Messier in 1781. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of “its broad gracefully curved spiral arms”.

Beautiful Boy:

This Egyptian star "Tja-nefer" is probably Alpha (α) Virginis in the IAU constellation Virgo and is mentioned in the Ramesside star charts on the ceiling of three tombs in the Valley of the Kings (New Kingdom, 20th Dynasty). It is part of their asterism Serket (see below).

Beautiful Eddy of Centaurus:

This **telescopic** asterism "Callidínes Centaúri" is the galaxy ESO 384-53 (PGC 50325) in the IAU constellation Centaurus. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Beautiful Eye:

This Basque star "Begi-erderra" is Alpha (α) Aquilae (Altair) in the IAU constellation Aquila (Knörr 1999, Frank 2021) and is part of their asterism Eagle (see below).

Beautiful Eye of Leo:

This **telescopic** asterism "Calópis Leónis" is the barred spiral galaxy NGC 3351 (Messier 95) in the IAU constellation Leo. It was discovered by Pierre Méchain in 1781. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Beautiful Eyelids of Eridanus:

This **telescopic** asterism "Calleblépharus Erídani" is the barred spiral galaxy NGC 1187 in the IAU constellation Eridanus. It was discovered in 1784 by William Herschel who listed it as III 245". It became GC 640 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as to them it resembled "an eye with beautiful eyelids".

Beautiful Face:

This Basque star "Begi Urdina" is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra (Knörr 1999, Frank 2021).

Beautiful Firebrand:

This Rapanui star "Tau Ehu" or "Tau Ahu" is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Edwards and Edwards 2010, Edwards and Edwards 2016, Edwards et al 2018).

Beautiful Gate of Dorado:

This **telescopic** asterism "Callípyla Dorádus" is the barred spiral galaxy NGC 1617 in the IAU constellation Dorado. It was discovered in 1826 by Scottish astronomer James Dunlop and listed by John Herschel as 2651 and later as GC 875 in Herschel's *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Beautiful Manes of Ursa Major:

This **telescopic** asterism "Cállithrix Úrsae Majóris" is the spiral galaxy NGC 3394 in the IAU constellation Ursa Major. It was discovered in 1791 by William Herschel who listed it as "II 872". It became GC 2215 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to the "beautiful manes at the northern side of this galaxy".

Beautiful of Ursa Major:

This **telescopic** asterism “Cállimus Úrsae Majóris” is the spiral galaxy NGC 3893 in the IAU constellation Ursa Major. It was discovered in 1788 by William Herschel who listed it as “II 738”. It became GC 2559 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Beautiful Star:

This Ligurian star “Ste´ra Pulare” or “Be´la Sˇte´ra” is Alpha (α) Ursae Minoris (Polaris).

This Romanian star “Luceafărul cel Frumos” is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra (Ottescu 2009).

Beaver Galaxy:

This **telescopic** asterism PGC 59867, is a galaxy in the IAU constellation Draco.

Beautiful Hair of Cetus:

This **telescopic** asterism “Callícomus Céti” is the barred spiral galaxy NGC 271 in the IAU constellation Cetus. It was discovered in 1785 by English astronomer William Herschel who listed it as II 446. It is GC 154 in the General Catalogue of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010).

Beautiful Ring of Grus:

This **telescopic** asterism “Callicýclus Grúis” is the spiral galaxy IC 5240 in the IAU constellation Grus. It was discovered by William Henry Finlay in 1886. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “this barred galaxy is decorated with an almost perfect outer ring”.

Beaver Stars:

This Anishinaabe asterism “Amik Anung” is the IAU constellation Gemini (Lee et al 2014).

This Ininew (Cree) asterism “Amisk Achak” is the IAU constellation Gemini (Lee et al 2014).

Becklin-Neugebauer Object:

This object is in the IAU constellation Orion. American astronomer Eric Becklin and Gerry Neugebauer discovered the Becklin-Neugebauer Object (BN) in the Orion molecular cloud in 1967, which is believed to be a protostar. BN is next to Theta (θ) 1 C in the IAU constellation Orion. It is only visible in infrared.

Becklin’s Star:

This double star is Theta (θ) 1 and 2 Orionis in the IAU constellation Orion. American astronomer Eric Becklin and Gerry Neugebauer discovered the Becklin-Neugebauer Object (BN) in the Orion molecular cloud in 1967, which is believed to be a protostar. BN is next to Theta (θ) 1 C.

Becoming Light as Day:

This Hawaiian star **“**Pi’ikea” is Beta (β) Ceti (Diphda) in the IAU constellation Cetus.

Bed With One Leg Missing:

This Dravidian and Munda asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Berezkin 2005). This is found in Western Bengal, Bihar, Orissa, and Madhya Pradesh.

Bee:

This Chinese xing guan "Mìfēng" (蜜蜂) is made up of four stars in the IAU constellation Musca: Alpha (α), Beta (β), Gamma (γ), and Delta (δ) Muscae.

This Flemish asterism "Apes", also known as "Musca Borealis" (see Northern Fly, below) and "Lilium" (see Fleur-de-lis, below) was created by the Flemish astronomer Petrus Plancius (1552 – 1622) in 1612, using stars of the IAU constellation Aries: 33, 35, 39, and 41 Arietis. Plancius' celestial globe (1613), published in Amsterdam by Pieter van der Keere, depicts this as a bee next to Aries.

Compare this to the Vedic nakshatra (lunar mansion) "Bharani" (see Bearer, above):

- "Apis" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and depicted as a bee.
- The *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) depicts "Apis" as a bee.
- Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts "Apes" as a bee above the back of Aries.
- Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts "Musca" as a fly next to Perseus.
- A celestial pocket globe created by British uranographer Herman Moll in 1719 labels this "Musca" and depicts it at the feet of Perseus.

This German asterism "Apis" is the IAU constellation Musca, which was first described in 1597 (see Musca, below). A celestial globe (late 1597) of Flemish astronomer Petrus Plancius published by Amsterdam cartographer Jodocus Hondius the Elder lists Apis as well as a celestial globe (1613) of Plancius published in Amsterdam by Pieter van der Keere. French astronomer Abbé Nicolas Louis de Lacaille renamed it Musca ("fly") in 1752, and it was that name that survives for this IAU constellation:

- Johann Bayer lists this constellation in his *Uranometria* in 1603.
- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) used the names "Apis" ("bee") and "Musca" ("fly") for this constellation.
- The *Tabulae Rudolpinae* (1627) of Johannes Kepler (1571 – 1630) lists the names "Apis" and "Musca" for this constellation.
- This asterism is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "Apes".
- The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, labels it "Musca" and depicts it as a bee.
- English astronomer Edmund Halley (1656 – 1742) called it "Musca Apis".
- The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) lists this constellation as "Musca Apis" and depicts it as a fly.
- John Hill lists "Apis" in his *Urania* in 1754.
- French astronomer Joseph Jérôme Lefrançois de Lalande (1732 – 1807) called it "Apes".

- German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) labels this asterism "Musca" and depicts it as a bee.
- This asterism appears in English astronomer John Flamsteed's *Atlas* of 1781 under the name "Apes".
- American uranographer William Croswell (1760 – 1834) labels this asterism "Musca" on his *Mercator Map of the Starry Heavens* in 1810 and depicts it as a fly.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists "Musca Borealis" in his *Celestial Atlas* in 1822.
- *An Improved Moveable Planisphere* (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts "Musca Borealis" as a fly.
- This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Musca Borealis": The author is unknown, but it is based on Jamieson's *Celestial Atlas*. Jameison's *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822) depicts it but does not label it.
- It appears as a bee on Stieler's Planisphere of 1872 as "Biene".
- Some French charts list it as "Abeille".

Bee Swarm:

The Uppsala Archaeoastronomical Project proposed the Pleiades cluster in the IAU constellation Taurus for this Minoan asterism. The bee swarming season is at its height at the Blessing of the Ships.

Beegerer:

This Palawa star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major. This is a name from the journals of George Augustus Robinson, a missionary, in 1831 (Hamacher 2011).

Beehive:

This Asháninka asterism is the Coal Sack Nebula (Caldwell 99) in the IAU constellation Crux (Urton 2016). A nearby dark nebula is a digging stick used to pry open the Beehive (see Digging Stick, above).

This Belarussian asterism "Gniazdo" is the Pleiades cluster in the IAU constellation Taurus (Avilin 2009). This relates to the inner part of the hive where frames with honeycombs are placed.

There are three **telescopic** "beehive" asterisms:

- One is the open cluster Messier 44 (NGC 2632) in the IAU constellation Cancer. It was first described by Galileo in 1609 and added to French astronomer Charles Messier's catalogue in 1769. Although it is best viewed with a telescope, it can be seen with the unaided eye in a dark sky: In ancient times it was known as Praesepe (see Manger below). It appears in the Chinese xing guan "Ghosts" (see below):
    - English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "the Praesepe, metaphorically rendered Bee-hive".
    - The General Catalogue of 1864 lists this as GC 1681 and John Herschel lists it in his catalogue as h 517.
    - *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this as "Praesepe, or the Beehive".
    - *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Presepe… the Beehive".

    - The 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) lists this as "Praesepe (the Bee-hive) of the ancients. NOTE: Praesepe actually means "manger" (see Manger, below).
- One is the Little Beehive, Messier 41 (NGC 2287) in the IAU constellation Canis Major, so named due to its resemblance to Messier 44 (see above). Although it is best viewed with a telescope, it was first described by Aristotle around 325 B.C.E. with unaided eye observations and "rediscovered" by Giovanni Battista Hodierna in 1654. In the *General Catalogue* of 1864 it is GC 1454 and in John Herschel's catalogue it is h 411.
- One is the open cluster IC 4665 in the IAU constellation Ophiuchus. This was discovered in 1745 by Swiss astronomer Phillipe Loys de Chéseaux. Despite its brightness, it was not catalogued by Charles Messier or William Herschel. American astronomer Edward Emerson Barnard (1857 – 1923) recorded it, which resulted in it becoming IC 4665 in the *Index Catalogue*. It is also known as the Summer Beehive, Poseidon's Trident, Lambda, "Q", Mini Grus, or the Black Swallowtail Butterfly.

Beemim:

See Bend in the River, below.

Bees:

This Kamilaroi asterism "Wurrul" is the Pleiades cluster in the IAU constellation Taurus as listed by William Ridley in 1875.

This Tupi Guarani asterism "Eixu", "Eichú", or "Ceiuci" is the Pleiades cluster in the IAU constellation Taurus. This is also a feather in the cap of Homem Velho ("the Old Man"- see below). Compare this to their asterism Vespeiro (see Wasp Nest, below).

This Guarani asterism "Eichú" is the Pleiades cluster in the IAU constellation Taurus (De Freita Mourão 2009).

This Tupi asterism "Seixu" is the Pleiades cluster in the IAU constellation Taurus (De Freita Mourão 2009).

Beetle:

This Greek asterism is the IAU constellation Cancer as described by the Greek poet Aratus (315 – 240 B.C.E.) in his *Phenomena*. Aratus may have been influenced by the earlier Egyptian asterism Scarab (see below).

Beetle of Cetus:

This **telescopic** asterism "Cárabus Céti" is the barred spiral galaxy NGC 428 in the IAU constellation Cetus. It was discovered by English astronomer William Herschel, who listed it as II 622. John Herschel listed it the General Catalogue of 1864 as GC 238. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to its resemblance to a beetle.

Begetters:

This Babylonian, Hindi, and Urdu asterism "Parvin" (پروین or پروی Parvī) is the Pleiades cluster in the IAU constellation Taurus. R. H. Allen lists this in his *Star Names* in 1899 and translates it as "begetters".

This Persian lunar station “Parv”, “Perv”, “Perven”, “Pervis”, “Parvig”, “Parviz”, “Peren”, or “Parur”, is the Pleiades cluster in the IAU constellation Taurus (Panaino 1999) and is listed in R. H. Allen’s *Star Names* in 1899. Persian polymath and astronomer Omar Khayyam (1048 – 1131) called them “Parwin” and “Parven”.

This Sogdian and Khorasmian asterism “Parvi” and “Parur” is the Pleiades cluster in the IAU constellation Taurus as listed in R. H. Allen’s *Star Names* in 1899.

This Zoroastrian asterism “Paoiriiaēinī” is the Pleiades cluster in the IAU constellation Taurus (Panaino 1999).

Beginning of Darkness Guiding Star:

The Celtic PRIN or guiding star in the Sequani Calendar in the seventh month, Giamonios (“the beginning of darkness”) is Alpha (α) Aquilae (Altair) in the IAU constellation Aquila (Benigni). Their PRIN for the eighth month, Simivisonnios (see Half the Course of the Sun Guiding Star, below) is also Altair. Compare to their asterism Giamoni Prinnios (see Bull, below).

Beginning of Light Guiding Stars:

The Celtic PRIN or guiding stars in the Sequani Calendar in the first month, Samonius (literally “the beginning of light”), are the stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini (Benigni). This relates to the many Celtic myths involving twins.

Beheading:

This Korean asterism “Chamsu” (참수) is a winding line of stars in the IAU constellations Hydra and Virgo: 52, 51, 50, Eta (η), and 47 Hydrae, and 89 Virginis.

Beid:

See Eggs, below.

Bekatha:

This Egyptian decan “Bekatha” was in the IAU constellation Libra. In later Hellenistic texts it was named “ⲥⲟⲩⲭⲱⲥ” (“Sob‿χos”). In the Testament of Solomon, it became “Madero” or “Naôth”, Aristobulus of Paneas called it “Zercuris”, in Greek Hermeticism it became “Sphoukou”, in Latin Hermeticism “Psineus”, Roman astrologer Julius Firmicus Maternus called it “Seuichut” or “Senichut”, Cosmas of Maiuma (d. 760) called it “Erinys”, French scholar Joseph Justus Scaliger (1540 - 1609) called it “Serucuth” and German Jesuit astronomer Athanasius Kircher (1602 – 1680) called it “ⲍⲉⲟⲩⲇⲁ” (“Zeuda”). This has been depicted as an old man with a belt, holding up his left hand and holding a flask in his right.

Belel:

This **telescopic** Senegalese star is HIP 95124 (HD 181342) in the IAU constellation Sagittarius and got this name in the IAU NameExoWorlds campaign. It is magnitude 7.55. Belel is a rare source of water in the north of Senegal. It has an exoplanet named Dopere, which is the name of the area in northern Senegal where Belel is located.

Bélénos:

This French star “Bélénos” is HIP 6643 (HD 8574) in the IAU constellation Pisces and was given this name in the IAU NameExoWorlds campaign. It is magnitude 7.12. It is derived from the name Belenus, who was the Gaulish God of light, the Sun, and death. This star has an exoplanet named Bélisama: This is the Gaulish Goddess of fire, the hearth, and metallurgy and glasswork.

Belet Balati:

This Babylonian ziqpu “mulGASAN.TIN” from cuneiform text AO 6478 (Schaumberger 1952) is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra.

Belet-ili:

This Chaldean asterism “dingir.mah du-at.an.u.ki” or “be-let te-lil-ti” (Koch-Westenholz 1995) from the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period is a quadrilateral of four stars: Beta (β) Ceti (Diphda), Iota (ι) Ceti, Tau (τ) Ceti, and Upsilon (υ) Ceti. It is associated with Belet-ili, creator of heaven and earth and Goddess of purification.

Belhadi:

This Ayt Xebbac star is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Souag 2019).

Bell Board:

This Romanian asterism “Toaca” is the Great Square asterism in the IAU constellation Pegasus (Ottescu 2009). It represents the bell board hung beside a monastery.

Bellatrix:

See Female Warrior, below.

Bellerophon:

This French asterism is the IAU constellation Auriga as listed by French astronomer Joseph Jérôme Lefrançois de Lalande (1732 – 1807). Bellerophon was the mythical Greek hero that killed the Chimera and tamed the winged horse Pegasus.

This Greek asterism “Bellerophon” or “Bellerophontes” is the IAU constellation Pegasus. Bellerophon was the mythical Greek hero that killed the Chimera and tamed the winged horse Pegasus. Johann Bayer’s *Uranometria* (1603) lists the names “Bellerophon” and “Bellerophontes”.

Bellows:

This Ikoots asterism “Mahc̓oy Roob” is the Hyades cluster in the IAU constellation Taurus.

Belly:

This Coptic asterism “Koliôn” is 35, 39, 41 and Mu (μ) Arietis in the IAU constellation Aries. English author W. B. Yeats listed this name in *A Vision* in 1917, deriving this from the works of German astronomer Athanasius Kircher (1602 – 1680), who listed it in his *Lingua Aegyptiaca Restituta* in 1636 and described it as “statio connectens triangulum prope ventrem cæli” (“connecting station, a triangle near the whale’s belly”).

Belly of the Fish:

This Arabic manzil “Al Baṭn al Ḥūt” or “batn al-hut” (بطن الحوت) or “Buṭnu ʾl-Ḥūt” (بَطْنُ ٱلْحُوت), translated as “belly of the fish” or “abdomen of the fish”, is the star Beta (β) Andromedae (Mirach) in the IAU constellation Andromeda:

- “Al Baṭn al Ḥūt” is listed by Qutrub (d. 821 C.E.) and Ibn Qutayba (d. 889 C.E.):
- “Baṭn al Ḥūt” was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964, however it may be 12 Andromedae (Hafez 2010).
- This appears on a globe made by Mohammed ben Helal in 1275 in Mosul (Dorn 1829), based on the work of Persian cosmographer Zakariyya’ al-Qazwini (1203 – 1283). Dorn writes that Ulugh Beg Mirza (1394 – 1449) called it “Side of the Chained Lady”. It is also part of their asterism Well Bucket Rope (see below) and Heart of the Fish (see below) and is part of their asterism al-hut (see Great Fish, below), which is in turn part of their asterism complex Two Fish (see below).
- It is listed as “Batn al-hût” on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992).
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists this as “Batn’al-hút, or the fish’s belly”.

This Yemeni manzil “Baţn al-hūt” is the star Beta (β) Andromedae (Mirach) in the IAU constellation Andromeda (Varisco 1995). This appears in the *Kitāb al-Tabşira Fī’ilm al-Nujūm* of 13th century Rasulid ruler al-Malik al-Ashraf ‘Umar ibn Yūsuf (d 1296).

Belly of the Sea Monster:

This Arabic star “batn qaytus”, “Baṭni Qayṭus” (بطن قيطوس), or “Al Baṭn al Ḳaiṭos” is Zeta (ζ) Ceti in the IAU constellation Cetus, later latinized to “Baten Kaitos”:

- The Sloane astrolabe BM SL 54 in the British Museum (1290 – 1300) lists “Batencaitoz” (Dekker 2000).
- “Batn Qaytus” appears in the star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003).
- A 13th century astrolabe treatise of Pseudo-Messahalla, both translated from a treatise by the Andalusi astronomer Maslama al Majriti (950 – 1007). (King 2002).
- A 14th century Christian Spanish astrolabe #4560 lists “Panta Caitos” translated from a treatise by the Andalusi astronomer Maslama al Majriti (950 – 1007). (King 2002). Dekker (2000) lists this as ”Patancaitoz”.
- On the rete of the 14th century Spanish astrolabe NMM AST0570 in the National Maritime Museum this is listed as “Patacaitoz”The 15th century *Alfonsine Tables* list it as “Batenkaiton” and “Batenel Kaitos” (Kunitzsch 1986).
- The celestial globe (1480) of German mechanic Hans Dorn (c 1430 – 1506) lists the name “Venter” (“belly”).
- The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists “Venter Ceti” (“whale’s belly”).
- Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) lists “Baten Kaitos”
- Johann Bayer’s *Uranometria* (1603) lists “Baten Ketos”, “Baten Kaitos”, and “Batanel Kaitos”.

- "Betenkaitos" and "Batnolkitosi" are names listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
- Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius labels this "Bata Kaytos".
- Robert Hues (1659) lists it as "Boten Elkaitos".
- Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) labels this star "Bata Kaitos al Ceti Ventris Borea".
- The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer lists this star as "Bata Kaitos".
- German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this star as "Baten Kaitos" as does Bode's *Vorstellung Der Gestirne* (1782).
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists this star as "Baten Kaitos" in his *Celestial Atlas* in 1822.
- John Chilmead (1899) lists it as "Boten".
- This star is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Batan el Kaitos": The author is unknown, but it is based on Jamieson's *Celestial Atlas*.
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists it as "batn Kaïtós, the belly of Cetus".
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich list this star as "Baten al Kaitos".
- *An Improved Moveable Planisphere* (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, lists "Baiten el Kaitos"
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as "Batenkaitos" on its chart.
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Baten Kaitos".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and the 14th edition (1959) list "Baten Kaitos" for this star.
- The IAU approved the name Baten Kaitos for Zeta (ζ) Ceti Aa. Compare this to Breast of the Sea Monster, below.

Belocrator:

This "Greek" name for the IAU constellation Sagittarius was listed by John Hill in his *Urania* in 1754.

Belonging to the Lion of Leo:

This **telescopic** asterism "Leónidas Leónis" is the dwarf galaxy UGC 5470 (Leo I) in the IAU constellation Leo. It was discovered by Albert George Wilson in 1950. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They named "Leo A, Leo B, and Leo I" with related names (see Lion's Son, below, and Like a Lion, below).

Belonging to the Uninhabited Spot:

This Persian asterism “Min al Az’al” is the stars Delta (δ), Epsilon (ε), Eta (η), Rho (ρ), and Sigma (σ) Hydrae in the IAU constellation Hydra according to the Persian astronomer Ulugh Beg Mirza (1394 – 1449). This was later latinized to “Minazal” (I through V) and assigned to these stars:

- Delta (δ) Hydrae: Minazal I,
- Eta (η) Hydrae: Minazal II,
- Epsilon (ε) Hydrae: Minazal III,
- Rho (ρ) Hydrae: Minazal IV, and
- Zeta (ζ) Hydrae: Minazal V.

Belt:

This Kamilaroi asterism “Ghutur” is the belt of Orion in the IAU constellation Orion. It is part of their asterism Beraiberai (see Leader, below).

This Kamilaroi and Euahlayi asterism “Buurr” is the belt of Orion in the IAU constellation Orion (Fuller et al 2014). It represents the hair belt of the hero Baayami, although for the Kamilaroi and Euahlayi the constellation Orion does NOT represent Baayami. NOTE: In their culture the hair belt represents the umbilical to the mother.

This Ngiyampaa (Ngemba) asterism “Buurr” is the belt of Orion in the IAU constellation Orion. It represents the hair belt of the hero Baayami, and for the Ngiyampaa the constellation Orion DOES represent Baayami (see Baayami, above).

There are two Arabic asterisms which translate as “belt”:

- One, “Al Nijāq” is the Belt of Orion in the IAU constellation Orion:
    - “Nitāq al-Jauzā’” is listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- One, “al-Minṭaqah” (المنطقة) or “Al Mintakah” is Delta (δ) Orionis in the IAU constellation Orion, later latinized to “Mintaka”. This an end star in the belt of Orion.
    - “Mintaqat al-Jauzā’” is listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
    - The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists “al-mutaqaddim fr ‘l-mintaqa”.
    - American uranographer Elijah Burritt (1794 – 1838) listed it as “Minitika”.
    - John Hill lists this as “Mintaka al Giacena” in his *Urania* in 1754 and describes it as “the stars that form the belt of Orion” as does R. H. Allen in his *Star Names* in 1899.
    - English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Mintakah al jauza, the giant’s belt”.
    - English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists this star as “Mintaka”.
    - The 1st edition of British schoolmaster Arthur P. Norton’s *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) lists this star as “Mintaka”.
    - *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists “Mintaka” for this star.
    - The IAU approved the name Mintaka for the star Delta (δ) Orionis Aa.

This Latin asterism “Balteus” is the belt of Orion in the IAU constellation Orion as listed by Roman general Germanicus (d. 19 C.E.) and in R. H. Allen’s *Star Names* in 1899. Allen also lists 1st century Roman poet Ovid’s “Zona”, which can be translated as “belt” or “girdle”. In his *Star Names* in 1899 Allen describes this asterism as “the Balteus, or Belt” of Orion and attributes it to roman playwright Titus Maccius Plautus (c.254 – 184 B.C.E.) and Roman polymath Marcus Terentius Varro (116 – 27 B.C.E.).

This Greek asterism “Ζώνη” (“Zóni”) is the belt of Orion in the IAU constellation Orion as listed by Aristotle (384 – 322 B.C.E.) and in R. H. Allen’s *Star Names* in 1899.

Belt of Al Jawza’:

This Arabic asterism “nitaq al-jawza’” is the belt of Orion in the IAU constellation Orion. The stars are Zeta (ζ) Orionis (Alnitak- 33rd brightest star), Epsilon (ε) Orionis (Alnilam- 29th brightest star) and Delta (δ) Orionis (Mintaka- 67th brightest star). It is also known as the String of Pearls (see below) or the Jeweled Belt of Al Jawza’ (see below).

Belt of Hippolyta:

This Greek asterism is the belt of Orion in the IAU constellation Orion as listed by as listed by Mosenkis in his *Mycenaean Oecumene* (date n/k). Hippolyta was the queen of the Amazons.

Belt of Orion:

This asterism is three stars in the IAU constellation Orion: It is derived from the older Arabic asterism Belt of Al Jaawza’ (see above). The stars are Zeta (ζ) Orionis (Alnitak- 33rd brightest star), Epsilon (ε) Orionis (Alnilam- 29th brightest star) and Delta (δ) Orionis (Mintaka- 67th brightest star). *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this. See Orion, below.

Belt of the Barker:

This Persian star “minṭáqa al awwa” (منطقة العوّاء), later latinized to “Mintek al Aoua”, is Epsilon (ε) Boötis in the IAU constellation Boötes as listed in the17th century *Calendarium* of Al Achsasi al Mouakket. R. H. Allen lists it as “Al Minṭakah al ʻAwwā” and translates it as “Belt of the Shouter”.

This Arabic star “Mintakah ‘al auwá” is Epsilon (ε) Boötis in the IAU constellation Boötes as listed by English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844: Smyth attributes this name to 16th century Arab astronomer Al Tizini.

This Latin star “Cingulum Latratoris” is Epsilon (ε) Boötis in the IAU constellation Boötes. Johann Bayer’s *Uranometria* (1603) lists this star as “Cingulum” and attributes this to the Alphonsine Tables.

Belvedere of Sky:

This Korean asterism “Haneul-ui Belbedele” (하늘의 벨베데레) is a quadrilateral of stars in the IAU constellation Taurus: 126, 119, 111, and 116 Tauri.

Bend:

This Arabic asterism “al-‘awa’” (العواء), “Al-Uwwa” or “ʾAl-ʿAwwāʾ” (ٱلْعَوَّاء) is in the IAU constellation Virgo and is the stars Beta (β) Virginis (Zavijava), Eta (η) Virginis (Zaniah), Gamma (γ) Virginis (Porrima), Delta

(δ) Virginis and Epsilon (ε) Virginis (Vindemiatrix). It is part of the Arabic asterism Lion (see below). The meaning of the ancient Arabic "al-ʿAwwā'" is uncertain. It resembles a medial Arabic letter kaf (ﻜـ), the final form of the Arabic letter alif (ﺎ) or an English capital L, which has led to some translating this as "the turn" or "the bend" (see Bend, above). This is also known as Howling Dogs (see below).

Bend in the Neck of the Camel:

There are three Arabic asterisms with this name:

- One is the Arabic and Bedouin manzil "ʾAl-Hanʿah" (ٱلْهَنْعَة), translated as "bend in the neck of the camel" or "stoopness in the neck of the camel", or "brand on the neck of the camel". This is the stars Gamma (γ) Geminorum (Alhena) and Xi (ξ) Geminorum in the IAU constellation Gemini.
    - "Al-Han'a" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
    - It was later latinized to "Al-Hanaah", "Alhena", or "Elhenaat" (this last one by Italian astronomer Giovanni Battista Riccioli (1598 - 1671)).
    - W. Brennand lists it as "Al-Henah" in his *Hindu Astronomy* in 1896 and attributes it to Persian astronomer Ulugh Beg Mirza (1394 – 1449).
    - This is listed as "Alhena, from al-hen'ah, a ring or brand on a horse's neck" in English Admiral Henry William Smyth's *Bedford Catalogue* in 1844, which is a misinterpretation of the asterism "Al-Hekaah" (see Mark on the Horse's Hide, below).
- R. H. Allen lists this as Gamma (γ), Mu (μ), Nu (ν), Eta (η), and Xi (ξ) Geminorum in his *Star Names* in 1899 and writes that Iranian astronomer Abu Rayhan Muhammad ibn Ahmad al-Biruni (973 – c. 1050) called it "Winding". However, Allen also points out that this is the Arabic asterism Camel's Hump (see below), so it appears that he is confusing the two. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "al-hen'ah" and describes this as Eta (η) and Mu (μ) Geminorum.
- One is the star Gamma (γ) Geminorum in the IAU constellation Gemini:
    - Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich list this star as "Alhena".
    - English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Alhena".
    - The 1st edition (1910) and the 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) list "Alhena" for this star.
    - The name "Alhena" was approved for Gamma (γ) Geminorum Aa by the IAU Working Group on Star Names in 2016.

This Yemeni manzil "Han'a" Gamma (γ) Geminorum (Alhena) and Xi (ξ) Geminorum in the IAU constellation Gemini (Varisco 1995). This appears in the *Kitāb al-Tabṣira Fī'ilm al-Nujūm* of 13th century Rasulid ruler al-Malik al-Ashraf 'Umar ibn Yūsuf (d 1296).

Bend in the River:

This Arabic star "ʿArjat un-Nahr" (عرجة النهر) which translates as "bend in the river" or "curve in the river" and also appears as "Al Ḥināyat al Nahr" is Tau (τ) Eridani in the IAU constellation Eridanus:

- The Sloane astrolabe BM SL 54 in the British Museum (1290 – 1300) lists "Augetenar" (Dekker 2000).

- The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) lists this star as "Angenetar".
- This was later latinized to "Angetenar" in the *Alfonsine Tables* (Kunitzsch 1986)
- It is listed as "Anchenetenar" or "An Anchat al Nahr" by Joseph Justus Scaliger (1540 – 1609).
- It is listed as "Angetenar" by Italian astronomer Giovanni Battista Riccioli (1598 – 1671).
- The IAU approved the name Angetenar for the star Tau (τ) 2 Eridani.

This Greek asterism is the stars Upsilon (υ) 1, 2, 3, and 4 Eridani (50, 52, 43, and 41 Eridani) in the IAU constellation Eridanus. In the *Almagest*, Ptolemy (c.100 – c.170) called Epsilon (υ) 2 Eridani "hē kampē" ("the bend in the river"). Later Arab writers translated this to "bhmn", later latinized to "Beemin", and "Beemun". Some later writers incorrectly assume this came from the Hebrew תאומים (te'omim), meaning "twins," producing "Theemin" and "Theemun". Robert Hues listed both "Beemin" and "Theemin" in his *A Learned Treatise of Globes* in 1659. German astronomer Christian Ludwig Ideler (1776 – 1846) assumed it came from the Hebrew "Bammaʾyim" ("in the water"). Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this asterism as "Theemim". Several stars have names derived from this source:

- Upsilon (υ) 1 Eridani has been called Beemim and Beemim III.
- Upsilon (υ) 2 Eridani was assigned the name Theemin by the IAU Working Group on Star Names in 2017 but has also been called Theemini.
- Upsilon (υ) 3 Eridani was assigned the name Beemim by the IAU Working Group on Star Names in 2017 but has also been called Theemim, Theemin, and Beemim II.
- Upsilon (υ) 4 Eridani has the name Beemim I.

Bend of Teivi:

This Welsh asterism listed by Victorian folklorist Marie Trevelyan (1852 – 1922) in her *Folk-lore and Folk-stories of Wales* (1909) is currently unidentified.

Bend of the Hand:

This Arabic star is Sigma (σ) Persei in the IAU constellation Perseus.

Bender of Camelopardalis:

This **telescopic** asterism "Curvátor Camelopardális" is the spiral galaxy UGC 3714 in the IAU constellation Camelopardalis. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of its warped shape due to nearby UGC 3697.

Benedict:

This German asterism "Benedict" or "Saint Benedict Among the Thorns" is the IAU constellations Serpens and Ophiuchus (Serpentarius) and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures: Benedict is Ophiuchus and the "thorny bush" is Serpens. This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "S. Benedictus cum Spinis Eiuaad al Serpentarius cum Serpente". This probably leads to it appearing in

Edward Sherburne's *Sphere of Marcus Manilius* in 1675 as a name for Ophiuchus, but later in John Hill's *Urania* in 1754 as a name for Serpens.

Benedict's Galaxy:

This **telescopic** asterism is the barred spiral galaxy NGC 4314 in the IAU constellation Coma Berenices. It was discovered in 1785 by William Herschel who listed it as "I 76". It became GC 2881 in the *General Catalogue* of 1864. American astronomer Fritz Benedict studied this extensively in 1976. This name was posted by American astronomer Dragan Nikin on the *Deep Sky Forum* in January 2016.

Beneficent Arm:

This Latin asterism "Υπευθέριαν" or "Brachium beneficum" is made up of stars in the IAU constellation Aquarius as mentioned by German Jesuit scholar Athanasius Kircher (1602 – 1680), who described it as "Egyptian". R. H. Allen translates it as "Place of Good Fortune" in his *Star Names* in 1899 and describes it as a Coptic lunar station. It is the stars Alpha (α) Aquarii (Sadalmelik), Gamma (γ) Aquarii, Zeta (ζ) Aquarii, and Eta (η) Aquarii.

Benetnasch:

See Daughters of the Bier, below.

Benjamin:

This German asterism is the IAU constellation Lupus as described in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures. German poet Philipp von Zesen (1619 – 1689) described it as the wolf to which Jacob likened Benjamin.

Bennu:

See Phoenix, below.

Bent Arms of Triangulum:

This **telescopic** asterism "Cámpimus Triánguli" is the spiral galaxy NGC 672 in the IAU constellation Triangulum. It was discovered in 1786 by English astronomer William Herschel who listed it as "I 157". It became GC 396 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the sharp curves of the arms of this galaxy".

Bent Back Turtle:

This Tzotzil (of Zinacantán) asterism "Vuku Pat" is made up of stars of the IAU constellations Ursa Major, Boötes, and Leo and represents a bent backed turtle or old man (Milbrath 1999). Compare this to the Mayan asterism "Aak" (see Turtle, below).

Bent Fan:

This **telescopic** asterism in the IAU constellation Cygnus is also known as the Red Necked Emu or Spiral. It is close to open cluster Do Dz 3. All the stars in this asterism are blue/white except one red star and they are all 9th magnitude including 29 Cygni.

Bent One of Ursa Major:

This **telescopic** asterism “Curvus Úrsae Majóris” is the Seyfert 2 galaxy UGC 6527 in the IAU constellation Ursa Major. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of “the curved shape of this lenticular galaxy”.

Bent Plough:

The Irish asterism “Camchéachta” is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper below). The symbol of the Starry Plough ultimately became a symbol of Irish Republican and left-wing movements in Ireland. Compare this to the earlier Celtic asterism Plough (see below).

Bent Propeller:

This **telescopic** asterism is Le-Wa J2108.8+0621 in the IAU constellation Equuleus. René Merting describes it on the Faint Fuzzies website: “At 45x, the interesting, well-structured star pattern spontaneously looks like a bent propeller. Overall, a long star chain can be seen from northeast to east, sweeping westward and finally southwestward, where a small star grouping of faint, slightly nebulous-looking stars sparkles. Below this overall arc, further faint stars can be seen, forming two more star chains and possibly representing a four-armed octopus.” The principal stars are Gaia DR3 1733722510342754176, HD 201331, Gaia DR3 1733737388109821824, and Gaia DR3 1733738457556751488.

Bent Stick:

This Russian asterism “Bent Stick” or “Crooked Stick” is a five-sided figure in the IAU constellation Orion. It starts at Nu (ν) Orionis and runs around through Xi (ξ) Orionis, 69 Orionis, Chi (χ) 2 and Chi (χ) 1 Orionis. This is also known as Orion’s Cudgel (see below), Cudgels (see below), and the Grandmother’s Cudgels (see below).

Bentang Gumarang:

This Sundanese asterism is the Pleiades cluster in the IAU constellation Taurus (Iskandar 2016).

Bentang Karita:

This Baduy and Sundanese asterism is the Pleiades cluster in the IAU constellation Taurus (Iskandar 2016). This is a kikandayan tani, an indicator to decide the start of the farming season.

Bentang Kerti

This Sundanese asterism is the Pleiades cluster in the IAU constellation Taurus (Iskandar 2016).

Bentang Kidang:

This Baduy and Sundanese asterism is the belt of Orion in the IAU constellation Orion (Iskandar 2016). This is a kikandayan tani, an indicator to decide the start of the farming season.

Bentang Ranggeuy:

This Sundanese asterism is the Pleiades cluster in the IAU constellation Taurus (Iskandar 2016).

Bentang Wuluku:

This Sundanese asterism is the belt of Orion in the IAU constellation Orion (Iskandar 2016).

Beol:

This Korean star is Delta (δ) Ursae Majoris (Megrez) in the IAU constellation Ursa Major.

Beop:

This Korean star is Beta (β) Ursae Majoris (Merak) in the IAU constellation Ursa Major.

Berehynia:

This **telescopic** Ukrainian star is HAT-P-15 in the IAU constellation Perseus and was given this name in the IAU NameExoWorlds campaign. It is magnitude 12.41. This is a national Goddess of waters and riverbanks. It has an exoplanet named Tryzub, a gold trident which is the most recognized ancient symbol of the Ukraine.

Berenice's Bush:

This English asterism is the IAU constellation Coma Berenices as described in Thomas Hill's *Schoole of Skil* in 1599. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Berenice's Bush" and attributes it to Hill. R. H. Allen writes in his *Star Names* in 1899 that Geoffrey Chaucer (c.1340s – 1400) and Spenser also used this name.

Berenice's Hair:

This English asterism which first appears in 1601 as "Berenices' haire" is the IAU constellation Coma Berenices. Dutch uranographer Willem Janszoon Blaeu (1571 - 1638) depicted it as "Bernice's Hair" on his celestial globe of 1062 (Stevenson 1921). It appears in Robert Hues' *A Learned Treatise on Globes* in 1659 and in John Hill's *Urania* in 1754. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Berenice's Hair". *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this constellation as "Berenice's Hair" on its charts and in its text, describing it as a "beautiful cluster".

Berenice's Hair Clip:

This **telescopic** asterism is NGC 4565 (Caldwell 38), an edge-on spiral galaxy in the IAU constellation Coma Berenices. It was discovered in 1785 by English astronomer William Herschel who listed it as "V 24": Herschel described it as a "lucid ray 20' long or more, 3' or 4' broad". It is GC 3106 in the *General Catalogue* of 1864. It is also known as the "Needle Galaxy" (see below).

Berenice's Lock's:

The Latin name "Crines Berenices" was given by German astronomer Petrus Apianus (1495 – 1552) to the IAU constellation Coma Berenices in 1536. The *Astronomicum Caesarium* (1540) of Petrus Apianus lists it as "Crines Berenices Trahe".

Dutch uranographer and cartographer Gerardus Mercator called it "Berenicis Crinis" on his globes. It also appears as "Crines".

Berenice's Periwig:

This English asterism is the IAU constellation Coma Berenices as described in the poem *Hudibras* by English poet Samuel Butler (1613 – 1680).

Berri:

This “Persian” name for the IAU constellation Aries was listed John Hill in his *Urania* in 1754.

Berry of Virgo:

This **telescopic** asterism “Báca Vírginis” is the elliptical galaxy NGC 4365 in the IAU constellation Virgo. It was discovered in 1784 by William Herschel who listed it as “III 901”. It became GC 2920 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name due to its round shape.

Bessel’s Star:

This double star is 61 Cygni B in the IAU constellation Cygnus. German astronomer Friedrich Bessel measured its large proper motion (seventh highest) in 1838, but this was originally noted by Italian astronomer Giuseppe Piazzi (1786 – 1846) 34 years earlier. It is also known as Piazzi’s Flying Star (see below). *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), mentions “Bessel’s Star”.

Betelgeuse:

See Hand of al-Jauzā, below.

Betta Fish:

This Singaporean **telescopic** asterism is the supernova remnant G296.5+10.0 in the IAU constellation Centaurus, discovered in 1974 and photographed by astrophotographer Marco Lorenzi. It is also known as the Mermaid Nebula (see below).

Between the Legs:

This Japanese star “Intercrus” is 41 Lyncis in the IAU constellation Lynx. This Latin name was submitted to the IAU NameExoWorlds campaign by the Okayama Astro Club in Japan in December 2015 and approved for the star by the IAU in 2015. It has an exoplanet named Arkas.

Beyond the Milky Way of Cygnus:

This **telescopic** asterism “Translácteus Cýgni” is the interacting galaxies UGC 11453 in the IAU constellation Hercules. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it is “at the edge of the Milky Way, [and]… similar to our Milky Way galaxy”.

Beyond the Yoke:

“Eri-Uedon” is a proposed early Celtic name for the IAU constellation Sagittarius from the *Book of Ballymote* through an etymological reconstitution (Boutet 2014).

Bhrigu:

This Vedic star “Bhrigu”, “Bhrgu”, or “Kasyapa” is Eta (η) Ursae Majoris in the IAU constellation Ursa Major (Bhagwath 2019). Boutet (2014) lists it as Gamma (γ) Ursae Majoris. This is one of the sons of Brahma, who appears as Vashishtha (the star Zeta (ζ) Ursae Majoris). The other sons of Brahma are the other stars in the Big Dipper asterism (see Seven Sages, below).

Bicycle:

This **telescopic** asterism is the open cluster NGC 6811 in the IAU constellation Cygnus. It was discovered by English astronomer John Herschel in 1829 who listed it as h 2044. It is GC 4505 in the *General Catalogue* of 1864. South African astronomer Magda Streicher writes in the DOCdb database that it resembles a bicycle. It is also known as the Hole in a Cluster, "83", Nefertiti's Headpiece, the Smoke Ring, the Bicycle, or the Reliquary.

Bidelman's Helium Variable Star:

This rotating variable star is a Centauri in the IAU constellation Centaurus. It is named for American astronomer William P. Bidelman who noted the variability of its helium lines in 1965.

Bidelman's High-Latitude Be star:

This **telescopic** double star is HIP 71064 (HD 127617) in the IAU constellation Boötes (magnitude 8.73). It is named for American astronomer William Pendry Bidelman (1918 – 2011).

Bidelman's Peculiar Star:

This **telescopic** variable star is KS Persei (HIP 22365, HD 30353) in the IAU constellation Perseus (magnitude 7.76). It is named for American astronomer William Pendry Bidelman who noted it in a paper entitled *The Peculiar Star HD 30353* in 1949.

Bier:

The "Italian" name "Cataletto" is given for the Big Dipper asterism in the IAU constellation Ursa Major in John Hill's *Urania* in 1754, in English Admiral Henry William Smyth's *Bedford Catalogue* in 1844, and in R. H. Allen's *Star Names* in 1899. Compare this to the older Arabic asterism Daughters of the Bier, below.

This Hebrew asterism "'Āsh" or "'Ayish" is the "dipper bowl" of the Big Dipper asterism in the IAU constellation Ursa Major and appears in the Book of Job, ix.9, and xxxviii.32. Compare this to the older Arabic asterism Daughters of the Bier, below. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists this as a name for Ursa Major, and translates it as "bier": This is a reference to the Arabic asterism Daughters of the Bier (see below).

Bier of Lazarus:

This asterism "Feretrum Lazari" is in the IAU constellation Ursa Major and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures. It appears in John Hill's *Urania* in 1754. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists this as a "bier or sarcophagus" and attributes it to Kircher. This is the Big Dipper asterism in the IAU constellation Ursa Major, with the stars of the "handle" of the Big Dipper being the mourners:

- Mary Magdalen or Magdalen: Epsilon (ε) Ursae Majoris (Alioth)
- Martha: Zeta (ζ) Ursae Majoris (Mizar), and
- "Ancilla" (Latin for "maid"): Eta (η) Ursae Majoris (Alkaid).

NOTE: Hill gives the name "Filiae Feretri Majoris" for these three stars, but the translation of this Latin name is "daughter of the elder", which indicates that it probably refers to only one of these three stars. Edward Sherburne mentions this asterism in his *Sphere of Marcus Manilius* in 1675. German Jesuit scholar Athanasius Kircher (1602 – 1680) and Italian astronomer Giovanni Battista Riccioli (1598 – 1671) listed it as "Na'ash Laazar" (a reference to the Arabic asterism Daughters of Na'sh, see below) and

described the three stars as Mary, Martha, and Ellamath. Anglo-Irish art historian Anna Brownell Jameson (1794 – 1860) listed Mary, Martha, and Martilla or Marcella in her *Sacred and Legendary Art*, and English astronomer William Henry Smyth (1788 - 1865) lists "Feretrum" as Mary, Martha, and Magdalen and attributes this to German Jesuit astronomer Athanasius Kircher (1602 – 1680). Compare this to the older Arabic asterism Daughters of the Bier, below.

Bifurcated of Cetus:

This **telescopic** asterism "Bifurcátus Céti" is the spiral galaxy NGC 908 in the IAU constellation Cetus. This was discovered in 1786 by William Herschel who listed it as "I 153". It became GC 536 in the *General Catalogue* of 1864. Astronomer Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) lists this as O'Meara 9. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as one of its arms is bifurcated.

Big Back Wheels:

This Lithuanian asterism "Didieji Grįžulo Ratai" is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper below).

Big Bear:

This Greek asterism ""άρκτος μεγάλη" ("Arktos Megale") is the IAU constellation Ursa Major as listed by Ptolemy (c.100 – c.170) which also appears on the 2nd century Tabula Bianchini:

- The "body" runs from the star 23 Ursae Majoris through Alpha (α) Ursae Majoris (Dubhe), Delta (δ) Ursae Majoris, Gamma (γ) Ursae Majoris, Beta (β) Ursae Majoris (Merak), and Phi (ϕ) Ursae Majoris to Upsilon (υ) Ursae Majoris.
- The "head" runs from 23 Ursae Majoris through Tau (τ) Ursae Majoris, Sigma (σ) 1 and 2 Ursae Majoris, Rho (ρ) Ursae Majoris, to a "nose" at Omicron (ο) Ursae Majoris, to Upsilon (υ) Ursae Majoris.
- The "ear" is the triangle of stars Sigma (σ) 1 and 2 Ursae Majoris, 24 Ursae Majoris, and Rho (ρ) Ursae Majoris,
- The "back legs" runs from Gamma (γ) Ursae Majoris to Psi (ψ) Ursae Majoris where it splits into two lines:
- One runs to Mu (μ) Ursae Majoris and
- One runs to Lambda (λ) Ursae Majoris,
- The "front legs" runs from Phi (ϕ) Ursae Majoris to Theta (θ) Ursae Majoris where it splits into two lines:
- One runs to Kappa (κ) Ursae Majoris, and
- One runs to Iota (ι) Ursae Majoris.

This Armenian asterism "Մեծ Արջ" ("The Big Bear") is the IAU constellation Ursa Major.

This Ininew (Cree) asterism "Mista Muskwa" is the Big Dipper asterism in the IAU constellation Ursa Major (Buck 2016). This bear was pursued by the "Tehpakoop Pinesisuk" (see Seven Birds, below). Compare this to Muin and the Seven Hunters, below.

Big Bird:

This Woleaian asterism “Mannap” is made up of the of the IAU constellations Carina, Canis Major, and Canis Minor (Holton et al 2015). The “head” of the bird is Alpha (α) Canis Majoris (Sirius). One wing extends to Alpha (α) Canis Minoris (Procyon), and the other to Alpha (α) Carinae (Canopus).

Big Bison:

This is one of the asterisms found on the cave ceiling in Armintxe, Spain, estimated to be between 12,000 and 14,000 years old. It is made up of the stars of the IAU constellation Cassiopeia: The central star is Psi (ψ) Cassiopeiae from which three lines of stars emerge:

- One curving line runs through Epsilon (ε) Cassiopeiae, HIP 8115A, Phi (ϕ) Cassiopeiae, and HIP 3334, ending at 6 Cassiopeiae,
- One runs out to Iota (ι) Cassiopeiae, and
- One runs out to 50 Cassiopeiae.

Big Black Meteoric Star:

This Skidi star is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra (Krupp 1983). They considered it to be one of the four pillars of heaven.

Big Black Snake:

This Tupi asterism “Boiunaçu” is the IAU constellation Scorpius (De Freita Mourão 2009). This snake swallowed a macaw egg, “Ararasopiá” (See Macaw’s Egg, below). The setting of the “head” of this snake in November indicated the beginning of the flooding season of local rivers, these floods being called “Boiunaçu Iuquicé” (“Boiunaçu floods”).

Big Canoe:

This Chinook asterism is the belt of Orion in the IAU constellation Orion. It is in a race with the Little Canoe (see below). The river is the Milky Way, and the fish is the star Alpha (α) Canis Majoris (Sirius). Compare this to the Salish “Bark Canoe” (see above) and the Yolgnu “Boat and Fishline” (see below).

Big Carriage:

This Macedonian asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Cenev 2014).

Big Cart:

This Serbian asterism “Velika kola” is the Big Dipper asterism in the IAU constellation Ursa Major.

Big Crab:

This Ikoots asterism “Minč” is the “head” of the IAU constellation Hydra: Epsilon (ε), Delta (δ), Sigma (σ), Eta (η), and Rho (ρ) Hydrae.

Big Cross:

This Macedonian asterism is the Northern Cross (see below) in the IAU constellation Cygnus (Cenev 2014). It is also known as the “Svirdl” (see Auger, above). Compare this to their asterism “Krst” (see Cross, below).

Big Dipper:

The Big Dipper asterism includes the seven brightest stars in the IAU constellation Ursa Major, and Ursa Major includes six of the 90 brightest stars in the sky. People in the Western world today call it the Big

Dipper, the Plough or Charles's Wain, but as you can see from the many entries in this handbook, elsewhere it is known by many other names. *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this as the Big Dipper. *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists the name "Big Dipper" for this asterism.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as "Dipper" and "Ursa Major".

The four stars that form the bowl of the Big Dipper are: Alpha (α) Ursae Majoris (Dubhe- 34th brightest star), Beta (β) Ursae Majoris (Merak- 80th brightest star), Gamma (γ) Ursae Majoris (Phecda, Phad or Phekda- 86th brightest star), and Delta (δ) Ursae Majoris (Megrez or Kaffa, which doesn't appear in the list of 90 brightest stars). The stars forming the handle of the Big Dipper are Epsilon (ε) Ursae Majoris (Alioth or Aliath- 32nd brightest star), the binary star Zeta (ζ) Ursae Majoris (Mizar- 52nd brightest star) and 80 Ursae Majoris (Alcor) situated at the bend in the handle, with the star Eta (η) Ursae Majoris (Alkaid or Benetnatsch- 40th brightest star) at the end of the handle. The stars Dubhe and Merak at the end of the bowl of the Big Dipper create a line that points at the current North Celestial Pole and the star Alpha (α) Ursae Minoris (Polaris), the North Star.

The Facts of File Dictionary of Astronomy, 2nd edition, 1985, by Valerie Illingworth, ed., lists "Big Dipper: US name for the Plough".

Big Dog:

This asterism "Canis Magnus" is the IAU constellation Canis Major. This name is listed in Johann Bayer's *Uranometria* (1603).

Big Eagle:

This Kaska asterism "Ahdā Cho" may be the Big Dipper asterism in the IAU constellation Ursa Major (Cannon 2021).

Big Early:

This Tibetan khyim (zodiac constellation), also known as "Karma Mindrup" (see below) or "Karma Karchen", is probably the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper above).

Big Fish:

This Latin asterism "Piscis Magnus" is the IAU constellation Piscis Austrinus:

- "Piscis Magnus" is listed in the Munich 210 manuscript of the *De ordine ac positione stellarum in signis* ("*On the order and position of the stars in the signs*").
- Johann Bayer's *Uranometria* (1603) lists "Piscus Magnus".
- The Maass 1898 manuscript of the 11th century *De signis caeli ("of the signs of heaven*") lists "Piscis Magnus" and "Auster" (which is a Roman name for the south wind).
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Piscis Magnus".
- "Piscis Magnus" appears in John Hill's *Urania* in 1754.

This Egyptian asterism is one of the paranatellonta of the decans of Capricornus as listed in the *Sphaera Barbarica* described by Teucros (Mosenkis, date n/k) and is the IAU constellation Telescopium.

Big Fishhook of Maui:

This Hawaiian asterism "Ka Makau Nui O Maui" ("The Big Fishhook of Maui") represents the Demigod Maui's fishhook. It is the "tail" of the IAU constellation Scorpius.

Big Göncöl:

This Hungarian asterism "Nagy Göncöl" is the IAU constellation Ursa Major. Göncöl was a mythological táltos ("shaman") who could cure any disease. It is also known as "Göncöl" (see below).

Big-Headed Man:

This Tutchone asterism is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper above).

Big Low Border:

This is one of the three enclosures in Korean sky culture, "Keun Naj-eun Gyeong-gye" (큰 낮은 경계) also known as Tall Fence, the others being Purple (Violet) Low Border and Sky Market Border (see Lunar Mansions, Stations of the Moon, Nakshatra, and Zodiacs above). This two-part Korean asterism is a pair of star lines:

- Left Executor: This is a line of stars in the IAU constellations Coma Berenices and Virgo: 42 Comae Berenices, and Epsilon (ε), Delta (δ), Gamma (γ), and Eta (η) Virginis.
- Right Executor: This is a line of stars in the IAU constellations Leo and Virgo: Beta (β) Virginis (Zavijava), and Sigma (σ), Iota (ι), Theta (θ), and Delta (δ) Leonis.

Big One:

This is an alternate Dëne Suhne name, "Hochol" or "Hochok", for their asterism "Yéhda" (see Traveler, below (Cannon 2021)).

Big Otter:

This Barasana star "Timi Haigu" or "Timi Hesau" is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Hugh-Jones 2006).

Big Plough:

This Irish asterism is the IAU constellation Ursa Major. This asterism is found in Julie Ormonde's *Constellation Stories of Ancient Ireland* (2015).

Big Rudder Stars:

This Vietnamese asterism "Sao Bánh Lái Lớn" is the Big Dipper Asterism in the IAU constellation Ursa Major (see Big Dipper above).

Big Sky:

This is an alternate Lower Tanana name, "Yochwx", for their asterism "Nogheyoli" (see One Who Continuously Walks, below).

Big Snake:

This Diné asterism “Tlish Tsoh” is made up of stars of the IAU constellations Canis Major and Puppis (Childrey 2008).

This Karajá asterism “Inuni-kau” is dark nebulosity of the Milky Way near the IAU constellations Serpens and Ophiuchus (De Freita Mourão 2009).

Big Star:

This Caribou Inuit star “Ubluriakjuak” or “Udluriaralu” is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major.

This !O Kung, //Gana, and Naron star is Alpha (α) Carinae (Canopus) in the IAU constellation Carina (Alcock 2014).

Big Talisman

This Hungarian asterism “Büs táltos” appears on the celestial map of Hungarian uranographer Sandor Nagy (1915) depicts this asterism as a crowned king seated on a throne facing to our left. He is holding a sceptre in his right hand. NOTE: Nagy’s 1915 chart is beautifully illustrated, but some of the labels are hard to make out and I find it difficult to match the hand drawn stars on his chart with actual star patterns in the sky. The stars are currently unidentified.

Big Wagon:

This Belarussian asterism “Вялікі Воз” is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper above).

Big Wheels:

This Belarussian asterism “Bal’shyia Kaliosy” is the IAU constellation Ursa Major (Avilin 2009).

Big Wild Duck:

This Tongan asterism **“**Toloalahi” is made up of stars of the IAU constellations Carina and Vela. This diamond-shaped asterism is composed of four stars: Delta (δ) Velorum (Alsephina), Kappa (κ) Velorum (Markeb), Epsilon (ε) Carinae (Avior) and Iota (ι) Carinae (Aspidiske). It is related to their asterism Twins (see below).

Big Woodpecker:

This Lacandon star “äh ch’uhum” is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Milbrath 1999).

Big Yard for Chariots:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of stars with a quadrilateral at one end in the IAU constellations Cygnus and Lacerta:

- The quadrilateral is the stars 72 Cygni (the determinative star), 74 Cygni, 79 Cygni, and HIP 107856.
- The line runs from HIP 107856 through HIP 109831, and 6 Lacertae, ending at 11 Lacertae.

This Chinese xing guan “Chēfǔ” (车府) is made up of stars of the IAU constellations Cygnus and Lacerta. A line of stars runs from 15 Lacertae through 11 and 2 Lacertae, and Rho (ρ) Cygni to a bend at 59 Cygni, where it then runs on through Xi (ξ) Cygni, ending at 74 Cygni.

This Chinese Chenzhuo xing guan “Chēfǔ” is made up of stars of the IAU constellations Cygnus and Lacerta: At one end is the loop of stars 79 Cygni, 72 Cygni, 70 Cygni, and HIP 107129. From 79 Cygni a line runs through HIP 109754 and 6 Lacertae to 11 Lacertae.

Biggest of Leo Minor:

This **telescopic** asterism “Máximus Leónis Minóris” is the galaxy 3C 236 (ICRF J100601.7+345410) in the IAU constellation Leo Minor. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because this is “one of the largest known radio galaxies and even one of the largest known objects in the universe”.

Biggest Snake:

This Latin asterism “Maximus Anguis” is the IAU constellation Draco as listed by Vergil (70 – 19 B.C.E.). English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Maximus Anguis”.

Bighorn Sheep:

This Seri star “Mojet” is Delta (δ) Orionis (Mintaka) in the IAU constellation Orion.

Biham:

See Auspice of Lambs, above.

Bihi:

This Caribbean star is Alpha (α) Canis Majoris in the IAU constellation Canis Major and is part of their asterism Troi Rois (see below).

Billhook:

This Latin star “falx ītalica” or “Falx Italica” is 38 Boötis in the IAU constellation Boötes.

Bintang Suraya:

This Malay asterism “Bintang Suraya” is the Pleiades cluster in the IAU constellation Taurus (Jaafar and Khairduddin 2029). “Suraya” is Malay for “Thurayya”, which is an obvious reference to the Arabic asterism “Al Thurayya” (see Little Abundant One, below). It is also known to the Malay as “Bintang Tujuh” (see Seven Stars, below).

Bipolar Nebula:

This **telescopic** asterism is the planetary nebula NGC 6302 (Caldwell 69) in the IAU constellation Scorpius. It was described by American Astronomer Edward Emerson Barnard in 1884 as a “small hole in the Milky Way” and appeared in the *New General Catalogue* in 1888. It is also known as the Butterfly Nebula (see below) and the Bug Nebula (see below).

Bird:

This Chinese star “Niao” (鸟) or “Niao Hsing” (“bird star”) was mentioned in the Shangshuyaodian 尚书尧典 (Canon of Yao of the Book of Documents- 2300 B.C.E.), a collection of political documents from the legendary Emperor Yao. This is the star Alpha (α) Hydrae (Alphard) in the IAU constellation Hydra.

This Arabic asterism “al-Tā’er” is the IAU constellation Cygnus as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

This Egyptian asterism “Aped” or “Apdu” is found in the Ramesside star charts on the ceiling of three tombs in the Valley of the Kings (New Kingdom, 20th Dynasty) and is made up of the stars of the IAU constellations Perseus and Triangulum:

- The “neck” of the bird is Alpha (α) Persei (Mirfak),
- The “head” of the bird is formed by the three stars 48 and 51 Persei and Gamma (γ) Persei,
- The “wingtips” are the stars Xi (ξ) Persei and Eta (η) Persei,
- The “tail” is the star Alpha (α) Trianguli.

This Latin asterism “Ales” (“bird”), “Avis” (“wings”), “Volucris” (“birds”), or “Aves Veneris” (“the birds come”) is the IAU constellation Cygnus:

- The *imagines coeli septentrionales cum duodecint imaginibus zodiaci* (“images of the northern sky with twelve images of the zodiac”), commonly known as the *Northern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius (Dekker & Lippincott, 1999) lists Cygnus as “Avis” and depicts it as a swan in flight as viewed from below.
- The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts Cygnus in the same manner as Dürer et al.
- The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch lists “Avis” as a name for Cygnus.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Ales” and “Avis”.

This Polynesian (Pukapuka Island) asterism “Te Manu” is a “box” of four stars (which is the four stars of the IAU constellation Corvus): Beta (β) Corvi (Kraz), Delta (δ) Corvi, Gamma (γ) Corvi and Epsilon (ε) Corvi. This is part of the Hawaiian star line “Ka Iwikuamo’o” (see Bone Back Lizard, below).

This Micronesian asterism “Maan” is the stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini and the star Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor.

The postclassic Mayan *Paris Codex* lists three “bird” asterisms, the species of which is uncertain:

- “Bird 1” is the IAU constellation Libra.
- “Bird 2” is the IAU constellation Gemini. Probably a muan bird (a type of owl), but some experts claim it is a cox (black pheasant)
- “Bird 3” is the IAU constellation Capricornus.

NOTE: One of the other two birds in the Mayan sky might be a vulture. Compare this to the Mayan asterism “Ch’oom” (see Vulture, below).

This K’iche asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Milbrath 1999). The name of the bird incorporates the number seven.

There are three **telescopic** “bird” asterisms:

- One is PGC 62946, which is a triple galaxy merger in the IAU constellation Sagittarius. It is also known as the Tinker Bell Triplet.

- One is Corder 2972 in the IAU constellation Draco and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 45' X 35'. This is a group of 9th – 10th magnitude stars. Corder describes "the preceding wing" as being "longer and brighter" and the "following wing" as "shorter and fainter" with "two stars that make the feet". The tip of one wing is the star HIP 78894.
- One is Corder 4050 in the IAU constellation Draco and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 20'. Corder describes this as "9 faint stars in the shape of a bird in flight. The bird is flying ESE with wings curving and outspread, with a tail trailing WNW. The stars are magnitudes 9 and 10." This includes HIP 98885 and 98405.

Bird Goddess of the Summer Sky:

In *The Myth of the Year*, Benigni, Carter and Ua Cuinn connect the IAU constellation Cygnus to a Bird Goddess of the Summer Sky. Indications of solar cults associated to swans are found on the votive models of carriages drawn by various animals including swans from the Urnfield and Hallstatt phases of European pre-history. Celtic mythology is full of stories involving Goddesses and swans, such as *The Dream of Angus*, the *Wooing of Étain*, the *Children of Manannán Mac Lir*, and *Branwen Daughter of Llyr* in the second branch of the Welsh *Mabinogion*.

Bird in Flight:

There are two **telescopic** "Bird in Flight" asterisms:

- One is in the IAU constellation Pisces and is Corder 163 on the observing list of American astronomer Jeffrey Corder. Corder describes it as "a much elongated group that includes at least 18 stars between magnitudes 8 to 11" which he describes as a "bird with its wings spread out in flight". Corder describes the "body" as "a small clump of stars at the middle that includes an 8th magnitude star". This star is the double star HIP 4687. A curving line on either side of this "body" is the two wings: One "wing" includes HIP 4570 and 4515. One wing includes the double star HIP 4775A.
- One is in the IAU constellation Cygnus and is Corder 4201 on the observing list of American astronomer Jeffrey Corder. Size 40' X 30'. This is 7th – 10th magnitude stars including HIP 101646, and 101770.

Bird Like of Hydra:

This **telescopic** asterism "Ornithódes Hýdrae" is the spiral galaxy NGC 2936 (Arp 142) in the IAU constellation Hydra. It was discovered by German astronomer Albert Marth in 1864, becoming 175 and 176 on his list. It is GC 5497 in the General Catalogue of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to it having the "appearance of a long-necked bird". It is interacting with the elliptical galaxy NGC 2937, which is known as the Egg Galaxy (see above). It is also known as the Penguin (see below) and the Porpoise (see below).

Bird Net:

This Bhil asterism "Mangari" is the Hyades cluster in the IAU constellation Taurus (Orchiston 2021). They use the Mangari to catch jungle babbler birds.

Bird of Flight:

This large Anutan asterism has several parts made up of stars in the IAU constellations Canis Major and Canis Minor and Carina:

- **"**Te Tino A Manu" ("the bird's body") is the star Alpha (α) Canis Majoris (Sirius). Sirius is in the middle with the "wings" running off to either side,
- "Te Kapakau Pakatokerau" ("the north wing"), is a line running from Sirius to the star Alpha (α) Canis Minoris (Procyon), and
- "Te Kapakau Tonga" ("the east wing"), is the star Alpha (α) Carinae (Canopus).

Nearby is the Anutan "Te Kaokao O Manu" (see Bird's Armpit, below).

This Tahitian asterism "Manu" is identical to the Anutan asterism Bird of Flight (above).

Bird of Paradise:

This French asterism "Oiseau de Paradis" is the IAU constellation Apus.

This Italian asterism "Uccello Paradiso" is the IAU constellation Apus.

This German asterism "Paradies Vogel" is the IAU constellation Apus.

This English asterism is the IAU constellation Apus as described in Robert Hues' *A Learned Treatise of Globes* in 1659.

Compare this to Apus (above).

Bird of Phoebus Apollo:

This Latin asterism "Phoebo Sacer Ales" (as described by 1st century Roman poet Marcus Manilius) or "Phoebeīus Ales" as described by 1st century Roman poet Ovid is the IAU constellation Corvus. Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) labels this asterism "Corvus al Phoeba Avis" ("Corvus or Phoebe bird").

Bird of the Satyrs:

This Latin asterism "Avis Satyra" is the IAU constellation Corvus.

Bird of Zeta:

This **telescopic** asterism is the star Zeta (ζ) Ophiuchi in the IAU constellation Ophiuchus. Its companion star blew up in a supernova, pushing this star through molecular gas and dust, causing it to ionize this and form a bright bow-arch around it. Australian astrophotographer Prasun Agrawal used this name on 31 May 2024 on the ZWO Astrophotography Facebook page.

Bird Snare:

This Māori asterism "Te Pewa a Tautoru" or "Te Tuke o Tautoru" is the belt of Orion. For the Māori of Ngati-Porou, a "Pewa" is a bird-perch that supports a snare, also known as a "Mutu" or a "Tuke".

Bird with a Bloodletter:

This Aztec asterism is the IAU constellation Crux (Milbrath 2014).

Bird with Two Eggs:

This Kolam asterism "Bhoria" is the Hyades cluster in the IAU constellation Taurus (Vahia 2014). Alpha (α) Tauri (Aldebaran) is the bird.

Bird's Armpit:

This Anutan asterism "Te Kaokao O Manu" is made up of the stars Delta (δ) and Epsilon (ε) Canis Majoris in the IAU constellation Canis Major, just east of their asterism "Te Tino A Manu" (see Bird of Flight above).

Bird's Beak:

This Chinese xing guan "Niǎohuì" (鸟喙) is a curving line of stars in the IAU constellation Tucana: Epsilon (ε), Zeta (ζ), Rho (ρ), Beta (β) 1 and 2, Delta (δ), and Alpha (α) Tucanae and HIP 118092.

Bird's Head:

This **telescopic** asterism NGC 6745 is an irregular galaxy in the IAU constellation Lyra. It was discovered by French astronomer Édouard Stephan (1837 – 1923). It is actually a trio of galaxies colliding. It is also known as the "Plectrum of Lyra" (see below).

Bird's Nest:

This asterism is NGC 6996 in the IAU constellation Cygnus. This was discovered by French astronomer Guillaume Bigourdan (1851 – 1932). It is GC 4619 in the *General Catalogue* of 1864. German astronomer Robert Zebahl lists it on his *Faint Fuzzies* website. Zebahl describes it as consisting of "a small star cloud surrounded by dark nebulae. The brightest condensation in the southern part of the star cloud is catalogued as NGC 6996, Barnard 353 forms the darkest part of the nest edge to the southeast." Zebahl notes that it "was described in 1927 in the American magazine *Popular Astronomy*". It is also known as "Lady Liberty" (see below) and Schlegel 1.

Bird's Wing:

This Kiribati star "bai ni man", "bai ni man maiaki" or "bai ni man meang" is unidentified at present (Trussel and Groves 1978). It is also translated at "fish's fin".

Birika:

This is a Swahili name for the "teapot" asterism in the IAU constellation Sagittarius (see Teapot, below (Koehle 2011)).

Birringoloo:

This Kamilaroi and Euahlayi asterism is the IAU constellation Musca. Birringoloo is the second wife of Byaame or Baayami, their creator/culture hero. She sits by the campfire of Byaame's camp (the star Alpha (α) Muscae), and all women with girl children who die come to this camp before going on to Bulimah (Heaven behind Warrambul – see below). They wait at this camp until all their girl children have died and come to the camp, and then they can proceed to Bulimah.

Birrugan:

This Gumbayngirr asterism is the IAU constellation Crux (Morelli 2015). Birrugan is a culture hero of the Gumbayngirr who is also associated with the morning star, and with the name Gawnggan, with the morning star.

Birth of Hydra:

This **telescopic** asterism “Pártus Hýdrae” is the interacting pair of spiral galaxies NGC 3058 in the IAU constellation Hydra. It was discovered by Francis Leavenworth in 1886. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as “this pair of galaxies has the appearance of an animal and its newborn whelp”.

Birth Spirit:

This Kamilaroi, Euahlayi, and Murrawarri asterism “Wadhaagudjaaylwan” is named after the third wife of Byaame or Baayami, their creator/culture hero. Wadhaagudjaaylwan is in the Large Magellanic Cloud and sings to women who are going to have babies. She "sings" the babies to the women on Earth, and she takes the persons that the Old Wiringin in the Small Magellanic Cloud sends to her and sends them back to Earth as babies.

Birth Woman:

This Dakota/Lakota/Nakota asterism “Tun Win”, also known as “Blue Woman” (see below) is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper above).

Birthing Place:

This French star “Locus Parturientis” is Zeta (ζ) Ursae Majoris (Mizar) in the IAU constellation Ursa Major as listed by Robert Hues in his *A Learned Treatise on Globes* in 1659, a name which Hues attributes to French scholar Joseph Justus Scaliger (1540 – 1609).

Bison Bulls:

This Arapaho asterism is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper above).

Bison Man:

This Babylonian asterism “MUL.GUD.ALIM” is a bison-man made up of stars in the IAU constellation Centaurus and associated with their Sun God Utu-Shamash. It is listed in the Neo-Babylonian (Chaldean) Great Star List (636 – 539 B.C.E.) as “dutu” (Koch-Westenholz 1995).

Bitch:

John Hill gives this as an “Arabic” name for the IAU constellation Cassiopeia in his *Urania* in 1754, explaining “the Arabians were not permitted by their law to draw any human figures, and they therefore retained the chair in this constellation, but displacing the lady they put this quadruped in her head”. Later Hill lists a Latin name, “Canis Fœmina” (“female dog”). This is the location of the Arabic asterism She Camel (see below). English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 also lists . “Canis Fœmina” and writes that “the Arabians [have] no passion for delineating the human form, made a dog of Cepheus”.

Bite of the Harrow:

This Seleucid star is Mu (μ) Velorum in the IAU constellation Vela and is part of their asterism Harrow (see below).

This Babylonian and Sumerian star “bite of gis-gan-gur” is Mu (μ) Velorum in the IAU constellation Vela as listed in the BM 78161 catalogue (Liechty 1988).

Bithynicus:

This French asterism is the asterism Antinous (see Antinous, above) in the IAU constellation Aquila as listed by French astronomer Joseph Jérôme Lefrançois de Lalande (1732 – 1807). This is the name of a Roman senator, Quintus Pompeius Bithynicus.

Bituin Utala:

This Maguindanao star "Bituin Utala" is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Santos et al 2019).

Black:

This French asterism "Mulda", believed to be derived from the Greek "Μέλας" ("Mélas") is the IAU constellation Eridanus as listed by French astronomer Joseph Jérôme Lefrançois de Lalande (1732 – 1807). R. H. Allen writes in his *Star Names* in 1899 that this is Lalande interpreting the Egyptian name for the Nile, Khem, which means "black" and refers to the dark silt its flood waters leave behind, this later becoming the Latin name for the Nile, "Melo".

Black Ant:

The stars of this Kiribati asterism "Karinaba" or "na Karinaba" are currently unidentified (Trussel and Groves 1978).

Black Arrow:

This **telescopic** asterism is the open cluster NGC 3532 in the IAU constellation Carina. It was discovered by French astronomer Abbé Nicolas Louis de Lacaille in 1751 and was listed as II 10. It is GC 2308 in the General Catalogue of 1864. English astronomer John Herschel (1792 – 1871) described it as "the most brilliant object of the kind I have ever seen". It is also known as the Wishing Well Cluster, the Football Cluster, the Firefly Party, the Fish Cluster, and the Pincushion.

Black Back Fish of Indus:

This **telescopic** asterism "Melanonótus Índi" is the spiral galaxy NGC 7090 in the IAU constellation Indus. It was discovered in 1834 by John Herschel who listed it as h 3872 and later as GC 4679 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "this edge-on galaxy shows a dark dust belt at its northeastern edge, bringing in mind a fish with a black back".

Black Bart's Hair:

This **telescopic** asterism is the Coma Berenices Cluster, Melotte 111.

Black Belted of Virgo:

This **telescopic** asterism "Nigricínctus Vírginis" is the barred spiral galaxy NGC 5719 in the IAU constellation Virgo. It was recorded as "II 682" by William Herschel in 1787. It became GC 3971 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it of the "conspicuous dark dust belt of this galaxy". NOTE: John Herschel recorded this in 1828, and George Phillips Bond recorded this in 1853 as NGC 5658.

Black Bottomed Galaxy:

This **telescopic** asterism NGC 247 (Caldwell 62) is an intermediate spiral galaxy in the IAU constellation Cetus. It was discovered by English astronomer William Herschel in 1784. This is listed as GC 132 in the 1846 *General Catalogue*. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010) in a Latin form: "Melampygus Céti" ("black-bottomed of Cetus"). It is also known as the Claw Galaxy (see below) and the Needle's Eye (see below).

Black Browed of Cancer:

This **telescopic** asterism "Melanóphrys Cáncri" is NGC 2775 (Caldwell 48), a field spiral galaxy in the IAU constellation Cancer. It was discovered in 1783 by English astronomer William Herschel who listed it as "I 2". John Herschel listed it as h 564 and later as GC 1771 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name due to "a remarkable long and thin dust belt at its western edge.

Black Cattle:

This Arabic asterism "Al 'auhakán" is the stars Omega (ω) and 27 Draconis in the IAU constellation Draco as listed by Persian astronomer Ulugh Beg Mirza (1394 – 1449). English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists this and attributes it to "Ulugh Beigh". Also known as Claws of the Wolf (see below).

Black Cockatoo:

This Kokatha and Ngalea star "Warrooboordina" is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius (Leaman and Hamacher 2014, Leaman, Hamacher, and Carter 2016). It is also known as "Fire Carrier". The black cockatoo has a red tail, which explains the association with fire.

Black Crustacean:

This Kiribati star "Antimama" or "Antim'am'a" is an unidentified star in the IAU constellation Gemini (Trussel and Groves 1978).

Black Duck:

This Yuin asterism "Umbarra" (Pacific Black Duck) is the Pleiades cluster in the IAU constellation Taurus (Fuller and Bursill 2021). This is from a Black Duck Songline that the Larrakia Peoples of Southeast Australia share. NOTE: Clarke (2009) also relates a story from this region where the Moon (Throwa) pursues young women represented by the Pleiades into the sky and attributes this to Brothers (1897).

This Kamilaroi and Euahlayi asterism is the Pleiades cluster in the IAU constellation Taurus (Fuller and Bursill 2021). Some versions of their songline describe this as Wood Ducks. Seven young female ducks visit a lake with their parents, who tell them not to play by the reeds. One disobeys and is abducted, is made pregnant, and eventually returns. Their father sends them all into the sky for safety.

Black Eagle:

This Arabian asterism "Al ʿOḳāb" is the IAU constellation Aquila. John Chilmead in his *A Learned Treatise on Globes*, 1889, which was a translation of the Latin work by English geographer and mathematician Robert Hues (1553 – 1632) gives the name "Alhhakhab".

This asterism "Aluk" is the IAU constellation Aquila as listed in John Hill's *Urania* in 1754: He describes it as "a Persian name for that constellation".

Black Emperor:

This Chinese star "Heidi" from the Three Kingdoms to Ming Dynasty is HIP 57646 in the IAU constellation Leo and is part of their xing guan Seats of the Five Emperors (see above).

Black Eye:

There are four **telescopic** "Black Eye" asterisms:

- One is the Black Eye Galaxy, Messier 64 (NGC 4826), a spiral galaxy with prominent dust lanes in the IAU constellation Coma Berenices. It is also known as the "Sleeping Beauty Galaxy" (see below) or "Evil Eye Galaxy" (see below). This was discovered by English astronomer Edward Pigott in March 1779, observed by German astronomer Johann Elert Bode in April of the same year, by French astronomer Charles Messier the following year, and observed by English astronomer William Herschel in 1790. It was William Herschel, writing in his observations that it "contains one lucid spot like a star with a small black arch under it, so that it gives one the idea of what is called a black eye arising from fighting." It is listed in the 1864 General Catalogue as GC 3321 and in John Herschel's catalogue as h 1486. The 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) lists this as the "Black Eye-Nebula". Walter Scott Houston writes that "This galaxy was nicknamed the Black Eye galaxy by Sir Charles Blagden, while observing with William Herschel": This would be the physician Charles Blagden FRS (1748 – 1820). English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 also attributes the black eye name to Blagden. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010) as "Mélanops Cómae Bereníces" ("black eyed of Coma Berenices").
- One is the Black Eye Nebula, reflection nebula NGC 1999(vdB 46, LBN 979, Ced 55i) in the IAU constellation Orion. This was discovered by English astronomer William Herschel in 1785 who listed it as "IV 33" in his catalogue. It is GC 1202 in the *General Catalogue* of 1864. Herschel described it as "a star with milky chevelure or vB nucleus with milky nebulosity." The Helwan Observatory Bulletin No. 21 of 1920 describes it as a "dense glove with an absolutely dark triangular hole cutting into it." It is also known as the Rubber Stamp Nebula (see below), and "Africa" (see above).
- One is the galaxy NGC 5248 (Caldwell 45) in the IAU constellation Boötes. It was discovered by English astronomer William Herschel in 1784 who listed it as "I 34". It is GC 3615 in the *General Catalogue* of 1864. American astronomer Brian Skiff (1993) describes it as having "a dark patch in the arms to S of centre [making] it look like a 'black-eye'" in the DOCdb database. It is also known as the "Ox Eyed of Boötes".
- One is a pair of dwarf galaxies ~5' north of NGC 1023 (Arp 135) in the IAU constellation Perseus. It was discovered in 1784 by William Herschel who listed it as "I 156". It became 244 on his son John Herschel's list and GC 574 in the *General Catalogue* of 1864. Astronomer Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) lists NGC 1023 as O'Meara 10. O'Meara describes this as "two tiny galaxy pairs… [which looks] like a set of small eyes,(one of the eyes being a black eye)".

Black Eyed of Coma Berenices:

This **telescopic** asterism "Melanóssus Cómae Bereníces" is the lenticular galaxy NGC 4293 in the IAU constellation Coma Berenices. It was discovered in 1784 by William Herschel who listed it as "V5". It became GC 2867 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name because "on both sides of the nucleus two black regions can be seen as two black eyes".

Black Feather of Camelopardalis:

This **telescopic** asterism "Nigripínnis Camelopardális" is the barred spiral galaxy IC 334 in the IAU constellation Camelopardalis. It was discovered by British astronomer William Frederick Denning in 1891. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the remarkable dark belt at the eastern side of this deformed galaxy."

Black Hair of Coma Berenices:

This **telescopic** asterism "Nigrípilus Cómae Bereníces" is the intermediate spiral galaxy with a weak inner ring structure NGC 4559 (Caldwell 36) in the IAU constellation Coma Berenices. This was discovered by English astronomer William Herschel in 1785 who listed it as "I 92". It is GC 3101 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the conspicuous dark dust stroke in the southern part of the galaxy that looks like a braid of black hair." This is also known as the Club (see below) and the Koi Fish (see below).

Black Haired of Canes Venatici:

This **telescopic** asterism "Melánthrix Cánum Venaticórum" is the galaxy NGC 5005 (Caldwell 29) in the IAU constellation Canes Venatici. It was discovered in 1785 by William Herschel who listed it as "I 96". It became GC 3437 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the many prominent dark and thin dust lanes".

Black Hole Nebula:

This **telescopic** asterism is dark nebula Barnard 92 in the IAU constellation Sagittarius. American astronomer Edward Emerson Barnard discovered this in 1913 and published it in his paper Dark Regions in the Sky Suggesting an Obscuration of Light, which he opened with the statement: "The so called 'black holes' in the Milky Way are of very great interest." This particular nebula picked up this name as it is one of the densest. Of course this was before the "black holes" that we are familiar with today.

Black Horse:

This Arabic star "Al-Jawn" (الجون) is Epsilon (ε) Ursae Majoris in the IAU constellation Ursa Major. This word has several meanings, one referring to the black color of a horse or camel but is also used in reference to a white wild donkey or ass:

- "Al-Jawn" is listed by 'Abd al-Rahman al-Sufi (903 – 986).
- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists "khāmis banāt na'sh yusammā al-jawn" ("the fifth of banāt na'sh, called the black horse").

- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "al jaun, black horse" and later in this catalogue as "a courser".
- NOTE: Hafez (2010) lists this as "al-Jūn" ("the bull") and attributes it to Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964.

Black Leopard:

This Karajá asterism "Aloé" or "Aloé-lubú" is made up of stars of the IAU constellations Carina, Chamaeleon, Puppis, and Volans (De Freita Mourão 2009).

Black Lizard Nebula:

This **telescopic** asterism is dark nebula is Barnard 138 in the IAU constellation Aquila.

Black Llamas:

This Inca asterism "Yana Llama", "Yacana", or "Yaqana" (Gamarra & Gamarra 2009) represents a mother llama and its baby "Uñallamacha". Urton (2022) lists the name of the "mother llama" as "Llama" and that the name "Yacana" came from the Huarochiri manuscript. Ciancia (2018) lists the Andean name as "Llama". The body of the mother llama is the dark nebulosity in the Milky Way stretching between the IAU constellations Centaurus and Scorpius and the baby llama is suckling at her mother's breast: The mother llama's eyes "Llamacnawin" (see Eyes of the Llama, below) are the stars Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar). There is a similar asterism "Catachillay" (see Female Llama below).

Black Magellanic Cloud:

This is an alternate name for the Coal Sack Nebula (see Coal Sack Nebula below) which R. H. Allen in his *Star Names* in 1899 attributes to English astronomer William Henry Smyth circa 1850.

Black Martin:

This English asterism is the IAU constellation Apus as listed in R. H. Allen's *Star Names* in 1899. Allen attributes the name to "our Andrews-Freund" but his reference list at the end of the book does not further identify this person.

Black Rimmed of Indus:

This **telescopic** asterism "Melándetus Índi" is the lenticular galaxy IC 5063 in the IAU constellation Indus. It was discovered by Royal Harwood Frost in 1904. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "this galaxy has an interesting black dust belt".

Black Rock City:

This American asterism is the IAU constellation Corona Borealis and was created by Brad and Kathryn Templeton for *The Vault of Heaven* star map for the 2004 Burning Man event held in Black Rock Desert in Nevada (Kuperjanov 2006).

Black Scorpion:

This Mayan asterism "Ek Chuuah" from the *Chilam Balam* books is the IAU constellation Scorpius.

Black Spot Nebula:

There are two **telescopic** nebulae by this name:

- One is dark nebula is Barnard 93 in the IAU constellation Sagittarius.
- This is an alternate name for the Black Hole Nebula (see above).

Black Star:

This Chaldean star "ul-gi" is listed in the *Great Star List* (Koch-Westenholz 1995) but the stars have not been identified.

Black Striped of Hydra:

This **telescopic** asterism "Atrilineáta Hýdrae" is the barred spiral galaxy NGC 2763 in the IAU constellation Hydra. It was discovered in 1785 by William Herschel who listed it as "III 275". John Herschel listed it as h 560 and later as GC 1761 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name in reference to "the remarkable black band in the southern part of this galaxy".

Black Swallowtail Butterfly:

See Beehive, above.

Black Swan:

This Bundjalung asterism "Ginibi" is the IAU constellation Crux (Sharpe 1978). Robinson listed it as "Gineevee" in 1873. The Pointers are a spear thrown to kill the swan (see Pointers, below).

This Gundungurra asterism "Dyin-yook" is the IAU constellation Crux (Mathews 1908).

This Yaegl asterism "Ngaragan" is the IAU constellation Crux as listed by Bob Fuller, who listed the source as "Anon (ethnographic source)".

There are two **telescopic** Black Swan asterisms:

- One is the swan-shaped open cluster Messier 18 in the IAU constellation Sagittarius. It was discovered by French astronomer Charles Messier in 1764. It is listed in John Herschel's General Catalogue of 1864 as GC 4401.
- One is the emission nebula IC 1871 in the IAU constellation Cassiopeia. It was first recorded by American astronomer Edward Emerson Barnard (1857 – 1923). This was named by Canadian astrophotographer Francois Theriault on 19 May 2024 on the ZWO Astrophotography Facebook page.

Black Swans:

This Koori asterism is the stars Beta (β) Aquilae (Alshain) and Gamma (γ) Aquilae in the IAU constellation Aquila. They are the wives of Bunjil (See Wedge-Tailed Eagle, below).

Black Vulture:

This Carib asterism "Kurumuyuman" or "Kurumu" represents the black vulture (Coragyps atratus). Its present location is unknown (Magaña, and Jara, 1982).

Black Woman:

This Tuareg star “Lemkechen” is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Polaris. She is holding a baby camel “Aourâ”, so that the mother camel “Tâlemt” (the Big Dipper) can suckle it. A nearby triangle of stars in the IAU constellation Ursa Major represent “El-Djema’at” (see Assembly, above) , a group who are deliberating to kill Lemkechen, so she must hide (Holbrook 2020).

Blade and Pearl:

This **telescopic** asterism NGC 5746 is a barred spiral galaxy in the IAU constellation Virgo. It was discovered by English astronomer William Herschel in 1786 who listed it as “I 126”. It is GC 3987 in the *General Catalogue* of 1864. Astronomy Magazine contributing editor Stephen James O’Meara came up with the name Blade and Pearl. It is also known as the Mini Sombrero Galaxy (see below). This is O’Meara 74 in Stephen James O’Meara’s *Hidden Treasures Catalogue* (2007).

Blade of Grass of Leo:

This **telescopic** asterism “Festúca Leónis” is the edge-on spiral galaxy NGC 3501 in the IAU constellation Leo. It was discovered by Édouard Stephan in 1881. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Blaze Star:

This double star is T Coronae Borealis (HIP 78322) in the IAU constellation Corona Borealis. It is a cataclysmic variable star first discovered in outburst in 1866 by Irish astronomer John Birmingham. The 1st edition of British schoolmaster Arthur P. Norton’s *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) lists this star as the “Blaze Star”.

Blaze:

This star “Alkurah” is the binary star Xi (ξ) Cephei in the IAU constellation Cepheus. It is also known as “Alkirdah” (see Mark on the Horse Hide, below).

Bleary-Eyed Woman:

There are two Arabic stars with the name “al-Ghumaiṣā'” (الغميصاء) which translates as “bleary eyed one” or “bleary-eyed woman” or “ash-shi’ra al-ghumaysa’” which translates as “Little Bleary-Eyed sister”:

- The first is the star Beta (β) Canis Minoris (Gomeisa) in the IAU constellation Canis Minor:
    - “al-Shi’ra al-Ghumaisa” is listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
    - John of London, in a letter to R. De Guedinge (1246) discusses “Algomeysa” (Nothaft 2022).
    - An anonymous Hebrew star list from 1392 (Goldstein 1985) lists the Arabic name “al-ghumaysā” and the Hebrew name “kelev qatan”.
    - This was later latinized to “Gomeisa”, “Algomeyla” (in the 15th century *Alfonsine Tables*), or “Gomelza” (as listed by American uranographer Elijah Burritt (1794 – 1838)).
    - English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Gomeisa, from al ghomeisá, watery-eyed”.
    - English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists this star as “Gomeisa”.
    - The 1st edition of British schoolmaster Arthur P. Norton’s *A Star Atlas and Telescopic Handbook* (1910) and the 14th edition (1959) list “Gomeisa” for this star.

- The IAU approved the name Gomeisa for the star Beta (β) Canis Minoris
- The second is the star Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor:
  - Other variations include “Algomiza”, “Algomeysa”, “Algomyso”, “Alchamizo”, and “Algomeyza”.
  - The star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985) lists the Arabic names “al-shi’rā” and “al-ghumaysā” and the Hebrew name “ha-soger ‘eyno” (“one who closes his eye”).
  - The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.170v-171r lists this star as “Algomeisa”.
  - A celestial globe (1522) of German polymath Johann Schöner (1477 – 1547) lists this star as “Algomeisa”.
  - Dorn (1829) lists this as “the Syrian Star” and describes it as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya’ al-Qazwini (1203 – 1283).
  - The rete of astrolabe NMM AST 0570 in the National Maritime Museum lists “Algomeiza” (Dekker 2000).
  - The Sloane astrolabe BM SL 54 (1290 – 1300) in the British Museum lists “Algomeiza” (Dekker 2000).
  - A 14th century Christian Spanish astrolabe #4560 lists “Gomiza” and “ghumaysa” and one has “Algomic” (King 2002).
  - The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists “Algomeysa” for this star.
  - A celestial globe (1522) of German polymath Johann Schöner (1477 – 1547) lists this star as “Algomiasa”.
  - This was latinized to “Elgomaisa” and “Algomeiza” by German astronomer Johann Bayer (1572-1625).
  - This was latinized to “Algomisa” by Italian astronomer Giovanni Battista Riccioli (1598 – 1671).
  - Robert Hues lists “Algomiza” in his *A Learned Treatise of Globes* in 1659.
  - This is also known as the Northern Shi’ra.
  - Dutch uranographer Carel Allard’s *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) labels this star “Orionis al Procyon est Algomeisa”.
  - NOTE: This asterism and the asterism Teary-Eyed Woman (see below) are the “sisters” of Suhayl (see Glorious, above) who was the fiancé of Al Jawza (see Al Jawza, above).

John Hill lists the name “Sheira Al Ghomisa” as a name for the IAU constellation Canis Minor in his *Urania* in 1754. This is clearly a reference to the star Alpha (α) Canis Minoris. He translates this as “Little Dog”, which is another name he assigned to Canis Minor (see Little Dog, below).

Bleiddyd’s Lever:

This Welsh asterism listed by Victorian folklorist Marie Trevelyan (1852 – 1922) in her *Folk-lore and Folk-stories of Wales* (1909) is currently unidentified.

Blessing:

This Chinese star “Fu” is Phi (ϕ) Sagittarii in the IAU constellation Sagittarius and is part of their xiù (lunar mansion) “Dǒuxiù” (斗宿) – see Dipper, below.

Blind:

This Hindu asterism “Andhakā” is the stars Lambda (λ) Orionis (Meissa), and Phi (ϕ) 1 and 2 Orionis in the IAU constellation Orion as listed in R. H. Allen’s *Star Names* in 1899.

Blinking Demon:

This star is Beta (β) Persei (Algol) in the IAU constellation Perseus and is so called as it is a variable star.

Blinking Galaxy:

This **telescopic** asterism NGC 6118 is a grand design spiral galaxy in the IAU constellation Serpens. It was discovered in 1793 by English astronomer William Herschel who listed it as “II 402”. It is GC 4180 in the *General Catalogue* of 1864. It has this name as it tends flick in and out of view with different eye positions. It is also known as “Two Pronged Forks of Serpens” (see below).

Blinking Nebula:

This **telescopic** asterism the “Blinking Nebula” or “Blinking Planetary Nebula” is the planetary nebula NGC 6826 (Caldwell 15) in the IAU constellation Cygnus. It is listed as “IV 73” on English astronomer William Herschel’s list. It is GC 4514 in the *General Catalogue* of 1864. It was given this name by English astronomers J. Mullaney and Wallace Mccall: Mullaney writes: “In the early 1960s Wallace McCall and I came up with the nickname because of the planetary’s unusual behavior in the eyepiece – direct vision shows only the central star and a little trace of the nebula itself, while averted vision drowns out the central star with bright blue nebulosity. Alternating back and for the between direct and averted viewing produces and incredible blinking effect.” Size 0.9’ X 0.8’.

Bloody Star:

“Izar Odoltsua” is a Basque name for Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius (Knörr 1999).

Blooming Dancers of Fornax:

This **telescopic** asterism “Choroéthales Fornácis” is the barred spiral galaxy NGC 1097 in the IAU constellation Fornax. It was discovered in 1790 by William Herschel who listed it as “V 48”. It became GC 610 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). Bodifee and Berger describe their naming it thus: “The rather poetic name describes the beautiful swirling appearance of this galaxy with its mysterious faint optical jets. The Greek adjective χοροιθαλ_ς (choroithalès, in Latintranscription choroethales) is a poetic description of dancing girls in the Homeric tradition. The literal meaning of χορ_ς (choros) is a choir of singing dancers, θαλ4ς (thalès) means blooming.”.

Blossom:

This Hawaiian star “Puana” is Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minoris. This is a new Hawaiian name inspired by the Māori name for this star as the original name was lost.

Blossom Cluster:

This Māori star "Puanga" or "Puanga-rua" is Beta (β) Orionis (Rigel) in the IAU constellation Orion. Some see it as a fruit that Kererū (see Wood Pigeon, below) wants to eat.

Blow Gun:

This Ikoots asterism "Nepep" is the Sickle of Leo asterism in the IAU constellation Leo: Epsilon (ε) Leonis (Algenubi) through Mu (μ) Leonis, Zeta (ζ) Leonis, Gamma (γ) Leonis (Algieba) and Eta (η) Leonis to the star Alpha (α) Leonis (Regulus).

Blow-dryer:

This **telescopic** asterism Messier 100 (NGC 4321) is a grand design spiral galaxy in the IAU constellation Coma Berenices. It was discovered by French astronomer Pierre Méchain in 1781 and English astronomer William Herschel described it in the *Philosophical Transactions* in 1814. It is listed in the General Catalogue of 1864 as GC 2890 and in John Herschel's catalogue as h 1211. It is also known as the Mirror Galaxy (see below) and the "Hundredth of Coma Berenices" (see below).

Blubber Container:

This Inuit asterism "Uqsuutaattiaq", also known as "Pituag" ("stones supporting lamp"- see Lamp Stand, below), is the stars Alpha (α) Cassiopeiae (Shedar), Beta (β) Cassiopeiae (Caph) and Gamma (γ) Cassiopeiae (Navi) in the IAU constellation Cassiopeia (MacDonald 1998).

Blücher:

This star "Blücher" is a 10th magnitude star within 2 degrees of Polaris listed by R. H. Allen in his *Star Names* in 1899. Allen doesn't clearly identify the source of this name nor give any other details that would more precisely identify it.

Blue:

This Assyrian star "Sa" or "Samu" is Beta (β) Leonis (Denebola) in the IAU constellation Leo as listed in R. H. Allen's *Star Names* in 1899.

Blue Eyed of Virgo:

This **telescopic** asterism "Glaucópis Vírginis" is the barred spiral galaxy NGC 5750 in the IAU constellation Virgo. It was discovered in 1787 by William Herchel who listed it as "I 183". It became GC 3990 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the shape of this galaxy, with its remarkable pointed extension at one side and the conspicuous blue ring in the central region, resembles a blue eye".

Blue Flash Nebula:

This **telescopic** asterism is planetary nebula NGC 6905 in the IAU constellation Delphinus. It was discovered by English astronomer William Herschel in 1784 who listed it as "IV 16". It is GC 4572 in the *General Catalogue* of 1864. Size 1.2' X 1.2'. This name was posted on the *Deep Sky Forum* by American astronomer Dragan Nikin in October 2016. It is also known as the Caged Spirit Nebula (see below).

Blue Horse:

This Kazakh asterism “Kökbozat” is the star Gamma (γ) Ursae Minoris in the IAU constellation Ursa Minor. Aqbozat and Kökbozat (Beta (β) Ursae Minoris (Kochab) and Gamma (γ) Ursae Minoris) represent two horses constantly circling “Timir Qazyq” (“Iron Pole”) which is Polaris.

Blue Horse Head Nebula:

This **telescopic** asterism is the reflection nebula IC 4592 (vdB 100, LBN 1113, Ced 128) in the IAU constellation Scorpius. This was discovered by American astronomer Edward Emerson Barnard (1857 – 1923).

Blue Jaguar:

This Kogi asterism “Neb-Taši”, “Neb-Táshi”, or “Neb-Tashi” (“puma” or “red jaguar”) is identified either as the belt or the sword of Orion in the IAU constellation Orion.

Blue Jay:

This Mi’kmaq star “Tities” is Epsilon (ε) Boötis (Izar) in the IAU constellation Boötes. It is part of their asterism Muin and the Seven Hunters (see below).

Blue Planetary Nebula:

This **telescopic** asterism is planetary nebula NGC 3918 in the IAU constellation Centaurus. It is also known as “The Southerner”. It was discovered by English astronomer John Herschel in 1834, who listed it as h 3365 in his catalogue. John Herschel noted that “It is of a most decided independent blue colour” and made many other references to its blue colour in subsequent observational notes. It is GC 2581 in the *General Catalogue* of 1864. New Zealand amateur astronomer James Henry Pope (1837 – 1913) listed it as “the blue Planetary Nebula near the Southern Cross” in 1881. It is also known as the Southerner (see below): James Andrew mentions the name “Southerner” in his *Neat Southern Planetaries – II* in 1998. NOTE: Many observers have described its colour as green.

Blue Racquetball:

This **telescopic** asterism is planetary nebula NGC 6572 in the IAU constellation Ophiuchus. It was discovered in 1825 by the German astronomer Friedrich Georg Wilhelm von Struve, who called it one of the “most curious objects in the heavens”. John Herschel listed it as h 2000 and later as GC 4390 in the *General Catalogue* of 1864. It is also known as the Emerald Nebula, the Green Nebula, the Turquoise Orb, or the Planet Krypton Nebula. NOTE: Racquetball was invented in 1950, so the name cannot predate this. Walter Scott Houston describes this as a “vivid blue” and Greg Crinklaw described it as a blue planetary nebula. Sue French describes it as “robin’s egg blue” one night and “turquoise” on another.

Blue Snowball:

This **telescopic** asterism the “Blue Snowball” or “Copeland’s Blue Snowball” is the planetary nebula NGC 7662 (Caldwell 22) in the IAU constellation Andromeda. It was discovered by English astronomer William Herschel in 1864 who listed it as “IV 18”. It is GC 4964 in the *General Catalogue* of 1864. English astronomer Thomas William Webb (1807 - 1885) and American astronomer Sherburne Wesley Burnham (1838 – 1921) both noted it’s blue colour in their observations. It was named the “blue snowball” by American amateur astronomer and poet Leland S. Copeland (1886 – 1973) in the February 1960 Issue of *Sky and Telescope*. Size 1’ X 0.7’.

Blue Star:

This Elvish star “Luinil” is probably Beta (β) Orionis (Rigel) in the IAU constellation Orion. English author J. R. R. Tolkien (1892 - 1973) had vague notes on this subject, seeming to link it with the planet Neptune, which is too faint to be seen with the unaided eye. Tolkien’s son Christopher suggests that Rigel is the best candidate, as it would be the partner of the star Borgil (see Red Star, below).

Blue Straggler:

This telescopic asterism is NGC 6397 (Caldwell 86) in the IAU constellation Ara. It was discovered by French astronomer Abbé Nicolas Louis de Lacaille in 1755 who listed it as Lac III 11. It is GC 4311 in the *General Catalogue* of 1864. It is also known as the Golden Nectar Cluster (see below).

Blue Wedge:

This telescopic asterism is Lorenzin 13 in the IAU constellation Centaurus. This is Phi (ϕ) Centauri, Mu (μ) Centauri, and Nu (ν) Centauri.

Blue Woman:

This Dakota/Lakota/Nakota asterism “To Win”, also known as “Birth Woman” (see above) is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper above).

Bluebird:

This **telescopic** asterism is reflection nebula NGC 6914 in Cygnus. This was discovered by astronomer Édouard Stephan on 29 August 1881. It is also known as the “Eyes”.

Boa:

This Italian asterism “Bogina” is the IAU constellation Ursa Minor as listed in R. H. Allen’s *Star Names* in 1899. Allen describes it as being used by “Italian sailors”.

Boaliri:

This Walpiri and Yolgnu star “Boaliri” is a star in the Pleiades cluster in the IAU constellation Taurus (Fuller & Bursill 2021). Boaliri is the younger of a mythical pair of Wagalag or Wauwalak sisters, daughters of the Djanggawul (important ancestors) who got pregnant by the “wrong men” and were tracked down and punished by the serpent Julunggul by being placed in the sky. The other sister is Garangal (see above) or Waimariwi (see below).

NOTE: In a Yuin version of this story, these sisters come down from the Pleiades and then are sent back.

Boar:

This Celtic asterism is the stars Epsilon (ε) Ursae Majoris (Alioth), Zeta (ζ) Ursae Majoris (Mizar), and Eta (η) Ursae Majoris (Alkaid) in the IAU constellation Ursa Major (Boutet 2014). Victorian folklorist Marie Trevelyan (1852 – 1922) lists it as the “Woodland Boar” in her *Folk-lore and Folk-stories of Wales* (1909).

Boar Piglet:

This Celtic (Gaulish) asterism “Boar” or “Boar Piglet” is the IAU constellation Ursa Minor (Boutet 2017).

Boars:

This Romanian asterism “Vierii” is the IAU constellation Taurus (Ottescu 2009, Lite 2018).

Boat:

There are two ancient Egyptian boat asterisms:

- One asterism "Wia" is made up of the stars of the IAU constellation Capricornus. The "hull" is a curve of stars from a "prow" at the star 6 Capricorni and running through Beta (β) Capricorni (Dabih) and Psi (ψ) Capricorni to a "keel" at Omega (ω) Capricorni and then through 24 Capricorni and Zeta (ζ) Capricorni to a "stern" at the stars Gamma (γ) and Delta (δ) Capricorni. A "rudder oar" is a line running from 32 Capricorni to 41 Capricorni. This asterism appeared from the New Kingdom (16^{th} — 11^{th} century B.C.E.) onward.
- One is made up of stars of the IAU constellation Scorpius and possibly Sagittarius. Some ethnoastronomers believe that it is connected to the other Egyptian asterism "Khentet" (see Prow, below) which would mean that it would include stars of the IAU constellation Sagittarius. Leitz (1994) relates this to the Sethian decan and Locher (1981) as the middle decan of a large boat asterism containing Alpha (α) Scorpii (Antares). Davis (1985) also places the constellation of the boat in this part of the sky.

This Suku Bali asterism "Perahu" is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper above).

This Arabic star "az-Zawraq" (الزورق) is Gamma (γ) Eridani in the IAU constellation Eridanus:

- This was later latinized to "Zaurak" and "Zaurac".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists this as "Neyyir al Zaurak, or bright star of the boat".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists Gamma (γ) 1 Eridani as "Zaurac".
- The 1^{st} edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14^{th} edition (1959) list this star as "Zaurak".
- In 2016 the IAU approved the name Zaurak for Gamma (γ) Eridani.

This Egyptian asterism "Al Zaurak" is the IAU constellation Phoenix as listed by German astronomer Christian Ludwig Ideler (1766 – 1846) and R. H. Allen in his *Star Names* in 1899.

This Ainu Nociw ("asterism") is made up of stars of the IAU constellation Auriga. The star Beta (β) Aurigae (Menkalinan) is a person at one end of the boat, the stars Eta (η) and Zeta (ζ) Aurigae a person at the other end, and the star Alpha (α) Aurigae (Capella) is a person standing in the middle of the boat.

Boat and Fishline:

This Yolgnu asterism "Djulpun" is in the IAU constellation Orion. The three stars of the belt of Orion (Clarke 2015) are the seat across the middle of the boat and the sword of Orion is a line of fish. Djulpun signals the start of the Dry season for the Yolgnu. In one version of the story the stars of the belt are the men Birrupirru, Djandurrngala, and Ngurruwilpil, who are paddling this bark canoe across the sky (Davis 1898, Clarke 2009).

Boat from Heaven:

This Kazakh asterism "Aspan Kayygy" is the Big Dipper asterism in the IAU constellation Ursa Major.

Boats and Lake:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a rough quadrilateral of stars in the IAU constellation Boötes: 20 Boötis (the determinative star), 18 Boötis, 15 Boötis, 14 Boötis, HIP 69585, and HIP 69829.

This Chinese xing guan "Kàngchí" (亢池) is a quadrilateral of stars in the IAU constellation Boötes: 14, 18, and 20 Boötis and HIP 69260.

This Chinese Chenzhuo xing guan "Kàngchí" is an oval of stars in the IAU constellation Boötes: 14, 15, 18, and 20, Boötis and HIP 69829 and 69585.

Bobcat:

This Skidi star is Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor.

Bode's Galaxy:

This **telescopic** asterism is Messier 81 (NGC 3031) in the IAU constellation Ursa Major. It was named for the German astronomer Johann Elert Bode who discovered it in 1774. It is listed in the General Catalogue of 1864 as GC 1949 and 1953, and in John Herschel's catalogue as h 649. NOTE: Some experienced amateur astronomers may be able to see this with the unaided eye under exceptional observing conditions (O'Meara 1998). *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) simply describes it as "Ursa Major, Nebula". This name appears as "Bodeánus Úrsae Majóris" in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010):

Bogeyman Nebula:

This **telescopic** asterism is the dark nebula LDN 1622 in the IAU constellation Orion. This is in the catalogues of American astronomer Beverly Turner Lynds (1929 – 2024).

Boiling Lights:

This Filipino asterism "Moropo" (Bikolano), "Mapolon" (Tagalog), "Maroprop" (Ilokano), "Langaw" (Maguindanaw), "Kufukufu" (Teduray), "Marapuro" (Kanlurang Samar), "Penikapan" (Manobo), "Molopolo" (Bukidnon), "Murupuru" (Tagbanua"), or "San Apon" (Ibaloi), is the Pleiades cluster in the IAU constellation Taurus (Santos et al 2019).

Bolas:

There are three Mapuche asterisms with this name:

- One "Melipal" or "Meli Pal" is the IAU constellation Crux.
- One, "Lükay" or "Xana Lükay" is the IAU constellation Crux (Menares 2008)
- One, "Meli Pal", "Kalolasta", or "Lasta Wagleg" is Alpha (α) Scorpii (Antares), Pi (π) Scorpii, Delta (δ) Scorpii, and Beta (β) 1 Scorpii (Acrab) in the IAU constellation Scorpius (Menares 2008).

NOTE: This asterism represents boleadoras or bolas. This is also known as the Cruiser or the Star Cart.

Bold Arrow Cluster:

See Arrow, above.

Bold Little One of Canes Venatici:

This **telescopic** asterism “Fortículus Cánum Venaticórum” is the irregular Magellanic galaxy NGC 4449 (Caldwell 21) in the IAU constellation Canes Venatici. It was discovered by English astronomer William Herschel in 1788 who listed it as “I 213”. It is GC 3002 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). It is also known as the “Box” (see below).

Bold Monster:

This Latin asterism “Monstrum Audax” or simply “Audax” or “Monstrum” is the IAU constellation Draco. The Roman general Germanicus (15 B.C.E. – 19 C.E.) used “Monstrum”. Johann Bayer’s *Uranometria* (1603) lists “Monstrum Germanico”.

Bolt:

This Latin asterism “Vectis” (“lever”, “pole”, or “bolt”) is the IAU constellation Sagitta. Johann Bayer’s *Uranometria* (1603) lists the name “Vectis” as an alternate name for Sagitta. R. H. Allen’s *Star Names* in 1899 lists “Vectis”. Allen translates this as “pole”, but as Sagitta is Ptolemy’s arrow, the interpretation “bolt” (as from a crossbow) seems most likely.

Bomb:

This **telescopic** asterism Cseh 10 listed by Hungarian astronomer Viktor Cseh is a group of stars around the 8th magnitude star TYC 683-583 in the IAU constellation Orion. Cseh describes these as “a small winged bomb in the sky pointing in the outward direction! Very nice!”

Bond:

This Chinese xiù (lunar mansion) “Loúxiù” (娄宿) is a line of three stars in the IAU constellation Aries: Alpha (α) Arietis (Hamal), Beta (β) Arietis (Sheratan- determinative star), and Gamma (γ) 1 and 2 Arietis. In the *Han shu*, a history of the early Han dynasty that was finished in 111 C.E. this xiù “Loú” was associated to matters concerning the Xuzhou territory. This xiù appears in the Tang Dynasty as “Loú” (娄) and was compared to the Vedic nakshatra Ashvini (Kotyk 2017, see Harnessing Horses, below). This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Loúxiù” is a bent line of three stars in the IAU constellation Aries: Alpha (α) Arietis (Hamal), Beta (β) Arietis (Sheratan), and Gamma (γ) 1 Arietis.

Bond's Flare Star:

This **telescopic** variable star is HIP 97394 (V3885) in the IAU constellation Sagittarius (magnitude 10.31).

Bond’s Galaxy:

This **telescopic** asterism is NGC 7793, a flocculent spiral galaxy in the IAU constellation Sculptor. It was discovered by American astronomer George Phillips Bond (1825 - 1865) in 1850 at Harvard College Observatory. It is GC 6233 in the *General Catalogue* of 1864. It is also known as the “Fiery Hair of Sculptor” (see below).

Bone:

This **telescopic** asterism Sánta 81 listed in 2007 by Hungarian astronomer Sánta Gábor is made up of 12 – 13th magnitude stars in the IAU constellation Orion. Gábor describes it as "nice faint, bone-shaped asterism."

Bone Back Lizard:

This is the Hawaiian star line "Ka Iwikuamo'o". The star line starts with the star "Hokupa'a" (Alpha (α) Ursae Minoris (Polaris)) and connects down to "Na Hiku" ("the Seven", see Big Dipper above). "Hokule'a" (Alpha (α) Boötis (Arcturus)) and "Kikianalia" (Alpha (α) Virginis (Spica)) are the two stars in the middle of this star line. "Hokule'a" ("the star of gladness") is the zenith star of Hawai'i, meaning it will be directly overhead when you are at the latitude of the Hawaiian Islands, which makes it very important to Hawaiian navigators. Next to "Hikianalia" is "Me'e" ("the Voice of Joy", see below), a combination of four stars that forms a box. "Me'e" connects down to "Hanaiakamalama", the Southern Cross (see Southern Cross below) which is the southern pointer for "Ka Iwikuamo'o".

Bone Hand

This **telescopic** asterism is made up of the supernova remnants NGC 6992 and NGC 6995 (IC 1340) in the IAU constellation Cygnus. This was posted on the *Astrophotography* Facebook page by German astrophotographer Carsten Freitag on 23 August 2025. The "arm" is NGC 6992, and the bony "hand" is NGC 6995.

Bonobonon Ne Ngutu:

The stars of this Kiribati asterism are currently unidentified (Trussel and Groves 1978).

Bookworm:

This **telescopic** asterism is Levy 384 in the IAU constellation Puppis. It is Levy 384 in the observing list of Canadian astronomer David Levy. It is located in the middle of a narrow triangle of the stars HD 69369, 69417, and 69060. American astronomer "Jeffreym" posted the name "Bookworm" on *Cloudy Nights* in February 2022.

Boomerang:

The Boorong have three "boomerang" asterisms:

- The first, "Won", is the IAU constellation Corona Australis as listed by Stanbridge (1857), Morieson (1999), and Hamacher and Frew (2010). This is a boomerang thrown by Totyarguil (see Purple Crowned Lorikeet, below).
- Another Boorong "boomerang", "Womera", is the IAU constellation Corona Borealis. R. H. Allen lists the name as "Woomera" in his *Star Names* in 1899.
- One is in the IAU constellation Lupus and is Corder 2833 on the observing list of American astronomer Jeffrey Corder. Size 350' X 90'. This is Delta (δ) Lupi and the double stars Phi (ϕ) 1 & 2 Lupi, k Lupi, and Nu (ν) Lupi.

This Wotjobaluk asterism "Wom" is the IAU constellation Corona Australis (Hamacher 2011).

This Wardaman asterism is the IAU constellation Musca. This represents a ceremonial boomerang which is part of a sacred area around the IAU constellation Crux where lightning creation beings teach Wardaman customs.

This Kamilaroi asterism "Burran" is the sword of Orion in the IAU constellation Orion. It is part of their asterism "Beraiberai" (see Leader, below).

There are six **telescopic** "boomerang" asterisms:

- One is a semi-circle of stars in the IAU constellation Canis Major. One end starts at 26 Canis Majoris and runs through 27 Canis Majoris, Omega (ω) Canis Majoris, HIP 35044, GY Canis Majoris, and HN Canis Majoris, ending at HIP 34624. "Blue72" posted this on *Cloudy Nights* and "aznuge" posts it in April 2021 and March 2022.
- One is the bi-polar protoplanetary nebula LEDA 3074547 (ESO 172-2) in the IAU constellation Centaurus. This is currently the coolest natural place in the universe with a temperature of 1 K (-272.15°C). It is also known as the Bow Tie and the Centaurus Bipolar Nebula.
- One is the cluster FSR 667 in the IAU constellation Perseus. René Merting on the *Faint Fuzzies* website describes this: "At 71X… a long, curved chain of stars like a boomerang with a bend to the northeast- to the southeast a weaker opposite arc follows."
- One is the open cluster Stock 7 (Markarian 6) in the IAU constellation Cassiopeia. Size 4.5' X 4.5'.
- One is Corder 2761 in the IAU constellation Centaurus and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 65'. This is a line of 8th – 9th magnitude stars starting at K Centauri and running through HIP 65426, 65413, 65247, and 65112. This includes several double stars.
- One was posted by "idahoeng" on *Cloudy Nights* in March 2022 and is made up of stars of the IAU constellation Canis Major. The curve starts at 26 Canis Majoris and runs through 27 Canis Majoris, Omega (ω) Canis Majoris, HIP 35044, HIP 34924, and HIP 34814 to HIP 34624. Idahoeng suggests that "maybe it's the leach pulled out of Orion's hand as the dog took off running" but others on the list suggested it was a "wagging tail".

Boorong Star Lines:

The Boorong peoples tended not to view individual stars but lines of stars, which would constitute asterisms. There are three groups:

- The first is in the IAU constellations Orion and Taurus and includes Orion's Belt, Alpha (α) Tauri (Aldebaran) in the Hyades cluster, and the Pleiades cluster,
- The second is a triangle of stars in the IAU constellations Aquila, Capricornus, and Lyra: Alpha (α) Lyrae (Vega), Alpha (α) Aquilae (Altair) and Alpha (α) Capricorni (Algedi), and
- The third is stars in the IAU constellations Boötes and Scorpius: Alpha (α) Scorpii (Antares), Lambda (λ) Scorpii (Shaula), Upsilon (υ) Scorpii (Lesath) and Alpha (α) Boötis (Arcturus).

Boot:

There are four **telescopic** boot asterisms:

- One is in the IAU constellation Andromeda and is Corder 53 on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Corder describes it as "15 stars, magnitudes 7 to 9.5. It includes the variable VX Andromedae near the north following end, just following a nice trio of 7th magnitude stars. The group is elongated WNW, then eastward, then NE. Size 100' X 35'.
- One is Corder 3531 in the IAU constellation Telescopium and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 35'. The "heel" of the "boot" is HIP 89866.
- One is in the IAU constellation Eridanus and is Ennis 61 on the observing list of Canadian astronomer Charles Ennis. Size 27' X 20'. This is seven 8th – 9th magnitude stars: Gaia DR3

3244851782154578432, HD 24890, Gaia DR3 3196789964240915200, HD 24987, HD 25013, HIP 18523, and HD 24845. This includes stars of Corder 608 on Jeffrey Corder's list.

- One is in the IAU constellation Ara and is Corder 3239 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is seven 7th – 9th magnitude stars including HIP 84519 and 84472.

Boötes:

The brightest star in this constellation is Alpha (α) Boötis (Arcturus) which is the 4th brightest star in the sky. These stars appear in 370 asterisms of the sky cultures of the world.

This IAU constellation (IAU abbreviation Boo) first appeared in Babylonian sky lore as the asterism "SHU.PA" (see Enlil below). This constellation appears in Homer's *Iliad and Odyssey* (8th century B.C.E.) as "Βοώτης" or "Voótis" ("herdsman") and in Hesiod's poem *Works and Days* (late 8th century B.C.E.). It was mentioned in Aratus' poem *Phaenomena* (270 B.C.E.) and in Ptolemy's *Almagest* (2nd century) he was the Ploughman (see Ploughman below). Variations include "Bootres".

The Temple of Khnum at Esna has a Latopolitan zodiac on the ceiling of the pronaos dating to the age of Ptolemy II Euergetes (246 – 221 B.C.E.) depicts Boötes as a male figure with a club or bone in his right hand and a knife in his raised left hand (Bullinger 1882, Seiss 1882).

This constellation appears in the Leiden *Aratea* (816) as an "Arctophylax" ("bear keeper") wearing an exomis (light tunic) and carrying a shepherd crook in his right hand.

The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) positions Boötes parallel to the tropic, transected by the equinoctial colure, when he should actually be standing on the tropic.

The globe of the 2nd century Farnese Atlas depicts Boötes as a male in a short tunic viewed from the rear holding a shepherd's crook in his right hand (Stevenson 1921).

"Boötes" appears in the *Leiden Aratea* (816) as a make in a short tunic holding a crook across his shoulder in his right hand and making a warding gesture to his right with his right hand (Katzenstein & Savage-Smith, 1988).

Boötes appears in several forms in editions of the 8th century *Revised Aratus Latinus*:

- In two editions (St Gall 250, St Gall 902) he is shown as nude to the waist, wearing a kilt, with a stick in his left hand and a lion's skin over his outstretched right arm,
- In the Cologne 83 II edition he faces the viewer and it shows him wearing a tunic which leaves one shoulder bare,
- In two editions (Gottweig 7 (146), Siena L. IV. 25) he is shown facing away from us with an animal skin over his left arm,
- In the Prague IX C 6 he is shown carrying a sword rather than a stick,
- In the Paris BN n.a. 1614 edition he is holding a leafy frond,
- In the Vat Reg lat 1324 edition he is shown facing the viewer with a stick in his right hand and his left arm transformed into a wing.

The 9th century Berlin 130, Madrid 3307, Monza F.9/176 and Vat lat 645 manuscripts of the *De ordine ac positione stellarum in signis* depict Boötes leaning on a shepherd's staff with the curved end on the ground and his right hand raised above his head. The Austin, TX, Ransom Ms 29, Paris BN, n.a. 1614, and St. Petersburg, Q.V. IX, no.2 manuscripts of the *De ordine ac positione stellarum in signis* depict Boötes holding a curved club or plant in one hand. The Paris BN, 12117 and Vat Reg lat 309

manuscripts of the *De ordine ac positione stellarum in signis* depict Boötes in a short tunic and knee-high boots, holding a sickle in his right hand and his left hand palm upwards. The Los Angeles, Getty Ludwig XII, 5 and Paris BN lat 8663 manuscripts of the *De ordine ac positione stellarum in signis* depict Boötes with a plant in his right hand.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi's son depicts Boötes as a clean-shaven male wearing knee length robes and a turban. On the first page he is turned slightly to our left, holding a crooked stick with a hooked end in his left hand and gesturing skywards with his right hand. On the other page he is turned slightly to our right, holding a crooked stick with a hooked end in his right hand and gesturing skywards with his left hand.

The Oxford Laud 644, Padua 27 and Venice VIII 22 manuscripts of the 11th century *De signis caeli ("of the signs of heaven*") depicts Boötes facing us, wearing a tunic, with bare feet and left shoulder exposed. He is looking over his left shoulder with his right arm outstretched at shoulder height palm upwards and holding a plant in his left hand.

The *Liber de signis* of Scottish polyglot Michael Scot (1175 – c.1232) depicts Boötes as a long-haired male farmer, holding a sickle in his right hand and a lance in his left hand with a sheaf of corn at his left side.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Bootes as a male facing us in calf length dress. He is holding a curved stick in his left hand and is gesturing towards Ursa Minor with his right hand.

Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) depicts Boötes as a long-haired male running to our left. His right hand is raised as if in greeting and his left hand is holding a club. It is labelled "al-'awwā" ("the howler").

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Boötes as a bearded male in a calf length robe. He is gesturing skyward with his right hand and holding a long sword in his right hand.

The mid 15th century Wein, Oesterr. National Bibl., manuscript Lat 5415, ff.168v-169r depicts "Bactus" as a male in Medieval tunic and tights as viewed from behind as he runs to our right. His left hand is raised skyward towards the north star and he is holding a staff in his right hand.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.71v-72r depicts Boötes as a male striding to our left as viewed from the rear. He is holding a shepherd's crook in his right hand. It is not labelled.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Boötes as a male walking to our left wearing shorts. His left hand is raised before him and in his right hand he is carrying a staff. It is not labelled.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Boötes as a male in a peaked cap and knee length robes. He is looking to his right and in his right hand holds a sickle. In his left hand he is holding a spear.

De Astronomica ("the astronomy"), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is

disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This depicts “Boetes” as a man with long hair wearing a tunic, pants, sandals, and a wide-brimmed hat with a satchel over his shoulder: He has a scythe raised in his right hand, a sword at his waist, and a spear in his left hand.

The *Germanicus Aratea* (Siciliensis, c. 1469) and the *Germanicus Aratea* with scholia Strozziana (c. 1475) depict Boötes as a bearded male in a toga walking to our left with a stick raised in his right hand and a sword on his left hip.

The Constance Celestial Globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts “Arctophilax vel Boetes” as a long-haired male farmer, holding a sickle in his left hand and a lance in his right hand with a sheaf of corn at his left side. The lance is touching the foot of Hercules. Leashes in the same hand holding the lance lead to two dogs which are not labelled.

The early 16th century Real Academia de Historia, manuscript D-97, f.102v – 103r depicts Bootes as a nude male walking to our right. He is holding a staff or club up in his right hand and his left hand is pointing toward Ursa Minor. It is not labelled.

The “Nuremburg Maps” *(Die Karte des Nördlichen Sternenhimmels* inv.-Nr. Hz 5576), a pair of celestial hemispheres made in 1503 by Conrad Heinfogel, depicts “Bootes” as a bearded nude male walking away from us to our right holding a spear in his right hand and waving with his left hand.

The *imagines coeli septentrionales cum duodecint imaginibus zodiaci* (“images of the northern sky with twelve images of the zodiac”), commonly known as the *Northern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius (Dekker & Lippincott, 1999) lists “Bootes” and depicts him as a nude bearded man walking away from us to the right holding a spear in his right hand and having his left hand raised high as if waving.

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts “Bootes” as an armoured warrior as viewed from behind with his empty left hand raised as if in greeting and holding a staff in his right hand. Leashes lead from his right wrist to two dogs at his feet. A celestial globe (1522) of Schöner (1477 – 1547) depicts “Bootes” as a nude male with his back to us. He is gesturing skyward with his left hand and holding a spear in his right hand.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts “Bootes” as a nude male viewed from behind: He is holding a spear in his right hand and his left arm is raised high.

The *Horoscopion generale* (1533) of Petrus Apianus (1495 – 1552) depicts Boötes as a bearded male in a tunic, knee high boots, and brimmed cap. He is walking to our left with a long staff in his left hand and leashes to two following dogs in his right hand.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts “Bootes” in the same manner as Dürer et al.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts “Bootes” as a nude male walking away from us holding the leashes of three dogs in his raised left hand and a spear in his right hand.

Dele Stelle Fisse (“Of the Fixed Stars”) by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as “Di Boote, ouer guardian de l’Orse” (“Bootes, our guardian of the Bear”). The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

The Northern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Boötes as a nude male with his back to us, walking away to our left. In his left hand he holds a spear, and he is brandishing a scimitar over his head. By his right foot two dogs are running beside him.

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts “Bootes” as a male in a thigh length tunic and wide brimmed hat walking with a spear in his left hand and waving with his right hand.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) depicts “Arctophylax” as a young male in a tunic with a crook in his right hand resting on his right shoulder gesturing to the left with his left hand in a sort of warding gesture.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts this constellation as a male in medieval costume with some sort of cap. He is holding a spear in his right hand and pointing towards Ursa Major with his left hand. The label is unintelligible.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts “Bootes” as a male striding to our right, viewed from behind. He is wearing a short sleeved knee length tunic. He is holding a staff in his right hand and appears to be waving at someone with his left hand.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) labels this constellation “Bubulcus” and depicts it as a bearded male in a thigh length tunic and boots who is walking to our right. He is holding up a club in his right hand and is pointing towards celestial north with his left hand.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) depicts “Bootes” as a male viewed from behind. He is wearing a knee length coat, knee high boots, a brown under tunic, and a broad brimmed hat. He has two clubs in his right hand and is pointing to the sky with his left hand.

German astronomer Johann Bayer (1572 – 1625) lists Boötes in his *Uranometria* in 1603: He depicts him as a bearded man with a scythe raised in his left hand and a hooked staff in his right hand. Bayer lists the names “Boötes, Bubulus, Bubulcus, Q. Ciceroni Bootis, Thegius, Clamator, Vociferator, Plorans, Plaustri Custos, Philomelus, Arcas, Icarus, Lycaon, Isidoro Arcturus Minor, quibusdam (“to some”) Septentrio, Hesychio Orion, Auensrae Canis Iatrans, Ariamech, Aramech, Cheguius or Ceginus, and Lanceator”.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts “Bootes” as a male in a thigh-length tunic as viewed from the rear, with a shepherd’s crook in his right hand and a scythe raised in his left hand.

“Bootes” is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and depicted as a bearded male in a knee length tunic and boots facing away from us with a club in his left hand and a scythe raised over his head in his right hand.

Giovanni Paolo Gallucci's *Theatrum Mundi, et Temporis* (1614) labels this constellation "Bootes" and "Arctophilax" and depicts him as a bearded male in a kilt, carrying a spear in his right hand and gesturing to someone behind him with his left hand as he looks over his left shoulder.

"Bootes" is listed by German astronomer Johannes Kepler (1571 – 1630) in his *Tabulae Rudolphinae*, a new edition of Brahe's catalogue, in 1627.

Giovanni Paolo Gallucci's *Theatrum Mundi, et Temporis* (1614) labels this constellation "Bootes" and "Arctophilax".

"Bootes" is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a bearded male in a thigh length tunic and boots holding a scythe above his head in his left hand and a bent club in his right hand.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts "Bootes Bubulcus" as a male standing with is back to us. He is wearing a Ragi fur cap, a knee length coat, and high boots. He has a club in his right hand and is pointing towards celestial north with his left hand.

The huge *Gottorf Globe* (c1650) made for the Duke of Holstein, Frederick III, one of the world's first planetariums, depicts Bootes as a bearded male as viewed from behind. He is wearing a thigh length tunic and tall boots. He is holding a shepherd's crook in his left hand and is brandishing a sickle over his head in his right hand.

This constellation is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "Bootes Bubulcus".

Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) labels this constellation "Bootes" and depicts him as a bearded and robed male viewed from the rear holding aloft a sickle in his left hand and holding a staff in his right hand.

The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678 by English uranographer James Clerk depicts "Bootes" as a male in a tunic, pants, boots, and a fluffy cap waving his right hand.

English uranographer John Seller's *A coelestiall planisphere* (1678) depicts "Bootes" as a male in a long tunic, pants, boots and a cap with his left hand raised.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum,* depicts "Bootes" as a bearded male viewed from behind holding a club in his right hand and holding the leashes of two dogs (Canes Venatici) in his raised left hand. The upper dog is "Asterion" and the lower "Chara". Boötes is dressed in a thigh length tunic and sandals.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this "Le Bouvier", "Bootes", and "Βοώτης" and depicts it as a bearded male in knee length robes. He is holding a hooked shepherd's staff in his left hand and is brandishing a sickle over his head with his right hand.

A celestial pocket globe created by British uranographer Herman Moll in 1719 depicts “Bootes” as a male facing away from us in a tunic holding a club aloft in his right hand and the leashes of two dogs (Canes Venatici) in his left hand.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley’s pirated catalogue of Flamsteed’s observations of 1712, depicts “Bootes” as a bearded male in a knee length green tunic with red trim: He is holding a stick in his right hand and leashes of the two dogs of Canes Venatici in his left hand.

This constellation is listed in English astronomer John Flamsteed’s *Atlas Coelestis* in 1729 as “Bootes [sic]”: He is depicted as a bearded male in a kilt-like garment holding a club in his right hand and holding aloft the reins of the two dogs of Canes Venatici in his left hand.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts “Bootes” as a male in a calf length tunic and boots as viewed from the read. He is holding the leashes of the dogs of Canes Venatici in his raised right hand.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts “Bootes (sic)” as a male in a knee length tunic as viewed from the rear. In his left hand is a staff and in his raised right hand are two leashes leading to two hounds, “Asterion” and “Chara”.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Boötes as a bearded, long-haired male walking to our left. He is holding a hooked staff in his right hand and is holding aloft a sickle in his left hand, which is also holding two leashes to a pair of dogs who are running to our right.

French uranographer Gabriel Phillipe de la Hire’s *Planisphere Celeste* (1760) depicts “Bootes” as a bearded male in a tunic and pants holding a shepherd’s staff in his right hand and holding aloft a sickle in his left hand.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts “Boötes” as a male viewed from the rear, holding aloft a club in his right hand and holding the leashes of two dogs (Canes Venatici) in his left hand.

Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists this constellation as ”der Bootes mit dem Berg Mänalus“ in the text and labels the constellation “Bootes” on the charts, depicting it as a bearded male in a kilt with a club in his right hand and the leashes of two dogs labeled “Die Jagdhunde” and “Chara” and “Asterion” in his left hand.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists “Boote” in his *Della Specola Astronomica De’ Regj Studj Di Palermo* (1792).

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts “Bootes” as a male in tunic, pants, boots, and furry hat, viewed from behind, with leashes for two dogs (Canes Venatici) in his left hand and a forked staff in his right hand.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts “Bootes” as a male facing away from us holding aloft a club in his right hand and holding the leashes of two dogs (Canes Venatici) in his left hand.

German astronomer Johann Elert Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as “Bootes” and depicts it as a man with two leashed dogs (Canes Venatici) in his left hand and a raised club in his right hand.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists “Bootes” [sic] in his *Celestial Atlas* in 1822: He depicts this as a bearded male in a kilt-like garment carrying a spear in his right hand and holding the leashes of two dogs (Canes Venatici) in his raised left hand. Jameison’s *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822) depicts “Boötes” as a muscular male in a kilt and boots holding a sickle aloft in his left hand, which is also holding the leashes of two dogs (Canes Venatici). His right hand is holding a staff.

Dorn describes this constellation as “the Crier” in his *Description of the Celestial Globe Belonging to Major-General Sir John Malcolm, G.C.B., K.L.S., &c. &c., Deposited in the Museum of the Royal Asiatic Society of Great Britain and Ireland* in 1829.

“Bootes” is listed on one chart in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) as a beareded male in a knee length tunic facing away from us with his raised right hand holding the leashes of Canes Venatici. On another he is shown facing us, with a staff in his right hand and holding a scythe over his head in his left hand.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depict “Bootes” as a male in a kilt and boots holding a shepherd’s crook in his left hand and the leashes of two dogs (Canes Venatici) in his raised right hand.

This is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852 as “Bootes [sic]”: The author is unknown, but it is based on Jamieson’s *Celestial Atlas:* He is depicted as a bearded figure wearing a sort of kilt, holding a spear in his right hand and a serrated sickle and leashes to two dogs in his raised right hand: The dogs are labelled “Asterion” and “Chara”.

“Bootes” is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): He is depicted as a bearded male facing us in a thigh length tunic, holding a shepherd’s crook in his right hand and the leashes of Canes Venatici in his raised left hand.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) describes this constellation as “Boötes, the bear driver… a huntsman grasping a club in his right hand, while in his left he holds by the leash his two greyhounds (Canes Venatici), with which he is pursuing the Great Bear”.

English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists “Boötes, The Herdsman” as an official constellation “recognized in the catalogue of the British Association”.

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as “Boötes, the Herdsman, or Bear-Diver”, the latter name probably a typographical error for “Bear Driver” (see above).

German astronomer Hermann Joseph Klein (1844 – 1914) lists “Bootes” in his *Star Atlas* (1893).

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Bootes" and describes it as a "Bear Keeper".

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Boötes: the Plowman".

In Northern latitudes a kite or ice cream cone shape is created by some stars in the constellation Boötes: Alpha (α) Boötis (Arcturus), Epsilon (ε) Boötis (Izar), Delta (δ) Boötis, Beta (β) Boötis (Nekkar), Gamma (γ) Boötis (Seginus) and Rho (ρ) Boötis.

Standard IAU charts depict Boötes as a kite shape running from Alpha (α) Boötis (Arcturus) through Epsilon (ε) Boötis, Delta (δ) Boötis, Beta (β) Boötis (Nekkar), Gamma (γ) Boötis, and Rho (ρ) Boötis. Two additional lines run out from Arcturus:

- One to Zeta (ζ) Boötis, and
- One through Eta (η) Boötis to Upsilon (υ) Boötis.

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) redesigned the lines of Auriga in his book *The Stars - A New Way to See Them* (1952). Rey draws it like this:

- His "hat" is the triangle of stars Delta (δ), Mu (μ) 1, and Beta (β) Boötis (Nekkar),
- His "head" is the stars Delta (δ), Beta (β), Gamma (γ), Rho (ρ), Sigma (σ), and Epsilon (ε) Boötis,
- His "body" is the triangle of stars Epsilon (ε) Boötis, Alpha (α) Boötis (Arcturus), and Zeta (ζ) Boötis, and
- His "arm" runs from Arcturus to the triangle of stars Eta (η), Upsilon (υ), and Tau (τ) Boötis.

Sky and Telescope Magazine, founded in 1941, depicts Boötes in their magazine and publications in the same manner as the standard IAU charts except that they add a line running from Gamma (γ) Boötis to a triangle of the stars Lambda (λ), Theta (θ), and Kappa (κ) 1 and 2 Boötis.

Booths of the Maidens:

This Hebrew asterism "Sukkōth Rᵉnōth" is the Pleiades cluster in the IAU constellation Taurus as listed by R. H. Allen in his *Star Names* in 1899, who translates this as "booths of the maidens" or "tents of the daughters".

Border Patrol:

This Hungarian asterism "Határjáre" appears on the celestial map of Hungarian uranographer Sandor Nagy (1915), who depicts this asterism as a male in a cloak with a walking stick. NOTE: Nagy's 1915 chart is beautifully illustrated, but some of the labels are hard to make out and I find it difficult to match the hand drawn stars on his chart with actual star patterns in the sky. The stars are currently unidentified.

Bordering Fornax:

This **telescopic** asterism "Limitánea Fornácis" is the elliptical galaxy NGC 1404 in the IAU constellation Fornax. It was discovered in 1837 by John Herschel who listed it as 2571 in his catalogue and later as GC 750 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as it is on the border between Fornax and Eridanus.

Boreal Fish:

This asterism “Pisces Boreales” is the IAU constellation Pisces as described in *Cosmos: A Sketch of a Physical Description of the Universe* by German scientist and explorer Alexander von Humboldt, which was published in five volumes between 1845 and 1862. R. H. Allen lists it in his *Star Names* in 1899.

Borer:

This is an alternate name for the asterism Terebellum (see Drill below).

Born in Fire of Pictor:

This **telescopic** asterism “Ignígena Pictóris” is the lenticular compact dwarf galaxy NGC 1705 in the IAU constellation Pictor. This is 2679 on John Herschel’s list and later GC 937 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010):They gave it this name due to its “intense star formation activity”.

Born Under an Unlucky Star of Cetus:

This **telescopic** asterism “Astrósus Céti” is the spiral galaxy NGC 988 in the IAU constellation Cetus. It was discovered by Édouard Jean-Marie Stephan in 1880. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). They gave it this name due to its having 7.1 magnitude star HIP 12055 (HD 16152) in the foreground”.

Borrelly's Star:

This star is probably S Ceti in the IAU constellation Cetus. It is named after French astronomer Alphonse Borrelly (1842 – 1926).

Bosaga:

This Kazakh asterism “Bosaga” is the IAU constellation Gemini.

Bosona:

This **telescopic** Bosnian star is HIP 107251 (HD 206610) in the IAU constellation Aquarius (magnitudfe 8.35). It was given this name as part of the IAU NameExoWorlds campaign. Bosona was the name of their territory in the 10th century. It has an exoplanet named Naron, which is a name for the Neretva River: Its original Celtic name was Nera Etwa, which means “flowing divinity”.

Botein:

See Little Belly of the Ram, below.

Bound:

This Sogdian star “Bastham” is s Zeta (ζ) and Eta (η) Ophiuchi in the IAU constellation Ophiuchus.

Boundary:

This Arabic star “al-nasaq”, later latinized to “Al Nasaq” is Iota (ι) Herculis in the IAU constellation Hercules. It is part of their asterism Northern Line of al-Nasaqān (see below) and Two Lines (see below).

Bountiful:

This Vedic nakshatra (lunar mansion) “Maghā” or “Magha” is the star Alpha (α) Leonis (Regulus) in the IAU constellation Leo. Ivankovic (2021) lists it as “Maghā”, translates this as “munificent”, and associates it with the Pitris, which are the spirits of the departed ancestors. It appears as “Maghāh” in the *Taittirīya Brāhmana* (Ivanković 2021). They also call it “the Great One”. It appears as “Magha” in their *Atharveda* and on the nakshatra list of the maharshi Varahamihir. The maharshi Parasara lists 6 stars in this asterism: Two of them are Alpha (α) Leonis (Regulus) and Eta (η) Leonis (Leitz 2019). Ivanković (2021) describes it as the “sickle” of Leo: Epsilon (ε) Leonis, Mu (μ) Leonis, Zeta (ζ) Leonis, Gamma (γ) Leonis, Eta (η) Leonis, and Alpha (α) Leonis (Regulus). W. Brennand lists it as “Magha” in his *Hindu Astronomy* in 1896. Bhagwath (2019) lists its symbol as a royal throne.

This Myanmar nekkhat (lunar mansion) “Maga” (မာဃ) is Alpha (α) Leonis (Regulus) in the IAU constellation Leo.

This Tibetan gyukar (lunar house) “Mchu”, “Chu” or ”Ta Chen” is Alpha (α) Leonis (Regulus) in the IAU constellation Leo (Johnson-Groh 2013).

Bow:

The ancient Greeks sometimes broke their asterism “Archer” (see above), which later became the IAU constellation Sagittarius, into parts, with the archer’s bow being listed by Aratus (315 – 240 B.C.E) as “Τόξον” (“Tóxon”) and by Cicero (106 – 43 B.C.E.) and Germanicus (15 B.C.E. – 19 C.E.) as “Arcus” and by the Roman poet Ovid (b. 43 B.C.E.) as “Haemonios”.

This Korean asterism “Hwal” or “Likeobeu Hwal” (리커브 활) is in the IAU constellations Canis Major and Puppis:

- The “bow” is the curve of stars from 16 Puppis through 11, Xi (ξ), and k Puppis, Eta (η) Canis Majoris, and Eta (η) Puppis, ending at Sigma (σ) Puppis,
- The “bowstring” is a line from 16 Puppis through Chi (χ) and c Puppis ending at Sigma (σ) Puppis and
- The “arrow” is the triangle of stars Chi (χ) and c Puppis at the “base” of the “arrow” and Delta (δ) Canis Majoris the “tip”.

The Korean asterism “Hwal” shares some stars with the Chinese xing guan “Bow and Arrow” (see below) but is a different pattern of bow.

This Babylonian asterism from the MUL.APIN tablets “Qastu” (Hunger 1992) is made up of the stars of the IAU constellations Canis Major and Columba:

- The center of the tip of the “arrow” is Alpha (α) Canis Majoris (Sirius), with a triangle of stars around it: 7 and 20 Canis Majoris with HIP 31827 at the tip,
- The “arrow shaft” runs from Sirius to Delta (δ) Canis Majoris. Their name for the arrowhead, Sirius, is Gagsisa (see Arrowhead, above),
- The “bow string” runs from Rho (ρ) Canis Majoris to Delta (δ) Columbae, and
- A curve of stars from these two stars up through 24 Canis Majoris is the “bow”.

Hope Anthony (1996) lists this as “BAN (GISH.BAN)” or “qashtu” and describes it as the stars Tau (τ), Delta (δ), Sigma (σ), and Epsilon (ε) Canis Majoris in the IAU constellation Canis Major.

This Akkadian asterism “qa-aš-tum” from the Ura = hubulla XXII lists (Block, Yigal, and Horowitz 2015) is unidentified at this ti from the Ura = hubulla XXII lists (Block, Yigal, and Horowitz 2015) is identical to the asterism Qastu above.

This Sumerian asterism “mul[giš]pan” from the Ura = hubulla XXII lists (Block, Yigal, and Horowitz 2015) is identical to the asterism Qastu above.

This Babylonian asterism is listed in the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) as “MUL.dBAN” or “MUL.BAN” (Hunger 1992) and as “mul.ban” in the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period (Koch-Westenholz 1995) is identical to the asterism Qastu above.

The Akkadian asterism “Qastu” from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) is identical. This Babylonian asterism appears in later Seleucid sky lore.

This Mesopotamian asterism “Ban” from the *Three Stars Each* tablet from 1100 B.C.E. is made up of the stars of the IAU constellations Canis Major and Puppis:

- The star Alpha (α) Canis Majoris (Sirius) “KAK.SI.DI” is an “arrow” pointing at the IAU constellation Orion, and
- The southern stars of Canis Major and part of Puppis are the “bow”.

This Assyrian asterism “Ban” is identical to the Mesopotamian asterism “Ban” (see above).

This Arabic asterism “al-Qaws” (القوس), later latinized to “Kaus”, is three stars in the IAU constellation Sagittarius:

- Epsilon (ε) Sagittarii (Kaus Australis),
- Delta (δ) Sagittarii (Kaus Media), and
- Lambda (λ) Sagittarii (Kaus Borealis).

This then shows up in various catalogues:

- “al-Qaws” was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- “Al qaws” is listed on a 14th century Christian Spanish astrolabe #4560 (King 2002).
- Johann Bayer’s *Uranometria* (1603) lists “Elkufu” and “Elkaufu”.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Elkuschu” as an Arab name for Sagittarius.
- Other Latinizations include “Elkausu” and Elkusu”
- “Alkauuso” is listed by German professor Wilhelm Schickard (1592 – 1635).
- Robert Hues lists “Elcusu” and “Elcausu” in his *A Learned Treatise of Globes* in 1659.
- John Hill lists “Kaus” as the Arabic name of the constellation Sagittarius in his *Urania* in 1754.

This Babylonian and Sumerian star “Ban” from the star catalogue BM 78161 (Liechty 1988) is Eta (η) Canis Majoris in the IAU constellation Canis Major.

This Pawnee asterism is the IAU constellation Delphinus.

The stars of this Tanacross asterism “dzeht’ii” are unidentified at present (Cannon 2021).

Bow and Arrow:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is made up of stars of the IAU constellations Canis Major and Puppis:

- The "bow" is a curve of stars starting at Xi (ξ) Puppis and running through HIP 36721, Tau (τ) Canis Majoris, Delta (δ) Canis Majoris, Sigma (σ) Canis Majoris, and Epsilon (ε) Canis Majoris, ending at Kappa (κ) Canis Majoris,
- The "bowstring" runs from Xi (ξ) Puppis through k Puppis and Eta (η) Canis Majoris, ending at Kappa (κ) Canis Majoris, and
- The "Arrow" runs from Eta (η) Canis Majoris through Delta (δ) Canis Majoris to an arrow tip "Shi" at Omicron (o) 2 Canis Majoris (the determinative star).

This heart-shaped Chinese xing guan "Húshǐ" (弧矢) is made up of stars in the IAU constellations Canis Major and Puppis:

- The "bow" is a wavy line of stars starting at Omicron (o) Puppis and running through k Puppis, Eta (η) and Epsilon (ε) Canis Majoris and ending at Kappa (κ) Canis Majoris,
- The "string" is a curve from Omicron (o) Puppis through HIP 38901, and c and n Puppis, to Kappa (κ) Canis Majoris, and
- The "arrow" is Delta (δ) Canis Majoris.

This Chinese Chenzhuo xing guan "Húshǐ" is made up of stars of the IAU constellation Canis Major and Puppis:

- The "bow" is the curve of stars Xi (ξ) Puppis, HIP 36721, Tau (τ) Canis Majoris, Delta (δ) Canis Majoris, Sigma (σ) Canis Majoris, Epsilon (ε) Canis Majoris and Kappa (κ) Canis Majoris.
- The "bow string" runs from Xi (ξ) Puppis through Eta (η) Canis Majoris to Kappa (κ) Canis Majoris.
- The "arrow" runs from Eta (η) Canis Majoris through Delta (δ) Canis Majoris to Omicron (o) 1 & 2 Canis Majoris. NOTE: Omicron (o) 1 & 2 Canis Majoris is also known by the name "Shi" ("Arrow").

This shares some stars with the Korean asterism "Hwal" (see Bow above), but it is a different pattern of bow, more like a recurve bow.

This is the Mongolian asterism "Num Sum", which is their name for the Northern Cross asterism in the IAU constellation Cygnus (Lagain & Rousseau 2015): The wings of Cygnus are the "bow", and the body is the "arrow", with Beta (β) Cygni (Albireo) the "arrowhead".

This Tibetan khyim (zodiac constellation) "gShu" or "Zhu" is the IAU constellation Sagittarius (Johnson-Groh 2013).

This Ainu Nociw ("asterism") "Ku nociw" (クノチゥ) and "Ay nociw" (アイ ノチゥ) is the bow and arrow. Ku is the arc of stars that form the "handle" of the Big Dipper asterism in the IAU constellation Ursa Major: Eta (η) Ursae Majoris, Zeta (ζ) Ursae Majoris, Epsilon (ε) Ursae Majoris, and Delta (δ) Ursae Majoris. Ay is the two stars Beta (β) Ursae Majoris (Merak) and Alpha (α) Ursae Majoris (Dubhe): It is called this as it points at Polaris.

There are two **telescopic** Bow and Arrow asterisms:

- One is listed by René Merting on the *Faint Fuzzies* website and is in the IAU constellation Pegasus. Merting describes this as eight to nine stars with "three dominant stars [forming] an

acute triangle." Merting describes this as an "arrow", but I can see it being interpreted as a bow and arrow: The tip of the "arrow" is HIP 107184 with the shaft running down through a 9.5 and an 8.3 magnitude star. Between these and perpendicular to them is an arc of stars with a 9.35 magnitude star at one end and the rest being 10^{th} – 11^{th} magnitude which forms the "bow".

- One is Raymond 11 in the IAU constellation Sagitta. René Merting describes it on the Faint Fuzzies website: "At 30x I see 5 stars that look like a bow and arrow, the brightest two stars form the ends of the drawn bow, in between three faint stars in a line - the arrowhead is formed by the faintest star in the west". The tip of the "arrow" is HD 192362. The curve of the "bow" is the stars Gaia DR3 1808690206727748992, HD 355070, HIP 192289, Gaia DR3 1808707695834725376, and Gaia DR3 1808706699402125184.

Bow and Arrow Galaxy:

This **telescopic** asterism NGC 3310 is a grand design spiral galaxy in the IAU constellation Ursa Major which is classified as a starburst galaxy. English astronomer William Herschel discovered this in 1789 and listed it as IV 60 in his catalogue. It is GC 2158 in the *General Catalogue* of 1864. This name is posted in the *Deep Sky Forum* by American astronomer Mark Friedman in January 2019. It is also known as the "Archer of Ursa Major" (see above).

Bow of Al Jawza:

This Arabic asterism "qaws al-jawza'" (قوس الجوزاء) is a curve of stars in the IAU constellation Gemini and Monoceros: One end starts at Eta (η) Geminorum and runs through Mu (μ) Geminorum, Nu (ν) Geminorum, Gamma (γ) Geminorum (Az-Zir), Xi (ξ) Geminorum (Al-Maysan), 15 Monocerotis, 13 Monocerotis, and Epsilon (ε) Monocerotis.

Bow of Tsui //Goab:

This Khoikhoi asterism is Pi (π) 1 to 6 Orionis in the IAU constellation Orion (Alcock 2014) and is part of their asterism "/Khunuseti" (see Stars of Spring, below).

Bow Stretcher:

This Greek asterism "Ρύτωρ τόξου" ("Rýtor tóxou") is the IAU constellation Sagittarius as listed by Aratus (315 – 240 B.C.E) and in R. H. Allen's *Star Names* in 1899.

Bow Tie:

One bow tie asterism is created by adding vertical lines to connect the limbs at the left and right of the Keystone of Hercules in the IAU constellation Hercules (see Keystone below), which forms the shape of a butterfly. This is also known as the Butterfly (see below).

There are nine **telescopic** "bow tie" asterisms:

- One is the planetary nebula NGC 40 in the constellation Cygnus. This was discovered by English astronomer William Herschel in 1787 and listed in his catalogue as IV 58. It is GC 20 in the 1864 General Catalogue of John Herschel. This is Caldwell 2 on the list of English astronomer Patrick Caldwell-Moore (1923 – 2012). Size 1.2' X 0.8'.
- This is an alternate name for the Boomerang Nebula (see above).
- This is an alternate name for the "butterfly" asterism created by the IAU constellation Hercules (see Butterfly, below).

- One is Corder 1624 in the IAU constellation Carina and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 70' X 40'. This includes HIP 41464, 41653, 41147, 41223, 41266A, 41285, and 41196 with a double star (HIP 41408) in the middle as the "knot".
- One is in the IAU constellation Eridanus and is Ennis 66 on the observing list of Canadian astronomer Charles Ennis. Size 45' X 20'. This is eight 8^{th} – 9^{th} magnitude stars: One side of the "bow tie" is a triangle defined by HIP 23172, HD 31924, HD 31885 and HD 31847. The other side is a triangle defined by HD 31787, HIP 23006, HD 31635, and HD 31684. This includes stars of Corder 771 on Jeffrey Corder's list, which Corder describes as a "slanted 'Y'."
- One is the open cluster the Theta (θ) Carinae cluster, IC 2602 (Melotte 102, Caldwell 102) in the IAU constellation Carina. It appeared in Abbé Nicholas Louis de Lacaille's original catalogue of 1755. American astronomer Solon Irving Bailey (1854 – 1931) recorded it which resulted in it becoming IC 2602. It was listed by this name in the Astronomy Society of Victoria Journal Vol 24, No. 3, in June 1971 and by South African astronomer Auke Slotegraaf, who describes it as an eastern group of 5 stars forming a bowtie (Orion?) shape. It is also known as the Southern Pleiades (see below).
- One is the open cluster NGC 4609 (Caldwell 98) in the IAU constellation Crux. This was discovered by English astronomer John Herschel in 1847 who listed it as "h 3407". It is GC 3145 in the *General Catalogue* of 1864. South African astronomers Auke Slotegraaf (1992, 2004) and Magda Streicher (1999) described it as a "bowtie shape".
- One is the reflection nebula NGC 2163 (Cederblad 62, LBN 855) in the constellation Orion. Size 3'. At the center of this 11^{th} magnitude nebula is the 13^{th} magnitude variable star LkHa208. This is listed in astronomer Stephen James O'Meara's *Hidden Treasures Catalogue* (2007). This is Ennis 87.
- One is the SB ring galaxy NGC 7787 in the IAU constellation Pisces. It was discovered by Albert Marth in 1864. This name is posted in the Deep Sky Forum in October 2012 by American astronomer Jimi Lowrey.

Bowie's Bolt:

This huge Belgian asterism "Bowie's Bolt" is made up of stars of the IAU constellations Centaurus, Libra, Octans, Triangulum Australe, and Virgo. This was proposed by the Belgian public observatory at Mira to honor the passing of rock star David Bowie at the behest of a Brussel's radio station. The pointed angles of the "bolt" are the stars Alpha (α) Virginis (Spica), Sigma (σ) Librae, Beta (β) Trianguli Australis, Zeta (ζ) Centauri, Delta (δ) Octantis, HIP 64003, and HIP 70069. Marc Jobin lists it on his blog *Espace pour la Vie*.

Bowl:

This Latin asterism "Patera" is the IAU constellation Crater.

- In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicts "Crater siue patera" ("Crater or Bowl") as a two handled vessel.
- "Patera" is listed in the 15th century *Alfonsine Tables*. Johann Bayer's *Uranometria* (1603) lists "Patera".
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Patera" as an alternate name for Crater.
- "Patera" is listed in John Hill's *Urania* in 1754.

This Micronesian asterism “Seeta” is made up of stars of the IAU constellations Delphinus, Cygnus, and Equuleus.

Bowl of Stars:

This **telescopic** asterism in the IAU constellation Cassiopeia is Corder 4995 on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Corder attributes it to Raymond Chiravalle. This is a shallow “bowl” with one edge being the stars Sigma (σ) Cassiopeiae, HIP 118077, and HIP 118057 and the other edge being Rho (ρ) Cassiopeiae and HIP 117957 and the stars filling the “bowl” is open cluster NGC 7789 (see Caroline’s Rose, below).

Bowl of the Poor:

This Arabic asterism is the IAU constellation Corona Borealis (Kemp et al 2022). Compare this to the Bedouin asterism Dish of the Poor People (see below).

Box:

There are eight **telescopic** “box” asterisms:

- One is the planetary nebula NGC 6309 in the IAU constellation Ophiuchus. It was discovered by German astronomer Wilhelm Tempel in 1876. It is GC 5851 in the *General Catalogue* of 1864. Chilean astronomer Wouter van Reeven listed this name on the *Deep Sky Forum* in July 2019. It is also known as the Exclamation Mark Nebula and the Shoeprint Nebula. Size 0.3’ X 0.3’.
- One is the planetary nebula NGC 6445 in the IAU constellation Sagittarius. It was discovered by English astronomer William Herschel in 1786 who listed it as “II 586”. It is GC 4333 in the *General Catalogue* of 1864. Size 0.6’ X 0.6’. It is also known as the Crescent Nebula or Little Gem.
- This is also an alternative name for NGC 6818 (see Little Gem Nebula, below).
- One is NGC 4449 (Caldwell 21), an irregular Magellanic type galaxy in the IAU constellation Canes Venatici, which was discovered by English astronomer William Herschel in 1788 who listed it as “I 213”. It is GC 3002 in the *General Catalogue* of 1864. It is also known as the “Bold Little One of Canes Venatici” (see above).
- One is Hickson 61, a quartet of galaxies in the IAU constellation Coma Berenices, three of them edge on to form “sides” of the box:
    - NGC 4175,
    - NGC 4173,
    - NGC 4169, and
    - NGC 4174.
- One is Sánta 138, listed in 2008 by Hungarian astronomer Sánta Gábor, which is described by Gábor as a “nice box-shaped asterism of 6 stars, 8 – 11 [magnitude]” in the IAU constellation Serpens.
- One is Sánta 134, listed in 2008 by Hungarian astronomer Sánta Gábor, which is described by Gábor as a “box shaped asterism of 6 – 7 stars, 7 – 11 [magnitude], nice” in the IAU constellation Aquarius.
- One is in the IAU constellation Lupus and is Corder 2916 on the observing list of American astronomer Jeffrey Corder. Size 5’. This is four 8^{th} – 9^{th} magnitude stars.

Box Bearer of Virgo:

This **telescopic** asterism "Pyxidóphorus Vírginis" is the barred spiral galaxy NGC 5746 in the IAU constellation Virgo. It was discovered by English astronomer William Herschel in 1786 who listed it as "I 126". It is GC 3987 in the *General Catalogue* of 1864.This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because the nuclear region of this galaxy is "boxy". It is also known as the Blade and Pearl Galaxy (see above), the "Mini Sombrero" (see below) and the Boxy Bulge Galaxy (due to the boxy nature of its bulge). This is O'Meara 74 in Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) where he lists it as "Pyxidóphorus Vírginis".

Box Kite:

This **telescopic** asterism is the open cluster NGC 6281 in the IAU constellation Scorpius. It was posted by "Michael Mc" on *Cloudy Nights* in September 2022. It was discovered by Scottish astronomer James Dunlop in 1826. John Herschel listed it as h 3664 and later as GC 4265 in the *General Catalogue* of 1864. This is listed in Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) as the "Moth Wing Cluster".

Box of Pegasus:

This **telescopic** asterism "Cápsa Pégasi" is the edge-on peculiar lenticular galaxy NGC 7332 in the IAU constellation Pegasus. It was discovered in 1784 by William Herschel who listed it as "II 233". It became GC 4821 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the inner region of this lenticular galaxy has a remarkable boxy shape".

Box on a Stick:

This **telescopic** asterism is the open cluster Messier 47 (NGC 2478) in the IAU constellation Puppis. It was discovered by Giovanni Battista Hodierna before 1654 and included in French astronomer Charles Messier's catalogue in 1771. It is listed in the General Catalogue of 1864 as GC 1594. It was given this name by American astronomer Wayne Schmidt.

Box Turtle:

This **telescopic** asterism is made up of stars of the IAU constellation Andromeda. This was posted on *Cloudy Nights* by American astronomer Dale Smith in February 2024. It is a pentangle of stars defined by 62 Andromedae, HIP 10562, HIP 10403A, HIP 10456, and HIP 10814.

Boxy Bulge Galaxy:

This **telescopic** asterism NGC 5746 is a barred spiral galaxy in the IAU constellation Virgo. It was discovered by English astronomer William Herschel in 1786 who listed it as "I 126". It is GC 3987 in the *General Catalogue* of 1864. It is also known as the Blade and Pearl Galaxy (see above) and the Mini Sombrero Galaxy (see below).). This is O'Meara 74 in Stephen James O'Meara's *Hidden Treasures Catalogue* (2007).

Boy Adrianaeus:

This French asterism "Puer Adrianaeus" is the asterism Antinous (see Antinous, above) in the IAU constellation Aquila as listed by French astronomer Joseph Jérôme Lefrançois de Lalande (1732 – 1807).

Boy Ida:

This Latin asterism “Puer Idaeus” (“the boy Ida”) is the IAU constellation Aquarius and is listed in R. H. Allen’s *Star Names* in 1899. Allen attributes it to 1st century Roman poet Ovid. This is a reference to the cup bearer of Jove. “Puer Idaeus” is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

Boy Raised by His Grandmother:

This Dene Tha’ asterism “Mbetsun Yendéhshéhi” or “Betsoyinilye” may be cognate with the Gwich’in asterism “Yahdii” (see Traveler, below (Cannon 2021)).

Boy with Bow and Arrow:

This Kumeyaay asterism is the IAU constellation Scorpius.

Boyajian's Star:

This star, also known as “Tabby's Star” (see below) or the “WTF Star” (see below) is KIC 8462852 in the IAU constellation Cygnus (magnitude 11.7). This is an F-type main-sequence star with a highly unusual light curve named after American astronomer Tabetha S. Boyajian: Tabby is a reference to her nickname. It is also known as the “WTF Star” (for “Where’s The Flux?”) and Tabby’s Star.

Boys Dancing:

This Xhosa asterism is Alpha (α) Carinae (Canopus) and N Carinae in the IAU constellation Carina (Holt and Slotegraaf 2022).

Bracelet:

This Ainu Nociw (“asterism”) is made up of stars of the IAU constellation Leo. Alpha (α) Leonis (Regulus), Eta (η) Leonis, and Gamma (γ) 1 Leonis form the bracelet and the stars Zeta (ζ), Mu (μ), and Epsilon (ε) Leonis a tassel.

Brahma-hydraya:

This Vedic star is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga. W. Brennand lists it as “Bramebridya” in his *Hindu Astronomy* in 1896.

Brahma King:

This Chinese translation “Fàn wáng” (梵王) or “Brahma King” of the Vedic asterism Prajapati from the *Xiuyao jing* (宿曜經）(759 and revised 764) is the IAU constellation Orion (Kotyk 2017).

Brahmarishi:

This Vedic asterism “Brahmarishi” is the IAU constellation Cygnus as listed in the *Atharvaveda Parishishta* (Bhagwath 2019).

Brahmi:

See Red One, below.

Braid:

This Arabic star “aḍ-Ḍafiyrah” or “aḏ-ḏafīrah” (الضفيرة), which translates as “braid”, “curl”, or “strand”, is Zeta (ζ) Leonis in the IAU constellation Leo. It is one of the four stars in the Arabic asterism Forehead (see below), which is part of their larger asterism Lion (see below):

- This was later latinized to “al Dafirah” or “Adhafera”.
- “Al-Dafira” was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his Book of the Fixed Stars in 964 (Hafez 2010).
- American uranographer Elijah Burritt (1794 – 1838) listed it as “Aldahfara” and “Aldhafera”.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “al dafirah, the tresses”.
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), simply refers to this star as “Zeta Leo”.
- The IAU approved the name Adhafera for Zeta (ζ) Leonis Aa.

Bram-bram-bult:

This Wotjobaluk, Mara, and Moporr asterism “Bram-bram-bult” or “Brambambult” is Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar), the Pointer stars (Dawson 1881, Clarke 2009, Hamacher 2011). These are ancestral brothers. Their mother Dok became Alpha (α) Crucis (Clarke 2009): See Dok below. Massola (2003) and Hamacher (2011) listed it as “Bram Bram” and only as Beta (β) Centauri (Hadar) in the IAU constellation Centaurus.

Bran:

The Welsh associate this mythical protector figure with the IAU constellation Corvus. This Celtic (Welsh) asterism may also be the IAU constellation Equuleus (Mosenkis, date N/K). Bran the Blessed, whose name means “blessed crow”, appears in the Second Branch of the *Mabinogion*. In the myths Bran’s severed head continues to speak, which is why this head-shaped constellation may be associated to him.

Brand in the Neck of the Camel:

See Bend in the Neck of the Camel, above.

Brandenburg Eagle:

This asterism “Branden” was created of stars of the asterism Antinous and the IAU constellations Delphinus and Aquila by German astronomer Erhard Weigel (1625 – 99) who produced his *Astrocopium Orbi Europaeo Sacrum* chart in 1661, 1681 and 1688 in which he tried to replace existing constellations a new system based upon the heraldry of the nation states and principalities of seventeenth century Europe, as well as of its principal hierarchies and social classes. On this chart it is labeled with the abbreviated “Branden” and is depicted as an eagle with spread wings carrying a mace with a red leaf shape on its back.

Brandenburg Sceptre:

This German asterism “Sceptrum Brandenburgicum” was created in 1688 by astronomer Gottfried Kirsch from the Prussian Royal Society of Sciences. Kirsch used stars between the IAU constellations Eridanus and Lepus, representing the sceptre of the royal family of the Brandenburgs: It is a line of five stars starting at one end at 64 Eridani and running through 60, 59, and 58 Eridani to 54 Eridani. This appears on the following charts:

- This asterism is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801) simply as "Scepter" and depicted as a sceptre.
- German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this asterism as "Brandenburgische Scepter" as does his *Vorstellung Der Gestirne* (1782).
- American uranographer Elijah Burritt (1794 – 1838) included this asterism in their atlases.
- American uranographer William Croswell (1760 – 1834) includes "Sceptrum Brandenburgium the Brandenburg Sceptre" on his *Mercator Map of the Starry Heavens* in 1810.
- Scottish uranographer Alexander Jamieson (1782 – 1850) listed it in his *Celestial Atlas* in 1822 as "Sceptrum Brandenburgium".
- *An Improved Moveable Planisphere* (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts "Sceptum Brandenburgium" as a scepter.

Brave:

This Arabic asterism "Alshujae" (الشجاع) or "al-Shuja'" is the IAU constellation Hydra:

- "al-Shuja'" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- French scholar Joseph Justus Scaliger (1540 – 1609) lists it as "Asvia"
- German Jesuit astronomer Athanasius Kircher (1602 – 1680) lists it as "Aphaak"
- Edward Sherburne's "*The Sphere of Marcus Manilius*" in 1675 lists this as "Alshugia".
- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) lists it as "El Hawick".
- John Hill lists "Asvia" as a name for Draco in his *Urania* in 1754.

Brazier:

This Arabic asterism "al-Majmara" is the IAU constellation Ara as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

This Latin asterism "Prunarum Conceptaculum" is the IAU constellation Ara.

- The illustrated editions of *De Astronomica* by Hyginus (1488 and 1535) show an altar with flames ascending.
- German astronomer Johann Bayer (1572-1625) listed the Greek name "Εσχάρα" (Éschára or "grid") and "Prunarum Conceptaculum".
- R. H. Allen wrote in his *Star Names* in 1899 that he believed that Bayer meant "Πυράμν" (Pyrámn or "brazier").

Brazilian Pye:

This English asterism is the IAU constellation Tucana, which appears on some early stellar charts by this name, which refers to a variety of magpie and is clearly a reference to Dutch navigator Frederick de Houtman (1571 – 1627) who listed in his catalogue of stars as an "Indian magpie" (see Tucana below). Robert Hues lists this in his *A Learned Treatise of Globes* in 1659.

Break the Enemy:

This Chinese star "Pojun" from the Three Kingdoms to the Ming Dynasty is Eta (η) Ursae Majoris in the IAU constellation Ursa Major.

This Chinese Chenzhuo xing guan "Pojun" is the star Eta (η) Ursae Majoris in the IAU constellation Ursa Major. It is part of their xing guan Northern Dipper.

Breast:

There are two Arabic stars with the name "as-Ṣadr" (الصدر):

- The first is Alpha (α) Cassiopeiae in the IAU constellation Cassiopeia:
    - The mid 15th century Wein, Oesterr. National Bibl., manuscript Lat 5415, ff.168v-169r lists this star as "Schedar".
    - The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists "Scheder".
    - This was later Latinized to "Schedar" in the 15th century *Alfonsine Tables* and "Scheder" in other editions (Kunitzsch 1986).
    - Polish astronomer Johannes Hevelius (1611 – 1687) listed it as "Schedir".
    - Johann Bayer's *Uranometria* (1603) lists the names "Seder", "Scheder", and "Schedar".
    - Other variations include "Shedir", "Shedar", "Shadar", "Sheder", "Seder", "Shedis", and "Zedaron".
    - Robert Hues lists "Scheder" in his *A Learned Treatise of Globes* in 1659 (attributing it to the *Alfonsine Tables*) and "Seder" (attributing that to Joseph Justus Scaliger (1540 – 1609)).
    - Edward Sherburne lists it as "Scheder" in his *Sphere of Marcus Manilius* in 1675.
    - The *Atlas Coelestis* of German astronomer Johann Gabriel Doppelmayr (1742) lists "Schedir" for this star.
    - Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Schedar".
    - American uranographer William Croswell (1760 – 1834) lists "Schedar" on his *Mercator Map of the Starry Heavens* in 1810.
    - William Herschel lists "Shedir" in his *Catalogue of 500 new Nebulae* in 1802.
    - Scottish astronomer Alexander Jamieson (1782 – 1850) listed "Shedir" in his *Celestial Atlas* in 1822.
    - American uranographer Elijah Burritt's *The Constellations for each Month in the Year* (1835) lists this star as "Schedir".
    - English Admiral Henry William Smyth lists it as "Schedir… probably a corruption of Al-sadr" in his *Prolegomena* and *Bedford Catalogue* in 1844.
    - This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Shedir": The author is unknown, but it is based on Jamieson's *Celestial Atlas*.
    - English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Schedar".
    - American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Schedar" and translates it as "Breast".
    - *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Shedir".
    - The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists this star as "Schedir", "Shedir", and Schedar", but the 14th edition (1959) only lists this star as "Schedar".
    - Kunitzsch and Smart (2006) list it as "Shedar".

    - German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this star as "Schidir".
    - *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this star both as "Schedar" and "Shedir".
    - The IAU approved the name Schedar for the star Alpha (α) Cassiopeiae.
- The second, "aṣ-Ṣadr" (الصدر) or "Al Sadr al Dajājah" ("breast of the hen"), is Gamma (γ) Cygni in the IAU constellation Cygnus:
    - It was later latinized to "Sadr" and "Sudr".
    - John Hill lists the name "Sad'r" in his *Urania* in 1754.
    - The IAU approved the name Sadr for the star Gamma (γ) Cygni A.

This Persian asterism "Shuter" is the IAU constellation Cassiopeia.

Breast of the Sea Monster:

There are two Arabic asterisms by this name:

- One, "ṣadr al-qayṭus", later latinized to "Sadr al Kaitos" or "Al Sadr al Ketus" is made up of stars of the IAU constellation Cetus:
    - Rho (ρ) Ceti (Sadr al Kaitos I),
    - Sigma (σ) Ceti (Sadr al Kaitos II),
    - Epsilon (ε) Ceti (Sadr al Kaitos III), and
    - Eta (η) Ceti (Sadr al Kaitos IV).
- One, "Sadr al-qītus" is the star Pi (π) Ceti in the IAU constellation Cetus as listed on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992).

Compare this to Belly of the Sea Monster, above.

Breastbone:

This Inuit asterism "Sakiattiak" is the Pleiades cluster in the IAU constellation Taurus (MacDonald 1998). It is also known as "Sharing Foxes" (see below).

Breastplate of Righteousness:

This German asterism is the IAU constellation Cancer as listed by German poet Philipp von Zesen (1619 – 1689).

Brewer's Star:

This **telescopic** magnetic star is HIP 32965 (HD 50169) in the IAU constellation Monoceros (magnitude 8.98). It is named after K. R. W. Brewer.

Briareus of Libra:

This **telescopic** asterism "Bríareus Líbrae" is the intermediate barred spiral galaxy NGC 5885 in the IAU constellation Libra. It was discovered in 1784 by William Herschel who listed it as "II 684". It became GC 4057 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of its

multiple arms. Briareus is one of the three hekatoncheires, the hundred armed giants in Greek mythology.

Brick:

The **telescopic** asterism called "The Brick" is a dark nebula located near the center of the Milky Way galaxy in the IAU constellation Sagittarius.

Bride:

This Belarussian asterism “Niavesta” is the IAU constellation Lyra (Avilin 2009). It is also known as “Dva braty” (see Two Brothers, below) and “Sapernik” (see Rival, below).

Bridge Builder of Hercules:

This **telescopic** asterism “Póntifex Hérculis” is the spiral galaxy UGC 10814 (Arp 102) in the IAU constellation Hercules. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “there is a long faint bridge between UGC 10814 and its southern companion MCG+8-31-41”.

Bridge of Donkeys:

This Zulu asterism “isiNdwengama” is currently unidentified (Alcock 2014). Alcock notes that Krige (1950) described this as “Pons Asinorum”.

Bridge of Virgo:

This **telescopic** asterism “Gephýra Vírginis” is the elliptical galaxy NGC 5018 in the IAU constellation Virgo. It was discovered in 1788 by William Herschel who listed it as “II 746”. It became GC 3448 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “NGC 5018 is physically connected to NGC 5022 at the east side and to ESO576-8 at the west side”.

Bridge that Links:

This Inca asterism “Ch’aka Tinkucheq” is the belt of Orion plus Alpha (α) Orionis (Betelgeuse) and Beta (β) Orionis (Rigel) in the IAU constellation Orion (Gamarra & Gamarra 2009).

Bridle:

This Assyrian star “Rappu” listed in the *Astrological Reports to the Assyrian Kings* (Hunger 1992) and listed as “mul ra-ap-pu” (Koch-Westenholz 1995) in the Neo-Babylonian (Chaldean) *Great Star List* (636 – 539 B.C.E.) is unidentified.

This Babylonian star “MUL.ra.pu” listed in the *Astrological Reports to the Assyrian Kings* (Hunger 1992) is unidentified.

Bright:

This Persian lunar station “Nūr” is the stars Delta (δ) Scorpii, Beta (β) Scorpii (Acrab), and Pi (π) Scorpii in the IAU constellation Scorpius and is listed in R. H. Allen’s *Star Names* in 1899.

Bright Andromeda:

This **telescopic** asterism, under the Latin name Lucida Andromedae, is the galaxy Messier 110. This was observed by French astronomer in 1773 but not included in his Messier List. English astronomer Caroline Herschel recorded it in 1783, and her brother William Herschel described her discovery in 1785. It was added to the Messier List in 1967 at the suggestion of Kenneth Glyn Jones. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010). This galaxy is also known as "Edward Young Star".

Bright Beam of Light:

This Bengali star "Bibhā" is HIP 48711 (HD 86081) in the IAU constellation Sextans (magnitude 8.7). It was given this name as part of the IAU NameExoWorlds campaign. Its name is a derivation of the Sanskrit "Vibha" ("bright beam of light"). It has an exoplanet named Santamasa, which is a Sanskrit name for "clouded", a reference to this exoplanet's atmosphere.

Bright Belly of Cetus:

This **telescopic** asterism "Gastrophénges Céti" is the elliptical galaxy NGC 584 in the IAU constellation Cetus. This was discovered in 1785 by William Herschel who listed it as "I 100". It became GC 342 in the *General Catalogue* of 1864. Astronomer Stephen James O'Meara's Hidden Treasures Catalogue (2007) lists this as O'Meara 6. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as it has "an extraordinarily luminous bulge". It is also known as the "Little Spindle" (see below).

Bright Cassiopeiae:

This Latin star "Lucida Cassiopeiae" is Alpha (α) Cassiopeiae (Shedar) in the IAU constellation Cassiopeia as listed in John Hill's *Urania* in 1754.

Bright Chair:

This Latin asterism "Lucida Cathedrae" is the IAU constellation Cassiopeia as listed in John Hill's *Urania* in 1754

Bright Crowns:

This Latin asterism "Lucida Coronae" is Alpha (α) Coronae Borealis (Alphecca) in the IAU constellation Corona Borealis as listed in John Hill's *Urania* in 1754. Later in the text Hill calls it "Nair Phecca".

Bright Fortunate One of the Two Beasts:

This Arabic star "Nāʾir Saʿd al Bahāim" is Zeta (ζ) Pegasi in the IAU constellation Pegasus:

- This name is listed in the 16th century Arabic astronomer Al Tizini
- This name is listed in the 17th century *Calendarium* of Al Achsasi al Mouakket.
- This name is listed by R. H. Allen in his *Star Names* in 1899.
- This name is listed by Robert Burnham in his *Burnham's Celestial Handbook* in 1978. Compare this to their asterism Auspice of Lambs, above.

Bright Lyra:

This star “Lucida Lyra” (“bright Lyra”) or “Lucida Lyrae” (“bright lyre”) is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra. “Lucida Lyra” is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661. “Lucida Lyra” and “Lucida Lyrae” are listed in John Hill’s *Urania* in 1754.

Bright Nucleus of Lepus:

This **telescopic** asterism “Clarinucleátus Léporis” is the barred spiral galaxy NGC 1964 in the IAU constellation Lepus. This was listed as “IV 21” by William Herschel. John Herschel listed it as 2860 and later as GC 1170 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Bright One:

This Vedic nakshatra (lunar mansion) “Chitrā”, “Chitra”, “Citrā”, or “Citra” (translated as “bright one”, “shining jewel”, “the pearl,” or “spectacular”) is the star Alpha (α) Virginis (Spica) in the IAU constellation Virgo. It is related to the deities Tvastar or Vishvakarma, both craftsman Gods. R. H. Allen lists it as “Citrā” in his *Star Names* in 1899. Leitz (2019) lists “Chitra” as appearing in the *Atharveda,* in the nakshatra list of the maharshi Varahamihir and the maharshi Parasara. Ivanković (2021) lists it as “Citrā” from Rig-Veda, translates it as “brilliant”, and relates it to the Gods Indra (a war and storm deity) and their artisan God Tvastar and craftsman God Visvakarman. W. Brennand lists this as “Chitra” in his *Hindu Astronomy* in 1896 and translates this as “a pearl”. Bhagwath (2019) lists its symbols as a bright jewel or a pearl.

This Myanmar nekkhat (lunar mansion) “Seiktra” (စိတ္တ) is the star Alpha (α) Virginis (Spica) in the IAU constellation Virgo.

This Tibetan gyukar (lunar house) “Nag Pa” or “Nakpa” is the star Alpha (α) Virginis (Spica) in the IAU constellation Virgo (Johnson-Groh 2013).

This Arabic star “an-Nayyir” (النّيّر), later latinized to “Al Na’ir”, “Al Nair”, or “Alnair” is Alpha (α) Gruis in the IAU constellation Grus as listed by 16th century Arabic astronomer Al Tizini:

- English Admiral Henry William Smyth writes in his *Bedford Catalogue* in 1844, that the Arabs gave this name to the star Eta (η) Tauri (Alcyone), as who calls it “Neyyir” as does R. H. Allen writes in his *Star Names* in 1899.
- The name Alnair was approved for Alpha (α) Gruis by the IAU.

Bright One in the Belly of the Centaur:

This Arabic star “Al Nāʾir al Baṭn al Kentaurus” is Zeta (ζ) Centauri in the IAU constellation Centaurus as listed by 16th century Arabic astronomer Al Tizini. It was later latinized to “Al Nair al Kentaurus” and “Baten Kentaurus”.

Bright One of the Boat:

This Arabic star “Nair al Zaurak” (نير أل زورق) is Alpha (α) Phoenicis in the IAU constellation Phoenix. This is also translated as “Yoke of the Boat”.

Bright One of the Broken Ring:

This Arabic star “(Nayyir) al-Fakkah” (نير الفكّة) is Alpha (α) Coronae Borealis in the IAU constellation Corona Borealis:

- The star list of Abraham Bar Hiyya in 1104 (Goldstein 1985) lists the Hebrew name “nezer sefoni” and the Arabic name “al-fakka”.
- Persian astronomer Al Achsasi al Mouakket listed it as “(Nayyir) al-Fakkah” in 1650.
- Persian astronomer Ulugh Beg Mirza (1394 – 1449) listed it as “al-Fakkah” (الفكة – “separated” or “broken up”) and “Al Nāʿir al Fakkah”.
- This is listed as “Nayyir al-fakkah” on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992).
- The mid 15th century Wein, Oesterr. National Bibl., manuscript Lat 5415, ff.168v-169r lists this star as “Alfeca”.
- German uranographer Johannes Stöffler’s Constance Celestial Globe (1493) lists this star as “Alpheta”.
- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) listed it as “Alphena Syrochaldaeis” (“Alphena of the Syrochaldeans”).
- German astronomer Wilhelm Schickard (1592 – 1635) listed it as “Alphakhaco”.
- Other variations include “Alfecca”, “Alfacca”, “Foca”, “Alfeta”, “Alfelta”, “Alfeta”, “Alphecca”, and “Alphekka”.
- Johann Bayer’s *Uranometria* (1603) lists “Alpheta” and “Alphecca seu Alphacca”.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Alpheta” and “Alphacca”.
- This star is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as “Alphecca”, “Alpheta”, and “Alphakacho”.
- Robert Hues lists it as “Alphecca” in his *A Learned Treatise of Globes* in 1659 and translates it as “untying” or “unloosing”.
- The rete of the 14th century Spanish astrolabe NMM AST0570 in the National Maritime Museum lists “Elfeca” (Dekker 2000).
- A 14th century Christian Spanish astrolabe #4560 lists the abbreviated form “Feca” (King 2002). John Hill lists the names “Phecca” and “Al Phecca” in his *Urania* in 1754.
- It was later latinized to “Alphaca” by American uranographer Elijah Burritt (1794 – 1838).
- American uranographer William Croswell (1760 – 1834) lists this star as “Gemma Alphecca” on his *Mercator Map of the Starry Heavens* in 1810.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists this star as “Alphacca vel Gemma” in his *Celestial Atlas* in 1822.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Alphecca, from al fekhah, the dervish’s cup or platter, from the said break in the ring of stars; and it was Naīr al fekkah, the lucida or bright star of the pauper’s platter”.
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich list this star as “Alphecca”.
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as “Alphecca”.
- English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists this star as “Alphecca”.
- American astronomer Winslow Upton’s *Star Atlas* (1896) lists this star as “Alphecca” and describes it as “the broken dish”.

- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists "Alphecca" and "Alphekka" for this star, but the 14th edition (1959) only lists "Alphecca".
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists "Alphecca or Alphekka" for this star.
- The IAU approved the name Alphecca for Alpha (α) Coronae Borealis.

Bright One of the Crown:

This unidentified Arabic star "Al-nayyir min al-iklīl" ("the bright one of the crown") is in the IAU constellation Libra and is listed on the star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003). We are unsure which star this is.

Bright One of the Sword:

This Arabic star "nayyir as-sayf" (نيرالسيف), later latinized to "Nair al Saif", is Iota (ι) Orionis in the IAU constellation Orion as listed by 16th century Arabic astronomer Al Tizini. The IAU is considering the name Nair al Saif for Iota (ι) Orionis.

Bright One of Those in the Gorgon's Head:

This Greek star "τῶν ἐν γοργονίῳ ὁ λαμπρός" is Beta (β) Persei (Algol) in the IAU constellation Perseus as described by Ptolemy (c.100 – c.170).

Bright Shield of Piscis Austrinus:

This **telescopic** asterism "Leucáspis Píscis Austríni" is the spiral galaxy IC 5271 in the IAU constellation Piscis Austrinus. It was discovered by Lewis Swift in 1897. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "this shield shaped galaxy has a very high surface brightness".

Bright Snake:

This Latin asterism "Lucidus Anguis" is the IAU constellation Serpens as listed by 1st century Roman poet Ovid and 1st century B.C.E. Roman poet Vergil. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Lucidus Anguis" for this constellation.

Bright Star:

This ancient Egyptian star "Ipdjes" is Beta (β) Centauri (Hadar) in the IAU constellation Centaurus. It is also known as "Its Own Count".

Bright Star of A-musen:

This Babylonian and Sumerian star listed in the catalogue BM 78161 (5th – 7th century B.C.E.) is Alpha (α) Aquilae (Altair) in the IAU constellation Aquila (Liechty 1988).

Bright Star of Syria:

This Arabic asterism "Al Shiʿrā al Shāmiyyah" is the IAU constellation Canis Minor:

- Robert Hues (1659) listed it as "Alsahare Alsemalija" and Aelilaschemali.

- John Chilmead in his *A Learned Treatise of Globes* in 1899 listed it as "Alsahare Alsemalija".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "al shi'ra l shámiyah, the bright star of Syria".

Bright Star of the Dish:

This Arabic star "Al Munīr al Fakkah" is Alpha (α) Coronae Borealis (Alphecca) in the IAU constellation Corona Borealis and is part of their asterism Bowl of the Poor (see above):

- This star appears as "Malfelcarre" in the 15th century *Alfonsine Tables.*
- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) lists it as "Malphelcane".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists it under the Latin name "Clara Stella" ("bright star").

Bright Star of the Furrow:

This Persian (Achaemenid Period 539 – 331 B.C.E.) star "SA sa ABSIN" is Alpha (α) Virginis (Spica) in the IAU constellation Virgo (Hunger and Sachs 1988).

Bright Star of the Hired Man:

This Persian (Achaemenid Period 539 – 331 B.C.E.) star "MUL IGI sa SAG HUN" is Beta (β) Arietis (Sheratan) in the IAU constellation Aries (Hunger and Sachs 1988) and is part of their asterism Hired Man (see below).

Bright Star of the Pig:

This Romanian star "Luceafărul Porcesc" is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus (Ottescu 2009). It is called this as the swine awake and start to grunt when it rises, signalling that day is approaching.

Bright Star of the Ribbon of the Fishes:

This Persian (Achaemenid Period 539 – 331 B.C.E.) star "MUL KUR sa DUR nu-nu" is Eta (η) Piscium in the IAU constellation Pisces (Hunger and Sachs 1988) and is part of their asterism Tails (see below).

Bright Star on the Tip of Pabilsag's Arrow:

This Persian (Achaemenid Period 539 – 331 B.C.E.) star "MUL KUR sa KIR sil PA" is Theta (θ) Ophiuchi in the IAU constellation Ophiuchus (Hunger and Sachs 1988).

Brighter of the Two Calves:

There are two Arabic stars listed under this name:

- One, "'anwar al-farqadayn", "Anwār al Farḳadāin", or "Nāʾir al Farḳadāin" is Eta (η) Ursae Majoris in the IAU constellation Ursa Major. It is part of their asterism Two Calves (see below):
    - English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Anwar al ferkadein the brightest of the two calves, the other being γ [Gamma]".
    - John Chilmead latinized this to "Alferkathan" in his *A Learned Treatise on Globes* in 1889.

- One, “Anwār al-farqadayn” is Beta (β) Ursae Minoris (Kochab) in the IAU constellation Ursa Minor as listed on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992).

Brightest of Al Henat:

This Arabic star “Nir al Henat” is Gamma (γ) Geminorum in the IAU constellation Gemini as listed in the 17th century *Calendarium* of Al Achsasi Al Mouakket.

This Latin star “Prima τou al Henat”, meaning 'the brightest of Al Henat' is Gamma (γ) Geminorum in the IAU constellation Gemini.

Brightest of the Town:

This Arabic star “nayyir al-baldah” (نير البلدة), later latinized to “Nir al Beldat”, is Pi (π) Sagittarii in the IAU constellation Sagittarius as listed in the *Calendarium* of Al Achsasi al Mouakket in 1650. This is part of their asterism “Town” (see below).

This Latin star “Lucida Oppidi” is Pi (π) Sagittarii in the IAU constellation Sagittarius.

Brightest of Virgo:

This **telescopic** asterism “Claríssima Virginis” is the giant elliptical galaxy NGC 4472 (Messier 49, Arp 134) in the IAU constellation Virgo. It was discovered by Charles Messier in 1777. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010)”.

Brightest Star:

This Filipino (Mayayaw Ifugao) star “Agiwa’na” is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Masong 2017).

Brightly Whirling of Coma Berenices:

This **telescopic** asterism “Clarivértens Cómae Bereníces” is the spiral galaxy NGC 4501 (Messier 88) in the IAU constellation Coma Berenices. It was discovered by French astronomer Charles Messier in 1781. It is listed in the 1864 General Catalogue as GC 3049 and in John Herschel’s catalogue as h 1312. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). It is also known as the Sargasso See (see below

Brigid:

This Celtic (Irish) asterism may be the IAU constellation Virgo. Brigid, Brigit, or Brig (“exalted one”) is a member of the Tuatha Dé Danaan, the daughter of the Dagda. Brigid is associated to wisdom, poetry, healing, protection, blacksmithing, and domesticated animals.

Brilliant Red Star:

This Hawaiian star “Kauluakoko” is Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion. Some refer to it as “’Aua” or “Hoku-‘ula” (“red star”), but this is their name for the star Alpha (α) Tauri (Aldebaran- see Red Star, below).

Brilliant Star:

This Zulu star "inKhwenkwezi" is Alpha (α) Carinae (Canopus) in the IAU constellation Carina (Slotegraaf 2013).

Brilliant White of Cetus:

This **telescopic** asterism "Rúfa Céti" is the elliptical galaxy NGC 720 in the IAU constellation Cetus. This was discovered in 1785 by William Herschel who listed it as "I 105". This became GC 431 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name due to its color.

Bringer of the New Year:

This Caribou Inuit asterism "Peggiyttyn" is the stars Alpha (α) Aquilae (Altair) and Gamma (γ) Aquilae in the IAU constellation Aquila. Compare this to the Inuit asterism "Aagjuuk" (see Two Sunbeams, below).

Bringing Heat:

This Latin star "Aestifer" is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major as listed by Roman statesman Cicero (106 – 43 B.C.E.) and 1st century B.C.E. Roman poet Vergil. It refers to this star indicating the arrival of summer.

Bringing the Chain:

This Latin asterism "Deferens Cathenam" is the IAU constellation Perseus. Johann Bayer's *Uranometria* (1603) lists "Deferens Cathenam" for this constellation. R. H. Allen's *Star Names* in 1899 lists "Deferens Cathenam" for this constellation. It refers to the association of Perseus with Medusa and the chain of Andromeda.

Bringing the Head of Algol:

This Latin asterism "Deferens caput Algol" is the IAU constellation Perseus as listed in R. H. Allen's *Star Names* in 1899.

Bringing the Lion:

This Latin asterism "Deferens Leonem" is the IAU constellation Lupus as listed by French astronomer Joseph Jérôme Lefrançois de Lalande (1732 – 1807).

Bringing the Psalter:

This Latin asterism "Deferens Psalterium" is the IAU constellation Lyra. Johann Bayer's *Uranometria* (1603) lists the name "Deferens Psalterium" for Lyra.

Bristle:

This Arabic asterism "Alshier Alkhashin" (الشعر الخشن) is the IAU constellation Coma Berenices.

This Babylonian asterism from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) is the Pleiades cluster in the IAU constellation Taurus. Compare this to the Babylonian asterism "MUL.MUL" (see Star Star, below).

This Akkadian asterism from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) is "Zappu" (Hunger 1992, Parpola 1993, Anthony 1996) or "Za-ap-pu" and is identical to the Babylonian asterism MUL.MUL (see Star Star, below).

This Persian (Achaemenid Period 539 – 331 B.C.E.) star "MUL.MUL" is Eta (η) Tauri in the Pleiades cluster in the IAU constellation Taurus (Hunger and Sachs 1988) and is part of their asterism Star Star (see below).

This Arabic star "Al Ḥulbah" is Alpha (α) Virginis (Spica) in the IAU constellation Virgo as listed by Iranian astronomer Abu Rayhan Muhammad ibn Ahmad al-Biruni (973 – c. 1050) and R. H. Allen in his *Star Names* in 1899.

Britzka of Saint Jacob:

This Belarussian asterism "Brychka sv Iakuba" is the IAU constellation Ursa Major (Avilin 2009). A Britzka is a car similar to a Tilbury cart, which is a light, open two-wheeled carriage.

Broad Brimmed Hat of Hydra:

This **telescopic** asterism "Petasus Hýdrae" is the galaxy ESO 510-13 (PGC 49473) in the IAU constellation Hydra. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the broad warped dust lane".

Brocchi's Cluster:

This is an alternate name for the "coat hanger" asterism in the IAU constellation Vulpecula (see Coat Hanger, below). It is named for American amateur astronomer Dalmero Francis Brocchi (1871 – 1955), who created a map of it in the 1920s. NOTE: It wasn't discovered by Brocchi, it was first recorded by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986), who recorded it as a "small cloud" in Aquila. Therefore, it is an unaided eye asterism, not telescopic.

Broken Arm of Sculptor:

This **telescopic** asterism "Brachifragius Sculptóris" is the spiral galaxy NGC 10 in the IAU constellation Sculptor. It was discovered by John Herschel in 1834. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as one of the arms of the galaxy appears broken.

Broken Down:

This Hungarian asterism "Részoqerobd" ("broken down" or "split into pieces") appears on the celestial map of Hungarian uranographer Sandor Nagy (1915), who depicts what looks like some broken up timbers. NOTE: Nagy's 1915 chart is beautifully illustrated, but some of the labels are hard to make out and I find it difficult to match the hand drawn stars on his chart with actual star patterns in the sky. The stars are currently unidentified.

Broken Egg Shells:

This Arabic star "al-Qaiḍ" (القيض) is Omicron (o) 2 Eridani in the IAU constellation Eridanus:

- This was later latinized to "Keid".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists it as "Keid, from the Arabic al-Kaïd, the eggshells".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists "Keid" for this star but his 14th edition (1959) does not list it.

- Keid was approved as a name for Omicron (o) 2 Eridani by the IAU.

Broken Engagement Ring:

This **telescopic** asterism, the Broken Engagement Ring, is Sachariassen1, an incomplete circle of stars in the IAU constellation Ursa Major. One end of the broken ring starts at 36 Ursae Majoris and runs through 37, 39, 43, and 44 UMa, ending at HIP 52136. This is also known as the "Tiara" (see below). Size 17'.

Broken Heart:

There are three **telescopic** "broken heart" asterisms:

- One is the open cluster NGC 225 in the IAU constellation Cassiopeia, also known as the Sailboat (see below), "W" (see below), and the Igloo (see below). This was discovered by English astronomer Caroline Herschel in 1784 and recorded by her brother William Herschel in 1788. It is listed as GC 120 in the *General Catalogue* of 1864.
- One is the open cluster NGC 2281 in the IAU constellation Auriga, It was discovered by English astronomer William Herschel in 1784 who listed it as "VIII 74" in his catalogue. It is GC 1451 in the General Catalogue of 1864. Size 15' X 15'.
- One, "Cordifrágius Vírginis" ("Broken Heart of Virgo") is the lenticular galaxy NGC 5363 in the IAU constellation Virgo. It was discovered in 1784 by William Herschel who listed it as "I 6". It became GC 3702 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "a remarkable small dust lane cuts the 'heart' of this galaxy in two". This is O'Meara 72 in Stephen James O'Meara's *Hidden Treasures Catalogue* (2007).

Broken in Many Spots of Crater:

This **telescopic** asterism "Multirúptus Cratéris" is the barred spiral galaxy NGC 3887 in the IAU constellation Crater. It was discovered in 1785 by William Herschel who listed it as "I 120". John Herschel listed it as h 979 and h 3360 and later as GC 2554 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of the "multiple fragmented spiral arms of this galaxy"

Broken Mortar:

This Korean asterism "Buseojin Moleutaleu" (부서진 모르타르) is a quadrilateral of stars in the IAU constellation Capricornus: Psi (ψ), Omega (ω), Zeta (ζ), and 33 Capricorni.

Broken of Boötes:

This **telescopic** asterism "Fráctus Boótis" is the Seyfert galaxy NGC 5548 in the IAU constellation Boötes. William Herschel listed this as "II 194". John Herschel listed it as h 1773 and later as GC 3838 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "this galaxy shows multiple fragments of spiral arms. The outer arm seems to be a broken ring."

Broken Platter:

This Persian asterism "Kāsah Shekesteh" is the IAU constellation Corona Borealis. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Kásheh shekesteh or Scutella fracta".

Broken Ring:

This Arabic asterism is the IAU constellation Corona Borealis. It's brightest star, Alpha (α) Coronae Borealis, known as "(Nayyir) al-Fakkah" (نير الفكّة) or "Alphecca" ("bright one of the broken ring"):

- Corona Borealis was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his Book of the Fixed Stars in 964 (Hafez 2010) as "al-Fakka" and "al-Iklīl al-Shamālī".
- The Sloane astrolabe BM SL 54 in the British Museum which dates to 1290 – 1300 lists "Alfeca" (Dekker 2000).
- "Al Fakkah" was listed in the *Calendarium* of Al Achsasi al Mouakket in 1650 (see Bright One of the Broken Ring, above).
- John Hill listed this as "Kase Shekeste" in his *Urania* in 1754 and gave the Latin translation "Stella Fracta" ("broken star").
- NOTE: English Admiral Henry William Smyth's *Prolegomena* of 1844 lists "Alphecca" and his *Bedford Catalogue* in 1844 lists "al helba" for Coma Berenices but doesn't translate it: Al halba (الحلبة) is "the ring" and it may be that Smyth is confusing this with the Broken Ring, Corona Borealis.
- The 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) lists "Alphecca" for this star.

Broken Ring of Hydra:

This **telescopic** asterism "Cyclofrágia Hýdrae" is the spiral galaxy NGC 5101 in the IAU constellation Hydra. William Herschel listed this as "II 567". John Herschel listed this as h 3493 and later as GC 3503 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "this galaxy is characterized by an inner broken ring as well as an external broken ring made by the outer arms".

Broken Spade:

This **telescopic** asterism, Streicher J0615-73, is in the IAU constellation Mensa. It was discovered by South African astronomer Magda Streicher. It is listed on Bruno Alessi's BDCC 7.6 list.

Brolga:

This Kamilaroi and Euahlayi asterism is the Magellanic Clouds, which they see as a mother Brolga (a species of wetland bird). This mother and her daughter were chased into the sky by Wilbaarr, the whirlwind spirit (Fuller et al 2014). Compare this to the asterisms Female Brolga (see below) and Male Brolga (see below). Parker (1905) listed the Euahlayi name as "Bralgah" and described this as a mother and daughter (a great dancer) the Wurrawiberoo (see Whirlwinds Spirits, below) chased into the sky. Ridley listed "Buralga" as the Kamilaroi name in 1875.

Bronze of Centaurus:

This **telescopic** asterism "Ahénea Centaúri" is the peculiar elliptical galaxy NGC 4976 in the IAU constellation Centaurus. John Herschel listed this as h 3468 and later as GC 3413 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of its apparent color.

Brooch:

This **telescopic** asterism is Riddle 2 in the IAU constellation Serpens. René Merting lists this group of 5 13th magnitude stars on the *Faint Fuzzies* website as "Broschenhafte" ("Brooch"), noting that "at 72X the brooch-like pattern is recognizable". Size 0.9' X 0.9'.

Brood Hen:

This English asterism is the IAU constellation Ursa Major as listed in R. H. Allen's *Star Names* in 1899.

This English asterism is the Pleiades cluster in the IAU constellation Taurus as listed in English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 and in R. H. Allen's *Star Names* in 1899.

Brood of Chicks:

This Italian (Piedmont and Ligurian Alps) asterism "Pouizina`" is the Pleiades cluster in the IAU constellation Taurus.

Broody Hen and Her Chicks:

This Basque asterism "Oiloa Kolka Txitekin" is the Pleiades cluster in the IAU constellation Taurus (Frank 2021). This is also known as Hen and Her Chicks (see Hen and Her Chicks, below).

This Italian (Piedmont and Ligurian Alps) asterism "l'Espurzinia`" is the Pleiades cluster in the IAU constellation Taurus.

Brother:

This Anglo-Norman asterism "Frère" is the IAU constellation Gemini.

Brother Gods:

This Latin asterism "Dii Germani" is the IAU constellation Gemini as listed by R. H. Allen in his *Star Names* in 1899.

Brother-in-Law:

This Asháninka asterism is the Pleiades cluster in the IAU constellation Taurus (Urton 2016). The man and family this character is related to is the belt and sword of Orion (see Man and Family, below).

Brother Jebro:

This Micronesian asterism (Marshall Islands) is the Pleiades cluster in the IAU constellation Taurus (see Pleiades below). The other "brother" is "Tumur" (see Brother Tumur, below).

Brother of Ursa Major:

There are two **telescopic** "Brother of Ursa Major" asterisms:

- One, "Synaémus Úrsae Majóris" is the spiral galaxy IC 749 in the IAU constellation Ursa Major. Austrian astronomer Rudolf Ferdinand Spitaler (1849 – 1946) first recorded it.
- One, "Homaémus Úrsae Majóris" is the spiral galaxy IC 750 in the IAU constellation Ursa Major. Austrian astronomer Rudolf Ferdinand Spitaler (1849 – 1946), first recorded it.

This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called them this because NGC 749 and 750 "resemble each other in many aspects… and thus could be considered brothers in the sky."

Brother Tumur:

This Micronesian star (Marshall Islands) is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius. The other "brother" is "Jebro" (see Brother Jebro, above).

Brothers:

This Omaha asterism is the IAU constellation Corona Borealis.

This Romanian asterism "Fraților" or "Fraţii" is the IAU constellation Gemini (Ottescu 2009, Lite, Lodina, and Ignat 2018). They call the principal stars Romulus and Remus.

This Kokatha and Ngalea asterism "Boolbarradu" or "Balbaradu" is the Magellanic Clouds. They each have a name:

- "Mugaru" or "Badhu-Wudha" ("right-handed brother"): Large Magellanic Cloud, and
- "Oimbu" or "Kurulba" ("left-handed brother"): Small Magellanic Cloud.

This Papuan (Kiwai Island) asterism has two parts:

- One "brother" is the Southern Cross asterism in the IAU constellation Crux, and
- The other "brother" (and his three-pronged spear) is the IAU constellation Scorpius.

Brothers in a Boat:

This Haida asterism is the Pleiades cluster in the IAU constellation Taurus.

Brother's Grandmother with Torch:

This Tsilhqot'in star is an unidentified morning star at present (Cannon 2021).

Brothers of Lapnuman:

This Nahwal asterism "Nepian Lapnuman" is the Pleiades cluster in the IAU constellation Taurus (Ramík 2019).

Brothers with a Girl:

This Apsáalooke asterism is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper above).

Browning Galaxy:

This **telescopic** asterism IC 2431 is a galaxy merger in the IAU constellation Cancer. It was discovered by French astronomer Stéphane Javelle (1864 – 1917).

Bruce Lee Cluster:

This **telescopic** asterism is the open cluster NGC 7160 in the IAU constellation Cepheus. It was discovered by William Herschel in 1789 who listed it as "VIII 67". It is GC 4719 in the *General Catalogue* of 1864. It has recently become known as the Bruce Lee cluster, commemorating this famous martial artist. It is also known as the Swimming Alligator.

Brush Fence:

This Kokatha and Ngalea asterism "Bailgu" is the IAU constellation Aquarius.

Bubble Galaxy:

This **telescopic** asterism NGC 3521 is a flocculent intermediate spiral galaxy in the IAU constellation Leo, which was discovered by English astronomer William Herschel in 1784 who listed it as "I 13" in his catalogue. It is GC 2301 in the *General Catalogue* of 1864. It is also known as the "Cloud Bearing of Leo" (see below). Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) lists this as O'Meara 56 without a name.

Bubble Nebula:

This asterism is the HII region NGC 7635 (Caldwell 11, SH 2-162, LBN 548, Ced 210) in the IAU constellation Cassiopeia. It was discovered by English astronomer William Herschel in 1787 who listed it as "IV 52". It is GC 4947 in the *General Catalogue* of 1864. Size 15' X 8'.

Bubble of Crater:

This **telescopic** asterism "Búlla Cratéris" is the elliptical galaxy NGC 3704 in the IAU constellation Crater. It was discovered by Wilhelm Tempel in 1878. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Bubbling of Columba:

This **telescopic** asterism "Búlliens Colúmbae" is the spiral galaxy NGC 1792 in the IAU constellation Columba. It was discovered in 1826 by Scottish astronomer James Dunlop. It was listed by John Herschel as 2730 and later as GC 1009 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Bucca Horn:

This Saxon asterism "Bucca Horn" or "Bucca" is the IAU constellation Capricornus as listed by R. H. Allen in his *Star Names* in 1899.

Bucket:

This Lithuanian asterism "Kaušas" is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper above).

This Latin star "Situla" ("bucket" or "water jar") is Kappa (κ) Aquarii in the IAU constellation Aquarius. R. H. Allen reports in his *Star Names* in 1899 that French astronomer and Catholic priest Pierre Gassendi (1592 – 1655) claimed that the name was derived from the Latin "Sitis" ("thirst") and writes that it was also used for Omicron (ο) Eridani. Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists "Situla" for this star. Scottish uranographer Alexander Jamieson (1782 – 1850) lists "Situla" for this star in his *Celestial Atlas* in 1822. "Situla" is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on Jamieson's *Celestial Atlas*. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Situla" for this star. German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists "Situla" for this star. The IAU approved the name Situla in 2016 for Kappa (κ) Aquarii A.

Bucket Rope:

There are three Arabic stars derived from the name "al Karab":

- One, later latinized to "Alkarab" is Upsilon (υ) Pegasi in the IAU constellation Pegasus. The IAU approved the name Alkarab for the star Upsilon (υ) Pegasi.

- One, later Latinized to “el Khereb” or “Kerb” is Tau (τ) Persei in the IAU constellation Perseus.
- One, Latinized to “Al Karab” or “Kerb” is Tau (τ) Pegasi in the IAU constellation Pegasus.

NOTE: Dorn (1829) lists the stars Tau (τ) and Upsilon (υ) Pegasi as “Rope of a Bucket” appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya’ al-Qazwini (1203 – 1283).

Bucket Rope Knot:

See Well Bucket Rope, below.

Bucking Bronco:

This is an alternate name for the **telescopic** asterism Cowboy on a Bucking Bronco (see below).

Budding of Aries:

This **telescopic** asterism “Gérminans Aríetis” is the dwarf irregular galaxy NGC 1156 in the IAU constellation Aries. This was discovered by English astronomer William Herschel, who listed it as “II 619”. It became GC 627 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). They gave it this name due to its “speckled appearance”.

Buduwamgu:

This Dharawal asterism is the Magellanic clouds (Bursill 2014).

Buduwanung:

This Dharug asterism is the Magellanic clouds (Troy 1993). Variations include “Boo-do-en-ong” and “Mo-loo-mo-long” (Thieberger and McGregor 1994) and “Bu-do-non” (Dawes 1790).

Buffalo:

This Anishinaabe asterism “Mushkoday” or “Beezheeke” is the IAU constellation Perseus (Lee et al 2014).

This Kolam asterism “Sir” is the IAU constellation Lupus (Vahia 2014). The Kolam used the brightness of these stars, each of which represented a different animal, to determine the intensity of the approaching monsoon. The animals included a peacock, a buffalo, a frog, a deer, a horse, and in some regions, a pig.

This **telescopic** asterism is the open cluster NGC 2546 in the IAU constellation Puppis. It was discovered by French astronomer Abbé Lacaille in 1751 who listed it in his catalogue as Lac II 4. It is GC 1635 in the *General Catalogue* of 1864. It was given this name by American astronomer Wayne Schmidt.

Buffalo Embryo:

This Dakota/Lakota/Nakota asterism “Tayamni” is the Hyades star cluster in the IAU constellation Taurus.

Bug:

This **telescopic** asterism is the planetary nebula NGC 6302 (Caldwell 69) in the IAU constellation Scorpius. It was described by American Astronomer Edward Emerson Barnard in 1884 as a “small hole

in the Milky Way" and appeared in the New General Catalogue in 1888. Barnard gave it this name in 1906, recording in his observations that it "looked like a ghostly bug of some kind, the third mass being the dead and antennae. From its singular appearance I have called it the Bug Nebula". It is also known as the Butterfly Nebula (see below) and the Bipolar Nebula (see above).

Build:

These two Korean asterisms "Jisda" (짓다) are two triangles of stars in the IAU constellation Sagittarius:

- One is the stars Upsilon (υ), Rho (ρ) 1, and 43 Sagittarii, and
- One is the stars Eta (η), Omicron (ο), and Xi (ξ) 2 Sagittarii.

Bulagurrgidam:

This Gumbaynggirr asterism is the belt of Orion in the IAU constellation Orion (Morelli 2015).

Bull:

This Greek asterism "Ταῦρος" ("Tavros") is the IAU constellation Taurus as originally described by Ptolemy (c.100 – c.170) in his *Almagest.* It was typically described as "Τομή" ("Tomí" or "section") or "Προτομή" ("Protomí" or "bust") as it was usually depicted as only the front half of a bull by the Greeks and later by Romans such as the 1st century B.C.E. poet Ovid and Roman statesman Cicero in the 1st century B.C. E., who called it "Sectio Tauri". This is how Ptolemy described it:

- The Hyades cluster, which today is typically presented as the bull's head, is the bull's "backside", with the star Alpha (α) Tauri (Aldebaran) inside the figure,
- The "head" is a quadrilateral of the stars Psi (ψ) Tauri, 44 Tauri, Chi (χ) Tauri, and Phi (ϕ) Tauri,
- From Psi (ψ) Tauri two "horns" run out:
    - One line goes through 41 Tauri to a bend at 24 Tauri ending at Omega (ω) Tauri, and
    - One line goes to the Pleiades cluster,
- The "neck" runs from Chi (χ) Tauri to Upsilon (υ) Tauri,
- The "back" is a curving line from Upsilon (υ) Tauri through HIP 20255, 54 Tauri, and 73 Tauri, to Rho (ρ) Tauri, curving around and containing the Hyades cluster,
- One "leg" runs from Rho (ρ) Tauri through 104 Tauri to a "hoof" at Zeta (ζ) Tauri then back to a "knee" at 106 Tauri, ending at 97 Tauri, and
- The other "leg" starts at the "neck" at Upsilon (υ) Tauri and runs to a "hoof" at Beta (β) Tauri, then back to 94 Tauri.

NOTE: This is listed as a Greek lunar mansion in the *Magical Papyrus 121*, preserved in the British Museum, and dated to the 3rd century C.E. (Mosenkis, date n/k). This Greek asterism also appears on the *Daressy Zodiac* of the Roman Imperial Period alongside a dog or jackal. Also, on the *Daressy Zodiac* a bull or ox appears next to their asterism Scorpion (see below).

This Arabic asterism "Althawr" (الثور), later latinized to "Al Thaur", "Altor", and "Ataur" is the IAU constellation Taurus:

- "Al-Thawr" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- A 14th century Christian Spanish astrolabe lists #4560 "al thawr" (King 2002).
- In the 15th century *Alfonsine Tables* it is listed as "El Taur".

- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Altaur" and "Altor" as Arab names for Taurus.
- Johann Bayer's *Uranometria* (1603) lists the names "Ataur" and "Altor" for Taurus.
- The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch lists this as "Altaur vel Attavvro".
- German professor Wilhelm Schickard (1592 – 1635) lists it as "Altauro".
- Robert Hues lists it as "Altor" and "Ataur" in his *A Learned Treatise on Globes* in 1659.
- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) lists it as "Tur".
- It appears as "Taur" in the *Standard Dictionary of Facts*-1908 – 1924.
- In his *Star Names* in 1899, R. H. Allen lists the name "Al Hatt" and attributes it to Persian astronomer Ulugh Beg Mirza (1394 – 1449). NOTE: Edward Sherburne gives this as an "Arabic" name for the IAU constellation Apus in his *Sphere of Marcus Manilius* in 1675. Sherburne is probably mistaking this as a Latinization of the Arabic ""(an-Nisr) uṭ-Ṭā'ir" ("eagle flying"), the Latinization of which included "Althair" (although one would think this would have led him in the direction of Aquila the Eagle, not Apus the Bird of Paradise).

This Egyptian Dendera asterism is basically identical to the Babylonian asterism GU.AN.NA (see Bull of Heaven, below) in the IAU constellation Taurus (Hoffman 2017).

This Hebrew asterism "Shôr" or "Shor" is the IAU constellation Taurus, as listed in their list of constellations of the zodiac (mazzaroth) in their *Talmud*, is the first constellation in their Zodiac, and is related to their month Iyar.

This Hittite asterism is the IAU constellation Taurus as listed in the III KUB XXV 37 tablets (Boutet 2014).

This Romanian asterism "Taurul" is the IAU constellation Taurus (Ottescu 2009, Lite 2018).

This German asterism "Stier" is the IAU constellation Taurus:

- Johann Bayer's *Uranometria* (1603) lists the name "Stier" for this constellation.
- The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch lists "der Stier" as an alternate name for Taurus.
- A wooden precession globe (1730) by German uranographer Johann Georg Puschner (Dekker 2003) lists this constellation as "Stier".
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Stier".
- The *Nördliche Sternhimmel* sky map of O. S. Reuters based on the work of German astronomer Johann Elert Bode (1747 – 1826) lists this constellation as "Stier".

This Gaulish asterism "Giamoni Prinnios" is the IAU constellation Taurus and appears in the *Coligny Calendar* (Boutet 2001, 2014).

This Basque asterism "Zezena" is the IAU constellation Taurus ((Knörr 1999, Frank 2021).

This Tibetan khyim (zodiac constellation) "gLang" or "Lang" is the IAU constellation Taurus (Johnson-Groh 2013).

This Persian asterism "Gau" or "Ghav" is the stars Mu (μ) 1 and 2 Sagittarii in the IAU constellation Sagittarius as listed by R. H. Allen in his *Star Names* in 1899.

This Sogdian and Khorasmian asterism “Yaugh” is the stars Mu (μ) 1 and 2 Sagittarii in the IAU constellation Sagittarius as listed by R. H. Allen in his *Star Names* in 1899.

This Hindu asterism “Vrishabha” is the IAU constellation Taurus (Bhagwath 2019) and represents the energy of the God Aryamaan. R. H. Allen lists it as “Vrisha”, “Vrishan”, or “Vrouchabam” in his *Star Names* in 1899.

This Sinhalese asterism “Urusaba” is the IAU constellation Taurus as listed in R. H. Allen’s *Star Names* in 1899.

This Tamil asterism “Rishabam” is the IAU constellation Taurus as listed in R. H. Allen’s *Star Names* in 1899.

This Saxon asterism “Fearr” is the IAU constellation Taurus as listed in the 15th century *Anglo Saxon Manual of Astronomy* and R. H. Allen’s *Star Names* in 1899.

This Persian asterism “Tora” is the IAU constellation Taurus as listed in R. H. Allen’s *Star Names* in 1899. NOTE: Allen also lists the names “Gau” and “Ghav” for this, but elsewhere lists them as an asterism in Sagittarius (see above).

This Syrian asterism “Taurā” is the IAU constellation Taurus as listed in R. H. Allen’s *Star Names* in 1899.

This Turkish asterism “Ughuz” is the IAU constellation Taurus as listed in R. H. Allen’s *Star Names* in 1899.

This Sardinian asterism “su pinnetu” is the IAU constellation Taurus (Putzolu 2019).

Bull:

This Kazakh asterism “Oguz” is the IAU constellation Taurus.

Bull Head:

This Egyptian decan “Bos” is a man with a bull’s head with a flask in his right hand and a scepter in his left, made up of stars of the IAU constellation Scorpius.

Bull Deity:

The Chinese translation of the Sūryagarbha-parivarta from 585 describes the IAU constellation Taurus as “Chí niú zhī shén” (持牛之神) or “deity of bull” (Kotyk 2017).

Bull of Al Thurayya:

This Arabic star “Thaur al Thurayya” is Eta (η) Tauri in the IAU constellation Taurus as listed by Persian astronomer Al Achsasi al Mouakket in 1650 in his *Calendarium* and by R. H. Allen in his *Star Names* in 1899.

Bull of Heaven:

This Babylonian asterism from the MUL.APIN tablets “GU.AN.NA” (Anthony 1996), “GUD.AN.NA”, or “MUL.GUD.AN.NA” (Hunger 1992) is the IAU constellation Taurus. The *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) list this as “MUL.GUD.AN.NA” (Bartel van der Waerden 1974) and it appears on the K 8538 planisphere as “mulgu-an-na” (Koch 1989). The Hyades cluster is

called “Is-le” (See “Jaw of the Wild Bull”, below). This also appears in later Seleucid star lore. R. H. Allen lists the name “Gut-an-na” in his *Star Names* in 1899. Boutet (2014) lists it as “Bull of Anu”.

The Akkadian name for this asterism from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) is “Alû/lê” or “Alu” (Hunger 1992) and from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) “as is le-e”: Compare this to Jaw of the Wild Bull, below.

This Sumerian asterism “mulgu-an-na” listed in the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is the IAU constellation Taurus. This is part of the story of Gilgameš of Uruk.

This Assyrian asterism “GUD.AN.NA” is the IAU constellation Taurus.

This Persian asterism “GU.AN.NA” from the list of Tikpi Stars from the K 250 and VAT 9418 lists of the Persian (Achaemenid) Period (539 – 331 B.C.E.) is the IAU constellation Taurus (Boll 1918, Jeremias 1929). Ernst Weidner lists it as “gu-an-[na]” in his *Fixsterne* in 1971

Bullet:

This **telescopic** asterism is the open cluster Messier 48 in the IAU constellation Hydra. Charles Messier recorded it in 1771, but his declination was off by five degrees. German astronomer Caroline Herschel recorded it correctly in 1783. It was given this name by American astronomer Wayne Schmidt, who describes it as a 30-arc-minute long bullet.

Bullet Cluster:

This American **telescopic** asterism is 1E 0657-56 two colliding clusters of galaxies in the IAU constellation Carina. It is at a comoving radial distance of 1.141 Gpc (3.72 billion ly). Technically it is the smaller cluster that was given this name as it is piercing the larger one. It was a team led by Doug Clowe at the University of Arizona who used the Chandra space telescope to discover the properties of this collision back in 2006.

Bullock Star:

This Manyika star “Ngavi” is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga.

Bullock’s Head:

This French asterism with the Latin name “Bubulum Caput” is the IAU constellation Taurus. Johann Bayer’s *Uranometria* (1603) lists “Bubulum Caput” as an alternate name for Taurus. French astronomer Joseph Jérôme Lefrançois de Lalande (1732 – 1807) lists “Bubulum Caput”.

Bull’s Foreleg:

This ancient Egyptian asterism “Meskhetyu” or “Meskhetiu” is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper above): the name translates as “leg of Set” (Krupp 1983). In the Middle Kingdom (c. 2040 - 1782 B.C.E.) it was viewed as simply a bull’s foreleg, but in the New Kingdom (c. 16th – 11th century B.C.E.) it had become an entire bull. The earliest known example is on a sky map on the ceiling of the tomb of Senmut, adviser of Hatschepsut, in Thebes. This interpretation comes from the *Great Magical Papyrus* of Paris (Neugebauer and Parker, 1960). Jean-François Champollion (1790 – 1832), the original translator of the *Rosetta Stones*, called it “Horus Apollo”. It also appears on the ceiling of the Temple of Hathor at Dendera (Hoffman 2017). Other researchers suggest that this “foreleg” is actually the IAU constellation Boötes which forms a more perfect match (Berio 2014). Berio

explains that during the Late Period festival during III Shemu, celebrants threw a bull leg into the sky with the sunrise in Gemini and Boötes setting and in the evening at sunset Boötes would be in upper culmination.

Bulls' Head:

This **telescopic** asterism is the open cluster NGC 6709 in the IAU constellation Aquila. John Herschel listed it as h 2020 and later as GC 4440 in the *General Catalogue* of 1864. It was given this name by American astronomer Wayne Schmidt, who describes it as a 15-arc-minute tall bull's head. It is also known as the Flying Unicorn (see below).

Bullseye:

There are two "Bullseye" **telescopic** asterisms:

- One is the open cluster NGC 6704 in the IAU constellation Scutum. It was discovered by German astronomer August Winnecke in 1854. It is GC 4435 in the *General Catalogue* of 1864. It was given this name by American astronomer Wayne Schmidt, who describes it as a 40-arc-minute diameter bull's eye. Also known as the Fishhook (see below).
- One is the galaxy LEDA 1313424 in the IAU constellation Pisces. A photograph by the Hubble Space Telescope and follow up data from the W. M. Keck Observatory shows that it has nine rings as a result of a collision with a blue dwarf galaxy. It was named by a team at Yale University in Connecticut (Imad Pasha and Pieter van Dokkum).

This English star "Oculus Tauri" is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus as listed by Edward Sherburne in his *Sphere of Marcus Manilius* in 1675 and by English Admiral Henry William Smyth in his *Bedford Catalogue* in 1844, and in R. H. Allen's *Star Names* in 1899. It is derived from the original Arabic "Ain al Thaur" (see Eye of the Bull, below).

Bulyan:

This Wardaman star is Alpha (α) Aquilae (Altair) in the IAU constellation Aquila (Cairns and Harney 2003).

Bunch:

This Sardinian asterism "S'udrone" is the Pleiades cluster in the IAU constellation Taurus (Putzolu 2019). This is a bunch of grapes and is related to their asterism Bunch's Driver (see below).

This Slavonic asterism "Kučki", "Kupki", "Hramadka", or "Kupa" is the Pleiades cluster in the IAU constellation Taurus (Avilin 2009, 2018).

This Polish asterism "Gromadka" or "Kupa" is the Pleiades cluster in the IAU constellation Taurus (Avilin 2018).

Bunch of Flowers:

This Belarussian asterism "Buket Tsvetov" is the Pleiades cluster in the IAU constellation Taurus (Avilin 2009).

Bunch of Grain Stalks:

This star is Epsilon (ε) Aquarii in the IAU constellation Aquarius as listed by R. H. Allen in his *Star Names* in 1899.

Bunch of Grapes:

This Greek asterism "Βότρυς" ("Vótrys") is the Pleiades cluster in the IAU constellation Taurus as listed by 1st century B.C.E. philosopher Theon of Alexandria and by R. H. Allen in his *Star Names* in 1899.

This French is the Pleiades cluster in the IAU constellation Taurus (Ottescu 2009).

Bunch's Driver:

This Sardinian star "su trubadore de s'udrone" is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus (Putzolu 2019), a reference to the nearby Pleiades, which they call the "Bunch" (see above).

Bunda:

This Persian lunar mansion "Bunda" is the stars Beta (β) Aquarii (Sadalsuud) and Xi (ξ) Aquarii in the IAU constellation Aquarius.

This Persian star "Bunda" is Xi (ξ) Aquarii in the IAU constellation Aquarius. The IAU approved the name Bunda for the star Xi (ξ) Aquarii A in 2018.

Bungula:

This star is Alpha (α) Centauri (Rigil Kentaurus) in the IAU constellation Centaurus and is listed by American astronomer Elijah Burritt (1794 – 1838). The origin of this name is obscure: In his *Star Names* in 1899, R. H. Allen suggested that this name is a combination of the Greek letter Beta (β) and the word "ungula" ("hoof"), and the stars Alpha (α) and Beta (β) Centauri (Hadar) are indeed the "front hooves" of Ptolemy's asterism Centaur (see below), although why Beta would be applied to the Alpha star is confusing.

Bunny:

This American **telescopic** asterism is made up of stars of Stock 2 in the IAU constellation Perseus. The "head" is principally defined by the stars HIP 10867, HIP 10844, HD 14025. The "ear" is the stars HIP 10867, HIP 10904, HIP 10968, HD 236958, HD 14320, and HD 14299. The "neck" is between the stars HD 13909 and 13899. The "body" is the main cluster of stars that form Stock 2. The "Bunny" is facing a telescopic "Carrot" (see below). The "Bunny" and "Carrot" were posted by "Jehujones" on *Cloudy Nights* in October 2023.

Burabura n Toa:

The stars of this Kiribati asterism are currently unidentified (Trussel and Groves 1978).

Burbidge Chain:

This **telescopic** asterism is a chain of four galaxies including spiral galaxy PGC 2796 in the IAU constellation Cetus. It is named after the astronomer Margaret Burbidge (1919 – 2020).

Burden:

This Rapanui asterism “Tatauro” or “Te Tatauro” is the IAU constellation Crux (Edwards and Edwards 2010, Edwards and Edwards 2016, Edwards et al 2018).

This Polynesian asterism from the island of Futuna, “Amonga”, is the belt and sword in the IAU constellation Orion. It is part of their asterism Suspended Burden (see below).

Burderde:

This Wardaman star is Beta (β) Scorpii (Acrab) in the IAU constellation Scorpius (Cairns and Harney 2003).

Burin:

This is a French name for the IAU constellation Caelum (see below).

Burnham’s Nebula:

This name is used for two **telescopic** asterisms:

- One is NGC 7026, also known as the Cheeseburger Nebula (see below).
- One is HII region NGC 1555 in the IAU constellation Taurus, commonly known as Hind’s Variable Nebula (see below).

Burning Briar:

This Hobbit asterism is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper above) and appears in *The Hobbit* by J. R. R. Tolkien (1892 – 1973).

Burning Brightly:

This Hawaiian star “A’a” is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major. It is also known as “Hiki-kau-[e]-lia” or “Hiki-kau-e-lono” ("The-small-booby-bird-of-Lono"), “Hiki-kau-lono-meha” ("Star of solitary Lono"; also Lono or Lono-meha), “[Hiki] kaulana-o-meha” or “Kau-ano-meha” ("Standing alone and sacred"), “Hoku-kau'opae” ("Star for placing shrimp"), “Hoku-ho'okele-wa'a" ("Canoe-guiding star"), “Kaulu-lena” or “Kaulua-lena” ("Yellow star"), or “Kaulua[-i-ha'i-mohai]” or “[-a-ha'i-mohai]” ("Flower of the heavens").

Burning Crown:

This Latin asterism “Ardens Corona” is the IAU constellation Corona Borealis as listed in Virgil’s *Georgics* (29 B.C.E.).

Burning Ember Nebula:

See Albino Butterfly Nebula, above.

Burning of Fire:

This Assyrian star “Mikid-isati” is Beta (β) Leonis (Denebola) in the IAU constellation Leo as listed in R. H. Allen’s *Star Names* in 1899.

Burning One:

This Sogdian star “Widhu” is Beta (β) Leonis (Denebola) in the IAU constellation Leo as listed in R. H. Allen’s *Star Names* in 1899.

This Khorasmian star “Widhayu” is Beta (β) Leonis (Denebola) in the IAU constellation Leo as listed in R. H. Allen’s *Star Names* in 1899.

Burnt Sacrifice:

This German asterism is the IAU constellation is the IAU constellation Taurus as listed in Edward Sherburne’s *Sphere of Marcus Manilius* in 1675. Sherburne identifies his source as German poet, jurist and translator Georg Philipp Harsdörffer (1607 – 1658).

Burrara:

This Dharawal asterism is the belt of Orion in the IAU constellation Orion (Mathews 1903). Variations include “Duhungagil” (Mathews 1901) and “Murrumwirugan” (Bursill 2014).

Burrmari:

This Wardaman star is Beta (β) Eridani (Cursa) in the IAU constellation Eridanus (Cairns and Harney 2003).

Bush Dog:

This Carib asterism “Awoyuman” or “Awo” represents the Bush Dog (Icticyon venaticus”. Its present location is unknown (Magaña, and Jara, 1982).

Bush Food:

This /Xam star “//xona” or “veldkos” (“bush food”, in this case “bush rice” or “bushman rice”- northern harvester termite larvae or rysmier (Hodotermes mossambicus)) or “ant egg star” is Alpha (α) Carinae (Canopus) in the IAU constellation Carina (Dechend 1975, Slotegraaf 2013, Alcock 2014). This was an important food source which became available when this star was visible and also an indicator that the aardwolf or maanhaarjakkal (Proteles Cristatus) was available, as it fed on these larvae.

Bush Turkey:

This Kokatha and Ngalea star “Gibbera” is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra (Leaman and Hamacher 2014, Fuller et al 2014, Leaman, Hamacher, and Carter 2016). This is known as the Bush Turkey or Australian Bustard.

This Ngiyampaa (Ngemba) asterism is the IAU constellation Scorpius. The “head” is the “fishhook” of Scorpius and the other end of Scorpius around Alpha (α) Scorpii (Antares) is the turkey’s fan “tail”.

This Ngarrindjeri asterism is the Pleiades cluster in the IAU constellation Taurus (Clarke 2009). This is a female bush turkey sitting on her eggs.

NOTE: This is the Australian Brush Turkey, Scrub Turkey, or Bush Turkey, Alectura lathami.

Bushgali:

This Persian asterism “Bushgali”, “Bahi”, or “Goi”, is the IAU constellation Capricornus as listed in R. H. Allen’s *Star Names* in 1899.

Bust of a Horse:

This Greek asterism “Ἵππου Προτομή” (“Íppou Protomí”) or simply “Προτομή” is the IAU constellation Equuleus as originally described in Ptolemy’s *Almagest* in the 2nd century. It is a quadrilateral of stars: Alpha (α) Equulei (Kitalpha), Beta (β) Equulei, Delta (δ) Equulei, and Gamma (γ) Equulei. Georgius

Chrysococcas, a 14th century Greek geographer and astronomer, lists it as "Κεφαλή Ἵππου" ("Kefalí Íppou" or "horse's head") in his *Syntaxis ton Person (Persian Compendium)* and later Latin authors called it "Equi Caput" ("horse head").

- Johann Bayer's *Uranometria* (1603) lists "Sectio Equi" as an alternate name for Equuleus.
- Edward Sherburne translates it as "Sectio Equi" ("section of a horse") in his *Sphere of Marcus Manilius* in 1675.
- John Hill lists it as "Horse's Head" and later as "Protomes" in his *Urania* in 1754.
- Dorn (1829) describes this as "Part of the Horse (the Horse's Head) Sectio Equi" and describes it as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283).
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Sectio equi" and "horse's head".

Bust Silhouette:

This **telescopic** asterism is HII region NGC 2359 (SH 2-298. RCW 5, LBN 1041, Ced 94b)in the IAU constellation Canis Major surrounding the Wolf Rayet star WR7. Size 10' X 15'. It was discovered by English astronomer William Herschel in 1785 who listed it as "V 21" in his catalogue. William's son John Herschel described it in 1847 as "a very singular nebula, much like the profile of a bust, (head, neck, and shoulders) or a silhouette portrait". It is GC 1511 in the *General Catalogue* of 1864. It is also known as the "Duck Nebula", the "Duck Head Nebula", the "Flying Eye Nebula", "Thor's Helmet", or the "Whistle Nebula".

Butcher's Cleaver:

This Brythonic asterism is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper above) as listed in R. H. Allen's *Star Names* in 1899.

Butcher's Shops:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of two stars in the IAU constellation Hercules: 95 Herculis (determinative star) and 102 Herculis.

This Chinese xing guan "Túsì" (屠肆) is a line of three stars in the IAU constellation Hercules: 109, 106, and 98 Herculis.

Butchery:

This Korean asterism "Dosaljang" (도살장) is a line of two stars in the IAU constellations Aquila and Hercules: Epsilon (ε) Aquilae and 111 Herculis.

Butler:

This French asterism "Pincerna" is the asterism Antinous (see Antinous, above) in the IAU constellation Aquila as listed by French astronomer Joseph Jérôme Lefrançois de Lalande (1732 – 1807).

Butler's Star:

This telescopic flare star is BT Tucanae (HIP 4693, HD 6090) in the Small Magellanic Cloud in the IAU constellation Tucana (magnitude 10.6). It is named for C. J. Butler.

Butt Kuee Tuukuung:

This Mara and Moporr star is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius (Dawson 1881, Clarke 2009, Hamacher 2011). Butt Kuee Tuukuung was a famous ancestor of these people. The stars on either side, Sigma (σ) and Tau (τ) Scorpii, are his wives.

Butterfly:

One butterfly asterism is created by adding vertical lines to connect the limbs at the left and right of the Keystone of Hercules in the IAU constellation Hercules (see Keystone below), which forms the shape of a butterfly. The Saguaro Astronomy Club asterisms list calls this a "Bow Tie" (see above).

Another way of interpreting the brightest stars of the IAU constellation Orion is to see the "belt" (the stars Zeta (ζ) Orionis (Alnitak), Epsilon (ε) Orionis (Alnilam) and Delta (δ) Orionis (Mintaka)) as the body of a butterfly with one wing defined by the stars Alpha (α) Orionis (Betelgeuse) and Gamma (γ) Orionis (Bellatrix) and the other wing by the stars Beta (β) Orionis (Rigel) and Kappa (κ) Orionis (Saiph).

This Wardaman asterism "Milla-Milla" is made up of the stars of the IAU constellation Pegasus (Cairns 1999).

This Elvish (Qenya) asterism "Wilwarin" is the W asterism in the IAU constellation Cassiopeia as listed in the works of J. R. R. Tolkien (1892 – 1973). In Tolkien's earlier notes he called it "Vilvarin".

There are sixteen **telescopic** "butterfly" asterisms:

- One is open cluster Messier 6 (NGC 6405) in the IAU constellation Scorpius: It was first recorded by Italian astronomer Giovanni Battista Hodierna in 1654, although credit for the discovery is usually given to Swiss astronomer Jean-Philippe Loys de Chéseaux in 1746. It is Lac III 12 in de Lacaille's catalogue, and GC 4318 in the *General Catalogue* of 1864. The 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) describes this as "like a butterfly with open wings". American Astronomer Wayne Schmidt lists it as the butterfly on his list of asterisms, as does American astronomer Phil Harrington and Donald Ware.
- One is the open cluster Messier 93 (NGC 2447) in the IAU constellation Puppis. It was discovered by French astronomer Charles Messier in 1781. It was independently discovered by English astronomer Caroline Herschel two years later. It is listed in the 1864 General Catalogue as GC 1571 and in John Herschel's catalogue as h 3098. The name comes from American astronomer Sherburne Wesley Burnham (1838 – 1921), who noted in *Burnham's Celestial Handbook* that one "perceives the over-all appearance of the cluster as a butterfly with open wings".
- The "Fuzzy Butterfly" is the open cluster NGC 654 in the IAU constellation Cassiopeia. It was discovered by William Herschel in 1784 who listed it as "VII 46". The *General Catalogue* of 1864 lists it as GC 387. It is located 2.5 degrees northeast of Delta (δ) Cassiopeiae and surrounds a F5Ia supergiant star of 7th magnitude.
- The "Southern Butterfly" is open cluster NGC 4833 (Caldwell 105), discovered by Abbé Nicolas de Lacaille in 1751-2 in the IAU constellation Musca. Scottish astronomer James Dunlop and English astronomer John Herschel (1792 – 1871) later catalogued it in the *New General Catalogue*.
- One is open cluster Messier 29 (NGC 6913) in the IAU constellation Cygnus. It was discovered by French astronomer Charles Messier in 1764. It is listed in John Herschel's *General Catalogue* of 1864 as GC 4576. It was given this name by American astronomer Wayne Schmidt, who describes it as a small butterfly.

- One is the planetary nebula NGC 6302 (Caldwell 69) in the IAU constellation Scorpius. It is also known as the Bug Nebula. It appeared in the *New General Catalogue* in 1888 and was first studied and described by American astronomer Edward Emerson Barnard in 1907.
- One is the planetary nebula Messier 76 (NGC 650/651), discovered by French astronomer Pierre Méchain in 1780 in the IAU constellation Perseus and included in Charles Messier's catalogue. William Hershel listed this as "I 193". It was listed in the General Catalogue of 1864 as GC 385/6. It was first recognized as a planetary nebula in 1918 by American astronomer Heber Doust Curtis.
- This is an alternate name for Minkowski's Butterfly Nebula (see below).
- One is planetary nebula NGC 2346 in the IAU constellation Monoceros, known as the Butterfly or the Crimson Butterfly. This was discovered by English astronomer William Herschel c. 1784 who listed it as "IV 65" in his catalogue. It is GC 1500 in the *General Catalogue* of 1864. Size 1' X 0.9'. This is also known as the Hourglass (see below).
- One is NGC 4567 and NGC 4568, a pair of colliding unbarred spiral galaxies in the IAU constellation Virgo: They are part of the Virgo Cluster. These were discovered by English astronomer William Herschel in 1784 who listed them as "IV 8" and "IV 9". His son John Herschel listed them as "1358" and "1359" in his catalogue. They are GC 3108 and GC 3109 in the *General Catalogue* of 1864. They are also known as the Siamese Twins (see below) or the Fish and Chips Galaxies (see below).
- One is the HII nebulosity IC 1318 (LBN 245, Ced 176c) east of the star Gamma (γ) Cygni in the IAU constellation Cygnus. Size 45' X 20'.
- One is the reflection nebula IC 2220 in the IAU constellation Carina. This was first recorded by American astronomer DeLisle Stewart (1870 – 1941) This is also known as the Toby Jug (see below).
- One is in the IAU constellation Fornax and is Corder 530 on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. This includes HIP 15907, 15842, 15769, and 15833A. Size 40'.
- One is Simonic 1 from the list of Hungarian astronomer Ilona Simon Mogyorósi, which is in the IAU constellation Grus. This is Ennis 11, listed by Canadian astronomer Charles Ennis. Size 120'.
- One, "Papillon", is IC 708, an elliptical galaxy in the IAU constellation Ursa Major. IC 708 was first recorded by American astronomer Lewis Swift, who placed it on his list "IX".
- One, the Glowing Butterfly, is the planetary nebula NGC 2899 in the IAU constellation Vela. This was discovered by English astronomer John Herschel in 1847 and listed as h 3169 on his list. It is GC 1859 in the *General Catalogue* of 1864. It is also known as the Flying Jaw Nebula (see below).

Butting:

There are three Arabic asterisms with the name "an-nath w'an-natib" or just "an-Naṭḥ" (النطح), which means "the butting" or "the butter":

- One is Alpha (α) Arietis (Hamal) and Beta (β) Arietis (Sheratan) in the IAU constellation Aries. It is also called Horns of the Lamb (see below). English Admiral Henry William Smyth lists "Al nátih" and translates it as "the butt-er" in his Smyth's *Bedford Catalogue* in 1844.
- One is Alpha (α) Arietis in the IAU constellation Aries:
    - "al-Nātih" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

- Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283), Persian astronomer Ulugh Beg Mirza (1394 – 1449), and Syrian astronomer Tayyeb Tizini are reported to have used this name for this star by R. H. Allen, who gives the name as "Al Nāṭiḥ" in his *Star Names* in 1899.
- In the star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) this is listed as "al-nātih".
- This was later latinized to "Elnath", "El Nath", "Nath", or "Al Nath".
- American astronomer Elijah Burritt (1794 – 1838) also listed it as "El Nath" and "Al Nāṭiḥ".
- This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "el Nath".

- One is Beta (β) Tauri in the IAU constellation Taurus. It may be called this as it forms one corner of the hexagon of Auriga:
  - American uranographer Elijah Burritt (1794 – 1838) called it "Aurigae".
  - English Admiral Henry William Smyth's *Prolegomena* of 1844 lists "Nath" and his *Bedford Catalogue* in 1844 lists "Nath, from Al-nátih, the butting".
  - *An Improved Moveable Planisphere* (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, lists this star as "El Nath".
  - *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as "El Nath".
  - English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Nath".
  - *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as "El Nath".
  - The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list this star as "Nath".
  - *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this star as "El Nath".
  - The IAU approved the name Elnath for the star Beta (β) Tauri Aa.

Button:

This Arabic star "Az Zir", later latinized to "Al Zirr" or "Alzirr", is Xi (ξ) Geminorum in the IAU constellation Gemini as listed by Iranian astronomer Abu Rayhan Muhammad ibn Ahmad al-Biruni (973 – c. 1050). English Admiral Henry William Smyth lists it as "Al-zerr, the button" in his *Bedford Catalogue* in 1844. R. H. Allen lists this in his *Star Names* in 1899.

Buttonhook:

This **telescopic** asterism is a wavy line of bright stars running through the Scutum Star Cloud in the IAU constellation Scutum, starting with the star R Scuti (HIP 92202) near the star Beta (β) Scuti and running down in a line of 5th to 7th magnitude stars including HIP 91960, 91880, 91751 and 91728A to a "hook" of 8th magnitude stars including HIP 91867 and HIP 91933A. Size 75' X 20'. This is on the SAC database and is Corder 1466 and 3633 on Jeffrey Corder's list.

Buu:

This Mabuiag asterism is the IAU constellation Delphinus.

Buzeg:

This “Persian” name for the IAU constellation Capricornus is listed by Edward Sherburne in his *Sphere of Marcus Manilius* in 1675. John Hill describes it as a “Turkish” name and spells it “Buzeghall” in his *Urania* in 1754.

Buzzard:

This Chumash star is Alpha (α) Aquilae (Altair) in the IAU constellation Aquila. Note: The Chumash saw the condor as a sort of buzzard, so some list this as a condor.

Bwebwe:

The two stars of this Kiribati asterism are currently unidentified (Trussel and Groves 1978).

Byaambe’s Campfire:

This Kamilaroi star is Alpha (α) Muscae in the IAU constellation Musca. It is part of their asterism Birringoloo (see above). It is also known as the Fireplace (see below).

Byeissa:

This Myanmar yathi (zodiac constellation) “Byeissa” (ဗြိဿာ) is the IAU constellation Scorpius.

C:

There are twenty-nine **telescopic** “C” asterisms:

- One is in the IAU constellation Lepus and is Corder 862 on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 100’ X 40’. Corder describes this as an “elongated group of 18 stars, magnitudes 7 to 9… aligned SW/NE… hooked at both ends… similar to a very thin letter ‘C’”. One end starts at HIP 25829, then runs through stars including HIP 25788A, HIP 25654, HIP 25528, HIP 25454, HIP 25431, HIP 25377, and HIP 25364 before turning and ending at a line of three 8th magnitude stars.
- One is in the IAU constellation Auriga and is Corder 965 on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size25’. Corder describes it as “a ‘C’ shaped group of 8 or 9 stars of magnitudes 8.5 through 10. There is also a single 6th magnitude star at the north preceding end as well as a wide double of magnitude 9.9 at the south end.”
- One is Corder 3700 in the IAU constellation Lyra and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 15’. This includes the stars HIP 92861, 92869, and 92906.
- One is Corder 3874 in the IAU constellation Dra and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 30’. This includes the stars HIP 95978 and 95916.
- One is Corder 4808 in the IAU constellation Pegasus and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 45’. Seven stars including the stars HIP 113824, 113775, and 113719.
- One is an arc of stars in the IAU constellation Cetus and is Corder 30 on the observing list of Jeffrey Corder. It is a curving arc of eight stars between magnitude 6.5 and 9.5. At one end is the galaxy NGC 45 next to HIP 1102. The line runs through HIP 1046, 1032, 1000, 878, 720, and the double star HIP 636 to HIP 560. Size 65’ X 30’.

- One is in the IAU constellation Monoceros and is Corder 1207 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is seven stars, four of them 8th magnitude, the other three 10th, including HIP 33188.
- One is in the IAU constellation Lynx and is Corder 1875 on the observing list of American astronomer Jeffrey Corder. Size 90'. This includes the double star HIP 47527A, 43 and 42 Lyncis, the double star HIP 47053A, and HIP 47029.
- One is in the IAU constellation Ursa Major and is Corder 2018 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is seven 8th – 10th magnitude stars including HIP 51163, 51182, 51261, 51403, and the double stars HIP 51525 and 51301A.
- One is in the IAU constellation Carina and is Corder 2030 on the observing list of American astronomer Jeffrey Corder. Size 35'. This is ten 9th magnitude stars including HIP 51467, 51545, and 51415.
- One is in the IAU constellation Antlia and is Corder 2034 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is five 9th – 11th magnitude stars.
- One is in the IAU constellation Hydra and is Corder 2053 on the observing list of American astronomer Jeffrey Corder. Size 65'. This is five 5th – 7th magnitude stars including HIP 52113, 51884, 51974, and the double stars HIP 52003 and 51933.
- One is in the IAU constellation Carina and is Corder 2130 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is five 8th – 10th magnitude stars including HIP 54436 and 54408.
- One is in the IAU constellation Centaurus and is Corder 2253 on the observing list of American astronomer Jeffrey Corder. Size 35'. This is nine 7th – 9th magnitude stars including HIP 57682, and 57738 and the double star HIP 57657A.
- One is in the IAU constellation Centaurus and is Corder 2629 on the observing list of American astronomer Jeffrey Corder. Size 12'. This is six 9th – 10th magnitude stars.
- One is in the IAU constellation Ursa Minor and is Corder 2665 on the observing list of American astronomer Jeffrey Corder. Size 50' X 30'. This is seven 4th – 9th magnitude stars including HIP 71069 and 70825 and the double star 5 Ursae Minoris.
- One is in the IAU constellation Circinus and is Corder 2788 on the observing list of American astronomer Jeffrey Corder. Size 20' X 20'. This is seven 6th – 8th magnitude stars including HIP 74470, 74195, 74110, and 74147, and the double star HIP 74273.
- One is in the IAU constellation Hercules and is Corder 3138 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is five 8th – 9th magnitude stars including HIP 82486.
- One is in the IAU constellation Scorpius and is Corder 3249 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is eight 8th – 9th magnitude stars including HIP 84694, 84668, 84638, and 84735.
- One is in the IAU constellation Ophiuchus and is Corder 3286 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is ten 10th – 11th magnitude stars including HIP 85621.
- One is in the IAU constellation Ophiuchus and is Corder 3320 on the observing list of American astronomer Jeffrey Corder. Size 35'. This is eight 6th – 9th magnitude stars including HIP 86198 and 86143.
- One is in the IAU constellation Sagittarius and is Corder 3543 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is twelve 8th – 10th magnitude stars including HIP 90292.

- One is in the IAU constellation Pavo and is Corder 3850 on the observing list of American astronomer Jeffrey Corder. Size 35'. This is six 7^{th} – 8^{th} magnitude stars including HIP 95304 and 95561.
- One is in the IAU constellation Cygnus and is Corder 3911 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is twelve 8^{th} – 10^{th} magnitude stars including HIP 96651.
- One is in the IAU constellation Cygnus and is Corder 4064 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is eight 8^{th} – 9^{th} magnitude stars.
- One is in the IAU constellation Cepheus and is Corder 4403 on the observing list of American astronomer Jeffrey Corder. Size 50'. This is twelve 7^{th} – 8^{th} magnitude stars including HIP 105594, 105610, and 105807 and the double star HIP 105625A.
- One is in the IAU constellation Pegasus and is Corder 4442 on the observing list of American astronomer Jeffrey Corder. Size 35' X 20'. This is seven 8^{th} – 10^{th} magnitude stars including HIP 106309 and 106219.
- One is in the IAU constellation Cygnus and is Corder 4467 on the observing list of American astronomer Jeffrey Corder. Size 50' X 30'. This is twelve 7^{th} – 10^{th} magnitude stars including HIP 106742, 106597 and the double star HIP 106612A.
- One is in the IAU constellation Capricornus and is Corder 4529 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is eight 7^{th} – 9^{th} magnitude stars including HIP 107845 and the double stars HIP 108072A and 107839A.

Cabin Ghosts:

This Chinese Chenzhuo xing guan is a "box" of four stars in the IAU constellation Cancer: Delta (δ) Cancri, Gamma (γ) Cancri, Eta (η) Cancri, and Theta (θ) Cancri. It contains their xing guan "Cumulative Corpse".

Cacciatore Cluster:

This **telescopic** asterism is globular cluster NGC 6541 (Caldwell 78) in the IAU constellation Corona Australis, which was discovered by English astronomer John Herschel in 1847. It is GC 4372 in the *General Catalogue* of 1864. It is named for Italian astronomer Giuseppe Piazzi's assistant Niccolò Cacciatore (1770 – 1841).

Cactus Hook:

This Walapai asterism is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper above).

Cacus:

This Roman asterism "Cacus" is the IAU constellation Ophiuchus as listed in English Admiral Henry William Smyth's *Bedford Catalogue* in 1844. Smyth calls him the "bad man". In Roman mythology Cacus was a fire breathing giant and the son of Vulcan who was killed by Hercules after terrorizing the Aventine Hill.

Cadet Prince:

This Japanese star is 4 Ursae Minoris in the IAU constellation Ursa Minor. This name comes from the ceiling art in the Takamatsu Zuka Kofun tomb.

Cadmus:

This Greek asterism is the IAU constellation Ophiuchus. Cadmus was the first Greek hero and the greatest, alongside Perseus and Bellerophon, and slayer of monsters before Heracles was created.

Caduceus:

This Greek asterism "Κηρυκεῖον" ("Kirykeíon") is the IAU constellation Corona Australis. The caduceus was the staff of the Greek God Hermes:

- Johann Bayer's *Uranometria* (1603) lists "Caduceus".
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Hipparcho Caduceus" as a name for this constellation.
- Edward Sherburne lists the Latin "Caduceum" as one of its names in his *Sphere of Marcus Manilius* in 1675.
- "Caduceus" is listed by John Hill in his *Urania* in 1754.
- R. H. Allen in his *Star Names* in 1899 writes "Hipparchus is said to have known it [by this name]… but this is not found in his Commentary". **Caecius**:

This Greek asterism "Kaikias", "Caecius", or "Caesius", is the IAU constellation Ophiuchus. Caecius is one of their wind Gods ("Ἄνεμοι" or "Winds"), specifically the God of the northeast wind. Dante Alighieri (1265 – 1321) mentions him in his *Inferno*.

Caelum:

None of the stars of this constellation are brighter than 4th magnitude and they only show up in 14 asterisms in this handbook.

This IAU constellation (abbreviation Cae) was created in 1750 by French astronomer Abbé Nicolas Louis de Lacaille from the stars of the IAU constellations Columba and Eridanus. Lacaille's *Planisphère des Étoiles Ausralea* (1756) depicts this constellation as crossed engraver's chisels.

It was originally known by the Latin name "Caelum Sculptorium" ("engraver's chisel"), sometimes listed as "Cela Sculptoria", but the name was later reduced to just "Caelum" by English astronomer Francis Baily (1774 – 1844) at the suggestion of English astronomer John Herschel (1792 – 1871), as this name would then take up less space on a star chart. Note: The more common meaning for the Latin word "Caelum" is "sky, heaven, atmosphere", but this isn't the meaning Lacaille had in mind when he created this constellation.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "le Burin" as an awl.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as "Grabstichel" and depicts it as two crossed awls tied together.

This constellation is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) as "Caela Sculptoris" ("sculptor's heaven"): He indicates the borders of this constellation on the chart but offers no illustration of it.

Scottish uranographer Alexander Jamieson (1782 – 1850) listed it in his *Celestial Atlas* in 1822 as "Cela Sculptoris".

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Caelum, The Sculptor's Tools" as an official constellation "recognized in the catalogue of the British Association".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Caelum" and describes it as a "Sculptor's Chisel".

The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists the name "Coelum (Caelum)". The 14th edition (1959) lists "Caelum" and gives the "original form" as "Caelum Sculptoris", describing it as "The Chisel".

The Facts of File Dictionary of Astronomy, 2nd edition, 1985, by Valerie Illingworth, ed., translates "Caelum" as "Chisel".

The standard IAU charts show Caelum as a line of three stars: Beta (β) Caeli, Alpha (α) Caeli, and Delta (δ) Caeli.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Caelum in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* as a line of four stars: Gamma (γ) 1 Caeli, Beta (β) Caeli, Alpha (α) Caeli, and Delta (δ) Caeli. *Sky and Telescope Magazine*, founded in 1941, depicts Caelum the same way as Hlad et al.

The French call this asterism "Burin" and the Italians "Burino".

Caesar's Throne:

This Greek asterism "Thronos Caesaris" (θρόνος καισάριος) is the IAU constellation Crux as Pliny the Elder (24 – 79 C.E.) listed it in his *Naturalis Historia*.

Caffau's Star:

This **telescopic** star is an ultra-metal-poor halo dwarf star SDSS J102915+172927 in the IAU constellation Leo (magnitude 16.92). It is named for French astronomer Elisabetta Caffau, who discovered it in 2011. It is one of the oldest known stars and is deficient in carbon, nitrogen, oxygen, and completely devoid of lithium.

Caga Gilgati:

This Akkadian star is Alpha (α) Draconis (Thuban) in the IAU constellation Draco as listed by R. H. Allen in his *Star Names* in 1899. Caga Gilgati was an Akkadian God.

Caged Spirit Nebula:

See Blue Flash Nebula, above.

Cal-gar-le-on:

This Dharug asterism is the Small Magellanic Cloud (Collins 1798).

Calf Pack:

This Sami asterism "Miese-Cora" is an alternate name for the Pleiades cluster in the IAU constellation Taurus (Lundmark 1982). They also call it the "Dog Pack" (see below).

Caiman:

The Amahuaca see the Hyades cluster as the jaw of a caiman that bit off the leg of a man who mistook it for a canoe (Urton 2016). His leg is the Pleiades cluster and the belt and sword of Orion is the man's brother holding a spear to kill the caiman.

This Bororo asterism is made up of the stars of the IAU constellations Auriga, Lepus, Orion, and Taurus:

- The "head" is Lepus,
- The "body" is Orion,
- The "tail" extends through the eastern portion of Taurus and southern portion of Auriga.

Caiman's Jaw:

This Ticuna asterism "Coyatchicüra" is the Hyades cluster in the IAU constellation Taurus. Some Ticuna have drawn the caiman with its body in the IAU constellation Orion, but it is unclear which stars are involved.

Calabash Nebula:

This **telescopic** asterism is protoplanetary nebula OH 231.84 is in the IAU constellation Puppis. The name was first proposed in 1989 in an early paper on its expected dynamics (Icke and Preston 1989).

Calf:

This Arabic star "(al-) Farqad" (فرقد) is Gamma (γ) Ursae Minoris in the IAU constellation Ursa Minor:

- "Pherkad" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- This was later latinized to "Pherkad" or "Pherkad Major". NOTE: The name Pherkad Major is a reference to it being part of an optical double star with 11 Ursae Minoris, which is called "Pherkad Minor".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Pherkad Major and Pherkad Minor" for Gamma (γ) Ursae Majoris.
- R. H. Allen lists "this in his *Star Names* in 1899 as "Alifāʿ al Farḳadain" ("dim one of the two calves"), writing that the name applied to both stars. Allen lists it as "Pherkad Major" in the 1963 edition of his book.
- The IAU approved the name Pherkad for Gamma (γ) Ursae Minoris.

California Beach Umbrella:

This Canadian **telescopic** asterism is alongside the California Nebula (Dragon Nebula NGC 1499). The center shaft of the umbrella is a line of stars from Xi (ξ) Persei (Menkib) through HIP 18434, HIP 18081, and 42 Persei to Omicron (ο) Persei. Three stars form the umbrella canopy top are: Zeta (ζ), Omicron (ο), and 40 Persei. The cluster Omicron Persei Cloud (IC 348) is beside Omicron (ο) Persei at the tip of the umbrella. Size 5° X 3°. This is Laurelai 1 on the list of Canadian RASC member Laurel Ennis, posted on 2023 Feb 1.

California Nebula:

This **telescopic** asterism is NGC 1499 (SH 2-220, LBN 756, PGC 3517568, Ced 26) in the IAU constellation Perseus. It was discovered by American astronomer Edward Emerson Barnard in 1884. It has this name as its shape resembles the shape of the state of California. Size 160' X 40'. *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., includes the "California Nebula".

California of the Sky:

This French asterism is the IAU constellation Orion as listed by French astronomer Camille Flammarion (1842 – 1925) in his *Astronomie Populaire.*

Californietto Nebula:

This **telescopic** asterism is HII region is SH 2-157 (LBN 537) in the IAU constellation Cassiopeia. It is also known as the Lobster Claw Nebula. It is Lorenzin 8 on Tom Lorenzin's asterism list.

Callisto:

This asterism is the IAU constellation Ursa Major. In Greek myth the Goddess Hera turned Callisto into a bear in a fit of rage and her husband Zeus turned Calisto's son Arcas into a bear in the sky to prevent him from hunting Callisto:

- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Callisto" as an alternate name for Ursa Major.
- Johann Bayer's *Uranometria* (1603) lists "Callisto" and "Megisto" as names for Ursa Major.
- Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius lists the names "Ursa Maior", "Helice", and "Casto" for this constellation.
- Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) labels this constellation "Ursa Maior" with the subtitle "Calisto".
- John Hill lists "Callisto" as a name for the IAU constellation Ursa Major in his *Urania* in 1754. Later in *Urania*, Hill lists an alternate name for Callisto, "Megisto", as a name for this constellation.

Calm of Ursa Major:

This **telescopic** asterism "Lenítus Úrsae Majóris" is the intermediate spiral galaxy NGC 3756 in the IAU constellation Ursa Major. It was discovered in 1789 by William Herschel who listed this as "II 784". It became GC 2461 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Calvary Cross:

There are four Quechua asterisms by this name:

- One "Crucero" or "Calvario" is the IAU constellation Crux (Ciancia 2018).
- One, "Calvario Cruz", from Misminay is made up of stars in the IAU constellation Scorpius: Alpha (α) Scorpii (Antares), Beta (β) Scorpii (Acrab), Delta (δ) Scorpii, Pi (π) Scorpii, and Sigma (σ) Scorpii. This is also known as the Eastern Cross (Urton 1980).
- One, "Calvario Cruz", is from Misminay made up of stars of the Belt of Orion plus Tau (τ) Orionis and Beta (β) Orionis. This is also known as the "Western Cross" (Urton 1980).
- One, "Calvario Cruz" from Misminay is made up of stars of the IAU constellations Canis Minor, Gemini, Orion, and Taurus (Urton 1980):
    - The "base" of the cross is the belt of Orion,
    - The "top" of the cross is Alpha (α) Geminorum (Castor),
    - The "cross bar" of the cross is Alpha (α) Canis Minoris (Procyon) and Beta (β) Tauri (Elnath).

Calyx:

This **telescopic** asterism is Alessi 10 from the lists of Brazilian astronomer Bruno Alessi, which is in the IAU constellation Aquila. René Merting describes it as a "calyx" on the *Faint Fuzzies* website.

Camas Baking Pit:

This Salish asterism "Sxʷqʷl̓epm" ("one who cooks things in the ground") is the IAU constellation Auriga (Pete 2023). The oval of principal stars represents the women cooking camas: Alpha (α) Aurigae (Capella), Epsilon (ε) Aurigae, Eta (η) Aurigae, Zeta (ζ) Aurigae, Iota (ι) Aurigae, Beta (β) Tauri (Elnath), and Theta (θ) Aurigae. The star clusters in the middle of Auriga (and there are several) are the cooking pit. The women fled into the sky to escape Skunk (X̱stéyy̓eʔ). Camas is a plant in the asparagus family.

Camel:

This Arabic asterism "Al Ajmāl" is the IAU constellation Corvus:

- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Al ajhmal, the camels".
- R. H. Allen lists "Al Ajmāl" as a singular camel in his *Star Names* in 1899.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Hunt 212 (1171) depicts a camel behind Cassiopeia, and the Doha manuscript (1125) of al-Sufi's *Book of Fixed Stars* depicts a camel overlapping Andromeda.

This Taureg asterism is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper above).

This English asterism "Camelus, The Camel" is the IAU constellation Camelopardalis. English astronomer Richard Anthony Proctor gave it this name in 1873 and listed it in his *A New Star Atlas* (1887) as an official constellation "recognized in the catalogue of the British Association" as he believed that shortening the name would make more room on astronomical charts. Of course "Camelopardalis" means "giraffe" not "camel", and this name did not take hold. However, some uranographers, possibly influenced by Proctor, did shorten the name to "Camelopardus" or "Camelopard" on their charts.

In his *Urania* in 1754, John Hill listed this as an "Arabic constellation; it stands in the place of the Hercules". The Arabs did not have an asterism in this location but did have the asterism Mother Camels (see below) nearby in the constellation Draco.

This asterism is the IAU constellation Aquarius as renamed by the Unitarian Universalist Hysterical Society in 2024 on their Facebook page.

This **telescopic** asterism (French 2 on the asterism list of American astronomer Sue French) is in the IAU constellation Hydra. A line of three 7th to 8th magnitude stars including the star HIP 49591 form the "body" with two stars indicating the "hooves" at the end of the "legs" with the brightest star (HIP 49533B) being the top of the camel's "head".

Camel Herder:

This Arabic star is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus. The Hyades cluster of which this star is a corner is the "Young She Camels" (see below).

Camel Stallion:

There are two Arabic stars with this name:

- One “Al Fahl” is Alpha (α) Carinae (Canopus) in the IAU constellation Carina as listed in R. H. Allen’s *Star Names* in 1899.
- One, “al-fanīq” is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus.
    - “al-fanīq” is listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
    - “Al Fanīḳ” is listed by Iranian astronomer Abu Rayhan Muhammad ibn Ahmad al-Biruni (973 – c. 1050).
    - “Al Fanīḳ” is listed by R. H. Allen’s *Star Names* in 1899.

Camelopardi Hevelii:

As the IAU constellation Camelopardalis appeared in the very popular star atlas of Polish astronomer Johannes Hevelius (1611 – 1687), it was sometimes referred to as Camelopardi Hevelii.

Camelopardalis:

None of stars of Camelopardalis are brighter than 4th magnitude and they appear in 98 of the asterisms in this handbook.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Hunt 212 (1171) depicts a camel behind Cassiopeia, and the Doha manuscript (1125) of al-Sufi’s *Book of Fixed Stars* depicts a camel overlapping Andromeda. This may have been what inspired Flemish astronomer Petrus Plancius in 1613 to create what is now the IAU constellation “Camelopardalis” (IAU abbreviation Cam) or “Camelopardis” (“the giraffe”). A celestial globe (1613) of Plancius published in Amsterdam by Pieter van der Keere depicts Camelopardalis as a giraffe walking to our right.

German astronomer Jakob Bartsch (1600 – 1633) listed Camelopardalis in his *Planisphaerium Stellatum* (1613). Bartsch also lists the Italian name “Giraffa” and the German “Grenff”.

Camelopardalis is depicted on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) but not labelled.

Gores for a celestial globe Bibliothèque Nationale de France, Département Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts “Camelopardalis” as a giraffe facing to our right.

This constellation is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as “Gyraffe Camelopardalis”.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum,* depicts “Camelopardalis” as a giraffe walking to our right.

Edward Sherburne lists it as “Camelo Pardalis” and “Gyraffa” (“giraffe”) in his *Sphere of Marcus Manilius* in 1675.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this “La Giraffe”, “Giraffa”, and “Camelopardalis” and depicts it as a giraffe walking to our right.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley’s pirated catalogue of Flamsteed’s observations of 1712, depicts “Camelopardalis” as a giraffe.

A celestial pocket globe created by British uranographer Herman Moll in 1719 depicts “Camelopardal” as a giraffe walking to our right.

This is listed in English astronomer John Flamsteed’s *Atlas Coelestis* in 1729 as “Camelopardal”.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts Camelopardalis as a giraffe walking to our left.

The *Atlas Coelestis* of German astronomer Johann Gabriel Doppelmayr (1742) depicts “Camelopardalus” as a giraffe walking to our left.

German engraver and cartographer Tobias Conrad Lotter’s *Planisphaerium Coeleste* (1750) depicts a giraffe and labels it “Camelopard”.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts “Camelopar” as a giraffe walking to our right.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts “la Giraffe” as a giraffe walking to our left, as does the 1778 edition.

Johann Elert Bode’s *Vorstellung Der Gestirne* (1782 lists this constellation as ”Das Cameelopard“ and depicts it as a giraffe walking to our left.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as “Camelo Pardo di Evelio” (“Camelopardalis of Hevelius”) and “Camelopardo” in his *Della Specola Astronomica De’ Regj Studj Di Palermo* (1792).

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts “Camelopard” as a giraffe walking to our right.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists “Camelopardalis” but abbreviates this to “Camelopard” on some charts in his *Celestial Atlas* in 1822 and on his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822), which depicts this as a giraffe.

German astronomer Johann Elert Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as “Camelopard”.

American uranographer Elijah Burritt’s *The Constellations for each Month in the Year* (1835) depicts “Camelopardalis” as a giraffe.

“Camelopardalus” (sic) is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) as a giraffe.

English Admiral Henry William Smyth refers to it as “the Camelopard” in his *Bedford Catalogue* in 1844.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts “Camelopardus” as a giraffe walking to our right.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts “Camelopardalis” as a giraffe.

This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Camelopardalis": The author is unknown, but it is based on Jamieson's *Celestial Atlas*.

"Camelopardalis" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It is depicted as a giraffe walking to our left.

This constellation is listed as "Camelopardis" in the third edition of Rev. Thomas William Webb's *Celestial Objects for Common Telescopes* in 1873.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this constellation as the "Giraffe".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Camelopardalis" in his *Star Atlas* (1893) and describes it as "The Giraffe".

Irish astronomer John Ellard Gore listed it as "Camelus" in 1894 as part of a translation of *Astronomie Populaire* by Camille Flammarion (1842 – 1925).

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Camelopardalis" and describes it as a "Giraffe", incorrectly attributing it to Hevelius.

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists this constellation as "Camelopardus".

Another French name for this constellation is "Le Cancre" ("the dunce"). The Italian name is "il Cancro".

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) redesigned the lines of Camelopardalis in his book *The Stars - A New Way to See Them* (1952). The standard IAU lines depict a triangle of the stars Alpha (α) Camelopardalis, Gamma (γ) Camelopardalis, and the double star HIP 16228A, with a line running from Gamma (γ) Camelopardalis to the double star HIP 25110. Rey depicts it as follows:

- The giraffe's "body" is a quadrilateral of the stars Alpha (α) Camelopardalis, Gamma (γ) Camelopardalis, HIP 17884, and Beta (β) Camelopardalis,
- One "leg" runs from HIP 17884 to a "foot" at the double star HIP 16228A.
- One "leg" runs from Beta (β) Camelopardalis to a "foot" at 7 Camelopardalis.
- The giraffe's "neck" runs from Alpha (α) Camelopardalis to a bend at HIP 33694 and ends at HIP 29997.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Camelopardalis in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* as three lines radiating out from the star Alpha (α) Camelopardalis:

- One runs to Gamma (γ) Camelopardalis,
- One runs through Beta (β) Camelopardalis to 7 Camelopardalis, and
- One runs through HIP 29997 to HIP 33694

Sky and Telescope Magazine, founded in 1941, depicts Camelopardalis in their magazine and publications in the same manner as Hlad et al.

Camels:

This Arabic asterism is the stars Alpha (α) Orionis (Betelgeuse), Gamma (γ) Orionis (Bellatrix), Delta (δ) Orionis (Mintaka), and Kappa (κ) Orionis (Saiph) in the IAU constellation Orion. R. H. Allen lists this in his *Star Names* in 1899 and makes it a part of the asterism Herdsman of the Jauzah (see below).

Camel's Burden:

This Arabic asterism "Al Karb al Ibl" is the IAU constellation Canes Venatici as listed by translator Giuseppe Simone Assemani (1687 – 1768).

Camel's Eye:

This **telescopic** asterism is planetary nebula NGC 1501 in the IAU constellation Ophiuchus which surrounds the variable star CH Camelopardalis. This was discovered in 1787 by English astronomer William Herschel who listed it in his catalogue as "IV 53". It is GC 801 in the *General Catalogue* of 1864. It is also known as the Oyster Nebula (see below) and was described by American astronomer Francis G. Pease (1881 - 1938) as "bearing a resemblance to the convolutions of the brain".

Camel's Hump:

This Arabic asterism "Al Nuḥātai" is the stars Gamma (γ), Mu (μ), Nu (ν), Eta (η) and Xi (ξ) Geminorum in the IAU constellation Gemini:

- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Al nuhhátaï, translating this as "the dual of Nuhát, side or inclination, which affording but little clue, Nahátaï (from nahát) two strangers, the expressed dual of al nuhháh, a large camel's hump" and only includes Mu (μ) and Eta (η) Geminorum.
- R.H. Allen's *Star Names* in 1899 lists this as all five stars.
- This is also known as "Stoopness of the Camel Neck." A Latinization of this name, "Nuhatai" or "Nucatai", has been assigned by some to the star Nu (ν) Geminorum in the IAU constellation Gemini.

Camels Quenching Their Thirst:

There are two Arabic asterisms with the name "al-Nihāl" or "an-Nihāl" (النهال):

- One is a quadrilateral of stars in the IAU constellation Lepus described by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986): Alpha (α) Leporis (Arneb), Beta (β) Leporis, Gamma (γ) Leporis, and Delta (δ) Leporis. This is also known as the "Throne of Jawzā'" (see below) or "the Hindmost Chair of Jawzā'" (see below). English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists this as "Al nihál, or thirst-slaking camels".
- One is the star Beta (β) Leporis in the IAU constellation Lepus. This was later latinized to "Nihal". American uranographer Elijah Burritt (1794 – 1838) listed it as "Nibal". English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 notes that "Nihal" is used for this star but "is more properly applied" to the aforementioned quadrilateral of stars. The IAU approved the name Nihal for the star Beta (β) Leporis A.

Campbell's Star:

This **telescopic** variable star is Campbell's Star or Campbell's Hydrogen Star a Wolf Rayet star HIP 96295 (HD 184738) in the IAU constellation Cygnus (magnitude 8.32). It is named for 19th century American astronomer William Wallace Campbell.

Camp of Elmur:

This Welsh asterism listed by Victorian folklorist Marie Trevelyan (1852 – 1922) in her *Folk-lore and Folk-stories of Wales* (1909) is currently unidentified.

Campe:

This Greek asterism is the IAU constellation Scorpius as listed by Hesiod (Mosenkis, date n/k). Campe was a monster who guarded the Cyclopes and Hundred Handers in Tartarus. This is related to their asterisms Hundred Handed (see below) and Cyclopes (see below).

Campfire:

This Naron (San) asterism is the Pleiades cluster in the IAU constellation Taurus. They believe their God Huwe sits beside it telling stories.

This Kaurna asterism "Wodliparri" is the dark spaces in the Milky Way, which they see as huts and the bright stars around them as campfires.

This Kamilaroi/Euahlayi star is Beta (β) Orionis (Rigel) in the IAU constellation Orion. It is part of their asterism "Birray Birray" (see Uninitiated Boys, below). The sword of Orion is their fire poker (see Fire Poker, below).

This Arrernte star is Alpha (α) Eridani (Achernar) in the IAU constellation Eridanus (Maegraith 1932). Maegraith writes that this represents a campfire around which many men are sitting.

Campfire Smoke:

This Wotjobaluk asterism "Coomartoorung" is the open cluster Messier 44 (see Beehive, above) in the IAU constellation Cancer (Hamacher 2011). It is the cookfire of the Two Hunters (see below).

Canal:

This Babylonian lunar station "Khigalla" is Gamma (γ), Mu (μ), Nu (ν), Eta (η), and Xi (ξ) Geminorum in the IAU constellation Gemini as listed by R. H. Allen in his *Star Names* in 1899.

This Persian lunar station "Rakhvad" is Gamma (γ), Mu (μ), Nu (ν), Eta (η), and Xi (ξ) Geminorum in the IAU constellation Gemini as listed by R. H. Allen in his *Star Names* in 1899.

This Sogdian lunar station "Ghathaf" is Gamma (γ), Mu (μ), Nu (ν), Eta (η), and Xi (ξ) Geminorum in the IAU constellation Gemini as listed by R. H. Allen in his *Star Names* in 1899.

This Khorasmian lunar station "Gawthaf" is Gamma (γ), Mu (μ), Nu (ν), Eta (η), and Xi (ξ) Geminorum in the IAU constellation Gemini as listed by R. H. Allen in his *Star Names* in 1899.

Cancer:

None of the stars of Cancer are brighter than 4th magnitude and they appear in 211 of the asterisms in this handbook.

This IAU constellation (IAU abbreviation Cnc) was first mentioned in Aratus' poem *Phaenomena* (270 B.C.E.) as "Καρκίνος" or "Karkínos" and Hipparchus (190 – 120 B.C.E.), and Ptolemy (c.100 – c.170) also used the name "Καρκίνος" (see Crab, below) in his *Almagest* in the 2nd Century C.E. The Greek myth has the Goddess Hera placing this crab in the sky as it had been killed by Hercules and she was an enemy of

Hercules. An earlier version of this asterism appears in the Babylonian MUL.APIN tablets as “AL.LU”, in the *Astrological Reports to the Kings* as “Alluttu” or “MUL.AL.LU” (Parpola 1993, see Crab, below). None of its stars rate a spot on the list of 90 brightest stars but its stars do appear in 193 of the asterisms listed in this handbook. All of the charts listed below depict Cancer (as a crab or crayfish) as viewed from above unless otherwise noted.

The Temple of Khnum at Esna has a Latopolitan zodiac on the ceiling of the pronaos dating to the age of Ptolemy II Euergetes (246 – 221 B.C.E.) depicts Cancer as a scarab beetle (Bullinger 1882, Seiss 1882).

The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) orients Cancer so that its pincers do not turn towards Leo.

The Mainz Globe from the eastern end of the Roman empire (c. 150 – 220 C.E.) depicts this constellation as a crab.

Cancer appears in the Leiden *Aratea* (816) as a crab (Katzenstein & Savage-Smith, 1988).

This constellation appears in the 8th century *Revised Aratus Latinus*:

- In the Cologne 83 II edition it is shown facing right.
- In the Siena L. IV. 25 and Ps Bede DSC editions Cancer is placed between the feet of the Gemini twins.

Cancer was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 under the Arabic name “Al-Saratān” (Hafez 2010). The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi’s son depicts this constellation as a two views of a crab: One as viewed from earth and the other as viewed from the sky.

The Oxford Laud 644, Padua 27, and Venice VIII 22 manuscripts of the 11th century *De signis caeli (“of the signs of heaven*”) depicts Cancer facing right. The Klosterneuberg 685, Vat lat 643, Aberystwyth, Sienna L.IV.25 Germanicus, Leiden 8°15 Hyginus, and Zwettl 296 manuscripts of *De signis caeli* depict Cancer between the feet of Gemini.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Cancer as a crab.

Shams al-Dīn Muhammad B. Mu’ayyad al-‘Urdī’s inlaid celestial globe (1288) depicts Cancer as a crab.

A Hebrew translation of the Almagest from Catalonia (c1361), Philadelphia (USA), University of Pennsylvania Libraries, Lawrence Schoenberg Collection, ms. ljs057 (old Ms.Sassoon 823), ff.56v, 57r, depicts Cancer as a multi coloured crab facing to our right.

A quadrans novus found at the House of Agnes site in Canterbury in 2005 in soil dated to c 1375-1425 lists the abbreviated form “CANC” (Dekker 2007).

English author Geoffrey Chaucer (c.1340s – 1400) listed it as “Cancre” in his *A Treatise on Astrolabes*, which is a French name (see Crab, below), but the name usually appearing in manuscripts and charts in his day was “Canser” according to R. H. Allen in *Star Names* in 1899.

The BAV *Astronomia* text, Vatican. lat. 3110 - Florence, ca. 1370; owned by Coluccio Salutati (1331-406) and the Madrid texts (Bibl. Nacional, Matritensis 1983, fol. 116v and Vatican, BAV, Vat. lat. 3121, fol.

12r., Bibl. Nacional, Matritensis 1983, fol. 115v and Vatican, BAV, Vat. lat. 3121, fol. 10v.) depict Cancer at the feet of Gemini Mc Gurk, Patrick (1966).

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Cancer as a crab.

The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.168v-169r depicts "Cancer" as a crayfish facing to our right.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Cancer as a crab facing to our right. It is not labelled.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Cancer as a crayfish facing to our left, but elsewhere it is depicted facing upwards.

A translation of The *Liber de signis* of Scottish polyglot Michael Scot (1175 – c.1232) in the second half of the 15th century, Darmstadt, Hessische Hochschulebibliothek, Ms 266, depicts "Cancer" as a crayfish facing to our right.

The vault of the Old Sacristy of the Basilica di S. Lorenzo in Firenze, Italy (1442) depicts Cancer as a crab crawling to our left.

The Vault of Cappella de'Pazzi of the Basilica di S. Croce in Firenze, Italy (1459-60) depicts Cancer as a crab crawling to our left.

De Astronomica ("the astronomy"), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This depicts "Cancer" as a crab.

The *Germanicus Aratea* (Siciliensis, c. 1469) depicts Cancer as a crayfish to the left of Gemini. The *Germanicus Aratea* with scholia Strozziana (c. 1475) depicts Cancer as a crayfish to the right of Gemini: In the sky it is to the left.

Cancer appears on the *Imagines constellationum Australium* chart of Romanian theologian Johannes Honter (1498 – 1549) as a crayfish and is labelled with the astrological sign for Cancer.

The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts "Cancer" as a crayfish.

The early 16th century Real Academia de Historia, manuscript D-97, f.102v – 103r depicts Cancer as a crab. It is not labelled.

The "Nuremburg Maps" *(Die Karte des Nördlichen Sternenhimmels* inv.-Nr. Hz 5576), a pair of celestial hemispheres made in 1503 by Conrad Heinfogel depicts Cancer as a crayfish.

The *imagines coeli septentrionales cum duodecint imaginibus zodiaci* ("images of the northern sky with twelve images of the zodiac"), commonly known as the *imagines coeli septentrionales cum duodecint imaginibus zodiaci* ("images of the northern sky with twelve images of the zodiac"), commonly known

as the *Northern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius (Dekker & Lippincott, 1999) depicts Cancer as a crayfish.

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts “Cancer” as a crab.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts Cancer as a crayfish.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts Cancer in the same manner as Dürer et al.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts “Cancer” as a crab.

Dele Stelle Fisse (“Of the Fixed Stars”) by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as “Cancro”. The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as the “Crab”.

The Northern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Cancer as a crayfish.

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists Cancer in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts Cancer as a crayfish and it is only labelled with the astrological symbol for Cancer.

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicts “Cancer” as a crayfish.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts “Cancer” as a crayfish viewed from above.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts “Cancer” as a crayfish moving to our right.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) depicts “Cancer” as a crab.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts “le Crevice” as a crayfish.

“Cancer” is depicted on the *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) as a crayfish.

Cancer is listed in Danish astronomer Tycho Brahe’s *Astronomiae Instauratae Progymnasmata* (1602).

German uranographer Johann Bayer (1572 – 1625) depicts this as a crab viewed from above in his *Uranometria* in 1603. Bayer lists these names for this constellation: “Cancer, Octipes, Nepa, Astacus, Cammarus, Krebs, Alsartan, Asartan”.

“Cancer” is listed on the *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) and depicted as a crab.

“Cancer” is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and depicted as a crayfish.

Johannes Kepler’s *Stella Nova in Pede Serpentarii* (1606) lists this constellation as “Crabbi”.

The *Tabulae Rudolpinae* (1627) of Johannes Kepler (1571 – 1630) lists the name “Cancer” for this constellation.

“Cancer” is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a crayfish.

The huge *Gottorf Globe* (c1650) made for the Duke of Holstein, Frederick III, one of the world’s first planetariums, depicts Cancer as a crab.

Cancer is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as a crayfish and is labelled “Cancer Alsartan”.

Dutch cartographer Frederik de Wit’s *Planisphaerium Coeleste* (1670) depicts Cancer as a crab.

English astronomer Edmund Halley’s chart of 1678 depicts Cancer as a crab.

English uranographer John Seller’s *A coelestiall planisphere* (1678) depicts “Cancer” as a crab.

The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678 by English uranographer James Clerk depicts “Cancer” as a crab.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts “Cancer” as a crayfish.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this “Le Crevice”, “Cancer”, and “Καρκίνος” (“crab”) and depicts it as a crab.

Dutch uranographer Carel Allard’s *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) depicts “Cancer” as a crab.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley’s pirated catalogue of Flamsteed’s observations of 1712, depicts Cancer as a crab.

Cancer is listed in English astronomer John Flamsteed’s *Atlas Coelestis* in 1729: It is depicted as a crab.

A wooden precession globe (1730) by German uranographer Johann Georg Puschner (Dekker 2003) lists this constellation as “Cancer”.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts “Caneer” as a crayfish.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts "Cancer" as a crayfish.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Cancer as a crab.

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) depicts Cancer as a crayfish.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) depicts "Le Crevice" as a crayfish.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts "Cancer" as a crayfish.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) labels this constellation "l'Ecrevide" and depicts it as a crab, but in later close-up charts it is labeled "le Cancer". The 1778 edition labels this "le Crevice" but also depicts it as a crab.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as "Cancro" in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts "Cancer" as a crayfish.

American uranographer William Croswell (1760 – 1834) depicts "Cancer the Crab" on his *Mercator Map of the Starry Heavens* in 1810 as a crab.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as "Krebs" and depicts it as a crayfish. The various editions of Bode's Jahrbuch also use this name. Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Der Krebs", but depicts it as a crab.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts "Cancer" as a crayfish.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Cancer in his *Celestial Atlas* and his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822): This is depicted as a crab.

"Cancer" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as a crab.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts "Cancer" as a crab.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts "Cancer" as a crab.

Cancer is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on Jamieson's *Celestial Atlas*.

"Cancer" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It is depicted as a crab.

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Cancer, The Crab" as an official constellation "recognized in the catalogue of the British Association".

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as "Cancer, the Crab".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Cancer" in his *Star Atlas* (1893) and describes it as "The Crab".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Cancer" and describes it as a "Crab".

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) describes "Cancer" as "stars that lie irregularly scattered between Gemini, Head of Hydra, Procyon, and Leo".

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Cancer".

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) redesigned the lines of Cancer in his book *The Stars - A New Way to See Them* (1952). The standard IAU charts show this constellation with a central line running from Gamma (γ) to Delta (δ) Cancri and pairs of lines branching out from these two stars. Rey makes a "body" out of the quadrilateral of stars Gamma (γ), Zeta (ζ) 1 and 2, Beta (β) Cancri (Tarf), and Delta (δ) Cancri, placing Messier 44 (see Beehive Cluster, above) inside this body. One arm runs from Delta (δ) Cancri to Alpha (α) Cancri (Acubens) and one "arm" runs from Gamma (γ) Cancri to Iota (ι) Cancri.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Cancer in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* almost the same as the standard IAU version except that they omit the line between Gamma (γ) Cancri and Chi (χ) Cancri.

Sky and Telescope Magazine, founded in 1941, depicts Cancer in their magazine and publications as three lines of stars radiating out from Delta (δ) Cancri:

- One runs to Beta (β) Cancri (Tarf),
- One runs to Alpha (α) Cancri (Acubens), and
- One runs through Gamma (γ) Cancri to Iota (ι) Cancri.

Cancer Minor:

This Flemish asterism "Lesser Crab" was created in 1612 by Flemish astronomer Petrus Plancius (1552 – 1622) from a group of arrow-shaped stars of the IAU constellation Gemini: HIP 36616 and 68, 74, 81, and 85 Geminorum. A celestial globe (1613) of Plancius published in Amsterdam by Pieter van der Keere depicts this as a small crayfish between Cancer and Gemini. Polish astronomer Stanislaw Luieniecki (1623 – 1675) lists Cancer Minor it in his charts.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts "Canis Minor" as a crayfish between Gemini and Cancer.

Another version of this obsolete constellation is found in the *Harmonia Macrocosmica* (1660) ("*Cellarius Atlas of Andreas Cellarius*"), made up of stars of the IAU constellation Cancer, including a line through the 5th magnitude stars 3, 5, and 8 Cancri. Bruno Alessi lists it on his BDCC 7.6 list as the "Little Crab" and "Cancer Minor".

Candaen:

John Hill gives this as a "Baeotian" name for the IAU constellation Orion in his *Urania* in 1754. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 also lists this as a "Boeotian" name.

Candelabra:

See Chandelier, below.

Candle and Holder:

There are two **telescopic** "candle and holder" asterisms:

- One is from *Pattern Asterisms: A New Way to Chart the Stars* by John A. Chiravalle. It is in the IAU constellation Hercules and is 1.1˚ in length:
  - The "flame" is the star HIP 88234,
  - The "candle stick" is a line of stars running down from this "flame" through HIP 88302 and 88361 to HIP 88415A,
  - The "base" of the candle holder is a curve of stars running through HIP 88555A, 88415A, and 88232.
- One is the open cluster and emission nebula Messier 16 (NGC 6611, IC 4703, SH 2-49, RCW 165, LBN 67, Cr 375, Mel 198, Ced 159).in the IAU constellation Sagittarius. It was discovered by Swiss astronomer Philippe Loys de Chéseaux in 1745-6 and catalogued by French astronomer Charles Messier in 1764. It is listed in John Herschel's General Catalogue of 1864 as GC 4400. It was given this name by American astronomer Wayne Schmidt, who describes it as a candle holder 12 arcminutes tall.

Candlemas Stars:

This Estonian asterism is stars from the constellation Perseus: Alpha (α) Persei (Mirfak) and Beta (β) Persei (Algol). This is from the island of Saaremaa. NOTE: Candlemas is February 2.

Candlenut Torch:

This Samoan asterism "Tuigālama" is a triangle of stars in the IAU constellation Orion (Fitisemanu 2022): Mu (μ) Orionis and Chi (χ) 1 and 2 Orionis. It is associated with the legend of Ti'iti'iatalaga.

Candy Cane:

This **telescopic** asterism is in the IAU constellation Taurus next to the Pleiades cluster and is Ennis 36 on the observing list of Canadian astronomer Charles Ennis. A line of four 6th – 8th magnitude stars including HIP 17497 at the "base", HD 23353, the double star HIP 17572A in the middle at HD 23464 at the end (Corder 580) ends at a curve of five 9th – 10th magnitude stars: HD 23513, SAO 76181, SAO 76179, Gaia DR3 6497674345246412 8, and Gaia DR3 6497117717485030 4. Size 30' X 15'.

Cane:

This Latin asterism “Canna”, “Calamus”, or “Harundo” is the IAU constellation Sagitta and refers to the reed which was used to make the arrow shaft. Johann Bayer’s *Uranometria* (1603) lists “Arundo” and “Canna”. “Calamus” is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as well as “Canna seu Arundo” (“his cane with a reed”). English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists it as “Arundo”.

This Pomo asterism is the Big Dipper in the IAU constellation Ursa Major (see Big Dipper above).

This asterism is the IAU constellation Aries as renamed by the Unitarian Universalist Hysterical Society in 2024 on their Facebook page.

This **telescopic** asterism Levy 157 is found in the IAU constellation Cygnus. Its seven 9th magnitude stars form a cane. It is from the observational lists of long time RASC member and comet chaser David Levy.

Cane Griddle:

This Tupi asterism “Muquentaúa” is the Hyades cluster in the IAU constellation Taurus (De Freita Mourão 2009). Compare this to the Tupi (São Luís Island) asterism “Seychouioura” (see Fish Grill, below).

Canes Venatici:

The stars of this constellation show up in 111 asterisms in this handbook. Its brightest star is the 3rd magnitude star Cor Caroli.

This IAU constellation (IAU abbreviation CVn) was listed as “unfigured stars” by Ptolemy (c.100 – c.170) in his *Almagest* in the 2nd century C.E. Some of the stars of the IAU constellation Boötes were described by the ancient Greeks as Boötes’ club (“κολλοροβος” or “kollorobos”). When Arab astronomer Hunayn ibn Ishaq (809 – 873) translated this, he didn’t recognize this Greek word, so he made it out to be “al-'aṣā dhāt al-kullāb” (العصا ذات الكُلاب - “staff having a hook”). When Latin translator Gerard of Cremona (1114 – 1187) later attempted to translate this Arabic, he mistook “kullāb ('hook') for “kilāb” ('dogs'). So Boötes’ club became Boötes’ dogs. In 1553 the German astronomer Petrus Apianus depicted Boötes as having two dogs with him, and the idea of Canes Venatici was born.

The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts two dogs on leashes held by Boötes but does not label them.

The *Horoscopion generale* (1533) of Petrus Apianus (1495 – 1552) depicts Boötes as a bearded male in a tunic, knee high boots, and brimmed cap. He is walking to our left with a long staff in his left hand and leashes to two following dogs in his right hand.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts three leashed dogs, the leashes held by Boötes. The dogs are not labelled at all.

It was Polish astronomer Johannes Hevelius (1611 – 1687) that eventually created it as a separate constellation in 1687, listing it in his *Catalogus Stellarum Fixarum* in 1690 (see Northern and Southern

Dogs, below) as part of his *Prodromus Astronomiae* (1690). It is depicted as the front halves of two dogs running to our left, their hand quarters behind Boötes, their leashes held by Boötes.

A celestial pocket globe created by British uranographer Herman Moll in 1719 does not label Canes Venatici but does label the two leashed dogs, “Chara” and “Asterion”, which are running to our left.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley’s pirated catalogue of Flamsteed’s observations of 1712, depicts Canes Venatici as two dogs whose leashes are being held by Boötes: This includes the stars “Chara” and “Cor Caroli” (Alpha and Beta Canum Venaticorum).

Canes Venatici is listed in English astronomer John Flamsteed’s *Atlas Coelestis* in 1729: This is depicted as two leashed dogs, the leashes being held by Boötes.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts Canes Venatici as two leashed dogs running to our right. The name of the constellation does not appear, but the names of these dogs are “Chara” and “Asterio”.

The *Atlas Coelestis* of German astronomer Johann Gabriel Doppelmayr (1742) depicts “Canes Venatici” as two leashed hounds, “Asterio” and “Chara”.

German engraver and cartographer Tobias Conrad Lotter’s *Planisphaerium Coeleste* (1750) depicts this constellation as two dogs whose leashes are being held by Boötes: This includes the stars “Chara” and “Cor Caroli” (Alpha and Beta Canum Venaticorum).

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Boötes as holding two leashes to a pair of dogs who are running to our right.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, does not label Canes Venatici, but shows two leashed dogs, “chara” and “Asterion”, the leashes being held by Boötes.

The French edition, Atlas Céleste, Seconde Édition (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts “Les Vevrieres” as two dogs whose leashes are being held by “Le Bouvier” on the northern hemisphere chart. On a later close-up chart they are labeled “les Levriers” (“the greyhounds”) and depicted as two leashed dogs, the leashes being held by Boötes. Later still they are referred to as “les Lévriers ou Chiens de chasse”.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation under the abbreviated name “Cani da Cacc.” (short for Cani da Cacciatore” or “hunter dogs”) in his *Della Specola Astronomica De’ Regj Studj Di Palermo* (1792).

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this as “Cani de Caccia” (“hunting dogs”) in his *Della Specola Astronomica De’ Regj Studj Di Palermo* (1792).

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts Canes Venatici as two leashed dogs being held by Boötes, but does not label the constellation.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 does not label this but shows two leashed dogs named “Asterion” and “Chara”.

American uranographer William Croswell (1760 – 1834) depicts “Canes Venatici the Greyhounds” on his *Mercator Map of the Starry Heavens* in 1810 as two leashed hounds, the leashes being held by Boötes.

German astronomer Johann Elert Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as “Jagdhunde” and depicts it as two leashed hounds. Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists ”die Jagdhunde, Asterion and Chara“.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists “Canes Venatici” in his *Celestial Atlas* in 1822: He depicts it as two leashed dogs, the leashes being held by Boötes.

“Canes Venatici” is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) as two leashed hounds running to our right.

English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists this as “the Hounds”.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts “Canes Venatici” as two leashed hounds running to our left, the leashes held by Boötes. The upper dog is labeled “Asterion” and the lower dog is labeled "Chara”.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts “Canes Venatici” as two leashed hounds, “Chara” and “Asterion”. Their leashes are being held by Boötes.

This is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852 as “Canes Venatici”: The author is unknown, but it is based on Jamieson’s *Celestial Atlas*. Jameison’s *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822) labels the two dogs “Chara” and “Asterion”.

“Canes Venatici” is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It is depicted as the front half of two leashed hounds running to our right.

English astronomer Richard Anthony Proctor proposed shortening this name to “Catuli” (“puppy”) in 1873 as he believed that shortening the name would make more room on astronomical charts. However, Proctor’s *A New Star Atlas* (1887) lists “Canes Venatici, The Hunting Dogs” as an official constellation “recognized in the catalogue of the British Association”.

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as “Canes Venatici, the Hunting-Dogs”.

German astronomer Hermann Joseph Klein (1844 – 1914) lists “Canes venatici” in his *Star Atlas* (1893) and describes it as “The Hounds”.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this constellation as “Canes Venatici, the hunting dogs”.

American astronomer Winslow Upton’s *Star Atlas* (1896) lists this constellation as “Canes Venatici” and describes it as “Hunting Dogs”, attributing it to Hevelius.

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists “Canes Venatici: The Hunting Dogs”.

The Facts of File Dictionary of Astronomy, 2nd edition, 1985, by Valerie Illingworth, ed., lists “Canes Venatici” as the “Hunting Dogs”.

Canes Venatici is depicted on standard IAU charts as a line of the two stars Alpha (α) Canum Venaticorum (Cor Caroli) and Beta (β) Canum Venaticorum (Chara).

Canis Major:

It isn’t surprising to me that Canis Major would be found in 415 of the sky cultures of the world since its principal star Alpha (α) Canis Majoris (Sirius) is the brightest star in the sky and its stars Epsilon (ε) Canis Majoris (Adhara), Delta (δ) Canis Majoris (Wezen), Beta (β) Canis Majoris (Mirzam), and Eta (η) Canis Majoris (Aludra) are numbers 22, 36, 46 and 87 on the list of 90 brightest stars.

This IAU constellation (IAU abbreviation CMa), the “Great Dog”, started with the Mesopotamian asterism “Ban” (see Bow, above). This later turned into the Babylonian asterism “Qastu” (see Bow, above). Aratus (315 – 240 B.C.E) called it “ποικίλος” or “poikílos” (“diverse”). The Greeks associated this constellation with Laelaps, a dog which was a gift to Europa from the God Zeus. It later became a hunting dog of Orion and appeared in the works of Aratus (315 – 240 B.C.E) under this name. Homer (8th century B.C.E.) called Sirius Orion’s “Κύων” or “Kýon” (“dog”) in the *Iliad’s* Rhapsody XXII (see Orion’s Dog, below). The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) depicts this constellation as a dog running to our left, as does the Mainz Globe from the eastern end of the Roman empire (c. 150 – 220 C.E.).

Ptolemy (c.100 – c.170) listed it as Κύων (see Dog, below) in his *Almagest*. The ”body” of Ptolemy’s dog is a bent rectangle of stars with the corner stars Alpha (α) Canis Majoris (Sirius), Delta (δ) Canis Majoris, Epsilon (ε) Canis Majoris, and Nu (ν) 2 Canis Majoris. The tip of the “tail” is Eta (η) Canis Majoris. The “paws” are Kappa (κ) Canis Majoris, Zeta (ζ) Canis Majoris, Xi (ξ) 2 Canis Majoris and Beta (β) Canis Majoris (Mirzam).

This constellation appears in the 8th century *Revised Aratus Latinus*:

- In several editions (Dresden DC 183, Paris BN 12957, Prague IX. C. 6) the dog is facing left,
- In the Paris BN n.a. 1614 manuscript the dog is facing right,
- In several editions (Dresden DC 183, Paris BN 12597, Paris BN n.a. 1614, St. Gall 902) the dog has a halo around its head and his tongue hanging out,
- In the Vat Reg lat 1324 edition the dog is wearing a collar and a halo,
- In the Munich 560 edition the dog is shown with his tongue hanging out and no halo.

Canis Major appears in the Leiden *Aratea* (816) as a dog with a mane leaping to the left with a bright disk with seven rays emerging from it, this presumably representing the star Sirius (Katzenstein & Savage-Smith, 1988).

The Oxford Laud 644, Padua 27 and Venice VIII 22 manuscripts of the 11th century *De signis caeli (“of the signs of heaven*”) depict Canis Major with a halo, walking to the left with the right paw raised, looking backward over his shoulder. The Padua and Venice manuscripts also show rays of light emanating from his head. The Klosterneuberg 685 manuscript shows dugs, indicating a female, while the Zwettl 296 manuscript shows a furry belly. The Laon 422 manuscript of *De signis caeli* depicts a

halo, but not the Rouen 26 manuscript. The Durham Hunter 100 manuscript of *De signis caeli* depicts him wearing a collar.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi's son depicts Canis Major on one page in both right and left profile. It shows a dog running.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Canis Major as a dog walking to our left.

Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) depicts Canis Major as a dog.

A Hebrew translation of the Almagest from Catalonia (c1361), Philadelphia (USA), University of Pennsylvania Libraries, Lawrence Schoenberg Collection, ms. ljs057 (old Ms.Sassoon 823), ff.56v, 57r, depicts Canis Major as a red dog running to our left.

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Canis Major as a collared dog running to our left.

The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.170v-171r depicts Canis Major as a dog looking downwards, facing to our left. It is not labelled, but Alpha (α) Canis Majoris (Sirius) is labelled "Alhabor".

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.72v-73r depicts Canis Major as a poorly drawn dog looking down, facing toward our left. It is not labelled.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Canis Major as a long-tailed and collared dog running to our left.

The vault of the Old Sacristy of the Basilica di S. Lorenzo in Firenze, Italy (1442) depicts Canis Major as a dog with a curly tail running to our right.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Canis Major as a dog with its head held high walking to our left.

The Vault of Cappella de'Pazzi of the Basilica di S. Croce in Firenze, Italy (1459-60) depicts Canis Major as a dog facing to our right.

The *Germanicus Aratea* (Siciliensis, c. 1469) and the *Germanicus Aratea* with scholia Strozziana (c. 1475) depict Canis Major as a collared short haired dog running to our left.

Canis Major appears on the *Imagines constellationum Australium* chart of Romanian theologian Johannes Honter (1498 – 1549) as a dog leaping to our right.

De Astronomica ("the astronomy"), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This depicts "Canis Maior" as a dog running to our left.

The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts "Canis Maior" as a jumping dog with a collar.

The early 16th century Real Academia de Historia, manuscript D-97, f.102v – 103r depicts Canis Major as a long-tailed dog running to our right. It is not labelled.

The "Nuremburg Maps", a pair of celestial hemispheres made in 1503 by Conrad Heinfogel depicts Canis Major as a collared walking dog.

The *Southern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius depicts Canis Major as a collared walking dog.

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depict "Canis Maior" as a collared dog running to our left.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts "Canis Major" as a collared dog walking to our left.

The *Horoscopion generale* (1533) of Petrus Apianus (1495 – 1552) depicts Canis Major as a collared dog walking to our right.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts Canis Major in the same manner as Dürer et al.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts "Canis major" as a dog running to our right.

Dele Stelle Fisse ("Of the Fixed Stars") by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as "Del cane sirio" ("Syrian Dog") and "o ver can maggiore" ("or the Greater Dog"). The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as the "Dog".

The Southern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Canis Major as a dog walking to our left with its head down.

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists this constellation as "Canis" in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts "Canis Major" as a dog running to our right with his head lowered.

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicts "Canis maior" as a dog running to our left.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts "le Grande Chien" as a dog running to our right.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts “Canis Ma” as a dog leaping to our left.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts “Canis Major” as a dog running to our left.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) labels this constellation “Sirius” and states “Talis & custos aderit Canis ore timendo, ore vomit flammam, mebrits contemprior ignis, Sirion hunc Graij prio fuu nomine dicunt” (“Such a guardian will come to the dog with his fearful mouth”). It is depicted as a dog leaping to our left with rays emanating from its head.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) depicts “Canis Major” as a dog running to our left.

Canis Major is listed in Danish astronomer Tycho Brahe’s *Astronomiae Instauratae Progymnasmata* (1602).

German astronomer and uranographer Johann Bayer (1572-1625) depicts Canis Major in his *Uranometria* in 1603 as a collared dog lying down. Bayer lists these names for this constellation: “Canis Major, Australior, Dexter, Secundus, Magnus, Sirius, Canicula, Laelaps”.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts “Canis Major” as a collared dog walking to our left.

“Canis Major” is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and depicted as a dog lying down facing to our right. Batsch also gives the local name “der Grosse Hund”.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the name “Canis Maior” for this constellation.

“Canis Major” is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a collared dog lying down facing to our right

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts “Canis Maior” as a dog running to our left.

“Canes Major” is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 and is depicted as a running dog.

Dutch cartographer Frederik de Wit’s *Planisphaerium Coeleste* (1670) depicts Canis Major as a leaping dog.

English uranographer John Seller’s *A coelestiall planisphere* (1678) depicts “Canis Major” as a dog with a collar walking to our left.

Canis Major is listed by English astronomer Edmond Halley in his *Catalogus Stellarum Australium* in 1679 and on his southern chart of 1678 as a dog.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts "Canis Major" as a collared dog running to our left. In Hevelius' *Catalogus Stellarum Fixarum* (1690) it is depicted as a dog running to our right:

- Its "head" is a quadrilateral of the stars Alpha (α) Canis Majoris (Sirius), Iota (ι) Canis Majoris, Gamma (γ) Canis Majoris, and Theta (θ) Canis Majoris, with a "neck" running from Iota (ι) Canis Majoris to Omicron (ο) 2 Canis Majoris,
- Its "body" is a quadrilateral of the stars Omicron (ο) 1 and 2, Delta (δ), and Sigma (σ) Canis Majoris,
- Its "tail" is the line between Delta (δ) and Eta (η) Canis Majoris,
- Its "front legs" are two lines running out from Omicron (ο) 1 Canis Majoris:
    - One to Xi (ξ) 1 and 2 Canis Majoris, and
    - One through Nu (ν) 2 Canis Majoris to Beta (β) Canis Majoris (Mirzam),
- Its "back legs" are two lines running out from Epsilon (ε) Canis Majoris:
    - One to Kappa (κ) Canis Majoris, and
    - One to Zeta (ζ) Canis Majoris.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels and depicts this as a pit bull sort of dog with a massive collar facing to our left.

Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) labels this constellation "Orionis Canis Majoris Sirius alhabor" ("I will bring the greater dog of the Orion, Sirius") and depicts it as a dog with a collar with its right side turned toward us looking over its right shoulder.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, depicts Canis Major as a dog with a collar.

Canis Major is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729: It is depicted as a dog with a collar.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts "Canis Major" as a dog running to our right. This dog has a collar.

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) depicts Canis Major as a running dog.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Canis Major as a dog with a jeweled collar laying down facing to our right.

French astronomer Abbé Nicolas Louis de Lacaille's *Planisphère des Étoiles Ausralea* (1756) depicts "Le Grand Chien" as a running dog.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) depicts "Le Grand Chien" as a collared dog lying down.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "Le Grand Chien" as a short-haired dog with a collar.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as "Grosser Hund" and depicts it as a dog wearing a collar running to our right. Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Der Grosse Hund" in the text and "Grosse Hund" on the charts and depicts it as a collared dog running to our right.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as "Gran Cane" and "Can Maggiore" in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts "Canis Major" as a running dog.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts "Canis Major" as a collared dog running to our left.

Canis Major is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801) as "Groote Hond" and depicted as a collared dog.

American uranographer William Croswell (1760 – 1834) depicts "Canis Major the Great Dog" on his *Mercator Map of the Starry Heavens* in 1810 as a running dog.

Canis Major is listed by Scottish uranographer Alexander Jamieson in his *Celestial Atlas* of 1822: This is depicted as a dog with a collar.

"Canis Major" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as a collared dog lying down facing to our right.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts Canis Major as a dog running to our right.

English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists the name "rubra Canicula" ("red dog") and attributes this to the Roman poet Quintus Horatius Flaccus (Horace, 65 – 27 B.C.E.).

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts "Canis Major" as a dog running to our left.

Canis Major is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on Jamieson's *Celestial Atlas*: This is depicted as a dog wearing a collar.

"Canis Major" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It is depicted as a dog walking to our right looking over its right shoulder.

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as "Canis Major, the Great Dog".

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) describes this constellation as "Canis Major" and "the Great Dog".

Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) translated it as "Al Kalb al Akbar" ("greater dog") in his *Book of the Fixed Stars* in 964 (Hafez 2010):

- Robert Hues (1659) listed the Arabic name of this constellation as "Alcheleb Alachbar".

- John Chilmead (1899) listed the Arabic name of this constellation as “Alcheleb Alachbar” in *A Learned Treatise of Globes*.

German astronomer Hermann Joseph Klein (1844 – 1914) lists “Canis Major” in his *Star Atlas* (1893) and describes it as “The Great Dog”.

American astronomer Winslow Upton’s *Star Atlas* (1896) lists this constellation as “Canis Major” and describes it as the “Greater Dog”.

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists “Canis Major…The Greater Dog”.

The standard IAU charts depict this constellation this way:

- His “head” is the triangle of stars Theta (θ), Gamma (γ) and Iota (ι) Canis Majoris,
- A “neck” runs from Iota (ι) Canis Majoris to Alpha (α) Canis Majoris (Sirius),
- His “body” is a rectangle made by Sirius, Nu (ν) 2, Omicron (ο) 1, Sigma (σ), Delta (δ), and Omicron (ο) 1 Canis Majoris,
- His “tail” runs from Delta (δ) Canis Majoris through Omega (ω) Canis Majoris to Eta (η) Canis Majoris,
- Two lines running from Nu (ν) 2 Canis Majoris form the “front legs”:
- One runs to Beta (β) Canis Majoris (Mirzam), and
- One runs to Xi (ξ) 2 Canis Majoris,
- Two lines running from Epsilon (ε) Canis Majoris form the “back legs”,
- One runs to Zeta (ζ) Canis Majoris, and
- One runs to Kappa (κ) Canis Majoris.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Canis Major in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik*, in this manner:

- A central line of three stars runs from Alpha () Canis Majoris through Omicron (ο) 2 Canis Majoris to Delta (δ) Canis Majoris,
- Two lines of stars run out from Delta (δ) Canis Majoris:
    - One goes to Epsilon (ε) Canis Majoris, and
    - One goes to Eta (η) Canis Majoris,
- Three lines of stars radiate out from Sirius:
    - One goes to Beta (β) Canis Majoris (Mirzam),
    - One goes to Gamma (γ) Canis Majoris, and
    - One goes to Theta (θ) Canis Majoris.

Sky and Telescope Magazine, founded in 1941, depicts Canis Major in their magazine and publications like this:

- His “head” is the triangle of stars Iota (ι), Gamma (γ), and Theta (θ) Canis Majoris, with a line from Iota (ι) Canis Majoris to Alpha (α) Canis Majoris (Sirius), forming a “neck”,
- His “body” is the bending line of stars from Sirius through Beta (β) Canis Majoris (Mirzam), Nu (ν) 2 Canis Majoris, Omicron (ο) 1 Canis Majoris, Epsilon (ε) Canis Majoris, Sigma (σ) Canis Majoris, Delta (δ) Canis Majoris, and Omicron (ο) 2 Canis Majoris,
- His “tail” is a line from Delta (δ) to Eta (η) Canis Majoris.

The Italians call it “Cane Maggiore” and the French “Grand Chien”.

Canis Minor:

The stars of this constellation appear in 136 sky cultures of the world since Alpha (α) Canis Minoris (Procyon) is the 8th brightest star in the sky.

This IAU constellation (IAU abbreviation CMi), the “Lesser Dog”, originated in the Mesopotamian asterism “MASH.TAB.BA” (see Twins, below). In his *Almagest*, Ptolemy (c.100 – c.170) calls this “Προκύων” , which later becomes “προκύων” or “prokýon”, which is “Preceding the Dog”, “One Before the Dog”, or “Harbinger of the Dog”, which was later latinized to “Procyon” and ultimately became the name of Alpha (α) Canis Minoris (see Preceding the Dog, below). While it is clear from Ptolemy’s description that this is some sort of creature, it is unclear as to whether it was meant to be a dog. It appears as Canis Minor in the works of the 1st century Roman architect Vitruvius. It is sometimes given the Latin name “Canis Minisculus” (“Canis Minus”).

Canis Minor appears in the 8th century *Revised Aratus Latinus*:

- In several editions (Dresden DC 183, Paris BN 12957, Prague IX. C. 6) this is depicted as a dog leaping to the left,
- In the Prague IX C 6 edition the dog is wearing a collar.

Canis Minor appears in the Leiden *Aratea* (816) as a collared dog leaping to our left.

The Oxford Laud 644 and Padua 27 manuscripts of the 11th century *De signis caeli (“of the signs of heaven*”) depict Canis Minor with a halo. The Durham Hunter 100 manuscript of *De signis caeli* depicts Canis Minor with a collar.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi’s son depicts Canis Minor as a dog walking, viewed in right profile. It does not show him in left profile.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Canis Minor as a small dog walking to our left.

Shams al-Dīn Muhammad B. Mu’ayyad al-‘Urdī’s inlaid celestial globe (1288) depicts Canis Minor as a dog.

A Hebrew translation of the Almagest from Catalonia (c1361), Philadelphia (USA), University of Pennsylvania Libraries, Lawrence Schoenberg Collection, ms. ljs057 (old Ms.Sassoon 823), ff.56v, 57r, depicts Canis Minor as a dog walking to our left.

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Canis Minor as a collared dog facing to our right.

The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.170v-171r depicts Canis Minor as a collared dog running to our left. It is not labelled, but Alpha (α) Canis Minoris (Procyon) is labelled “Algomeisa”.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.72v-73r depicts Canis Minor as a collared dog walking to our left with its tongue sticking out. It is unlabelled.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Canis Minor as a tiny dog running to our left.

The vault of the Old Sacristy of the Basilica di S. Lorenzo in Firenze, Italy (1442) depicts Canis Minor as a small dog leaping to our right.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Canis Minor as a small dog running to our left.

The Vault of Cappella de'Pazzi of the Basilica di S. Croce in Firenze, Italy (1459-60) depicts Canis Minor as a small dog running to our right.

Canis Minor appears on the *Imagines constellationum Australium* chart of Romanian theologian Johannes Honter (1498 – 1549) as a dog with a collar walking to our right and is labelled "Procyon".

De Astronomica ("the astronomy"), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This depicts "Canis Minor" as a dog running to our left.

The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts "Canis Minor Procion" as a collared dog that is walking.

The early 16th century Real Academia de Historia, manuscript D-97, f.102v – 103r depicts Canis Minor as a small dog running to our right. It is not labelled.

The "Nuremburg Maps" *(Die Karte des Nördlichen Sternenhimmels* inv.-Nr. Hz 5576), a pair of celestial hemispheres made in 1503 by Conrad Heinfogel, depicts depicts Canis Minor as a collared walking dog.

The *Southern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius depicts "Canis minor" as a dog walking.

The *Horoscopion generale* (1533) of Petrus Apianus (1495 – 1552) depicts Canis Minor as a collared dog walking to our right.

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts "Canicula" as a collared dog walking to our left. A celestial globe (1522) of German polymath Johann Schöner (1477 – 1547) depicts "Canis Minor" as a collared dog walking to our left.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts Canis Major in the same manner as Dürer et al.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) labels this constellation "Procyon" and depicts it as a dog walking to our left.

Dele Stelle Fisse ("Of the Fixed Stars") by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as "De la Canicula o ver Can minore". The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as “Procyon” and the “Little Dog”.

The Southern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Canis Minor as a dog walking to our left.

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists this constellation as “Procyon, sive Canis Minor” in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts “Canis Minor” as a dog with a collar walking to our left.

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicts “Procyon siue Canis minor” (“Procyon or Canis Minor”) as a dog trotting to our left.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts this constellation as a small dog facing to our right.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts “Canis Mi” as a collared dog walking to our left.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts “Canis Minor” as a small collared dog facing to our left.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) labels Canis Minor “Procyon” and depicts it as a collared dog running to our left.

“Canis Minor” is depicted on the *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) as a collared dog walking to our left.

Canis Minor is listed in Danish astronomer Tycho Brahe’s *Astronomiae Instauratae Progymnasmata* (1602).

German astronomer and uranographer Johann Bayer (1572-1625) depicts this in his *Uranometria* in 1603 as a collared dog walking to our right. Bayer lists these names for this constellation: “Canis Minor, Canis Septentrionalis, Canis Sinister, Canis Primus, Canis Paruus, Antecanis, Morus, Fouca, Algomeiza, Kelbelazguar, Aschere, Aschemie”.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts “Canis Minor” as a collared dog walking to our left.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the names “Canis Minor” and “Procton” for this constellation.

“Canis Minor” is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a collared dog running to our right.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts “Canis minor” as a dog walking to our left.

The huge *Gottorf Globe* (c1650) made for the Duke of Holstein, Frederick III, one of the world's first planetariums, depicts Canis Minor as a collared dog walking to our right.

Canis Minor is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as a dog with a collar.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts "Canis Minor" as a dog running to our left.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this "Le Petit Chien", "Canis Minor" and "Procyon" and depicts it as a spaniel laying down facing to our left.

Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) depicts Canis Minor as a dog lying down.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, depicts Canis Minor as a walking dog.

Canis Minor is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729: It is depicted as a dog walking to our right.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts Canis Minor as a dog running to our right, but does not label it Canis Minor: Instead, he only labels its principal star, Procyon.

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) depicts Canis Minor as a running dog with a collar.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Canis Minor as a dog with a collar walking to our right.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) depicts "Le Petit Chien" as a dog with a collar.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "le petit Chien" as a dog with a collar walking to our right, as does the 1778 edition.

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "der kleine Hund" in the text and "Kleine Hund" on the charts, depicting it as a collared dog walking to our right.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as "Can Minore" in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts "Canis Minor" as a trotting dog with a collar.

American uranographer William Croswell (1760 – 1834) depicts "Canis Minor the Less Dog" on his *Mercator Map of the Starry Heavens* in 1810 as a small dog.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this under the abbreviated label "Kl. Hund" and depicts it as a running dog.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Canis Major in his *Celestial Atlas* and his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822): It is depicted as a dog with a collar.

"Canis Minor" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as a collared dog walking to our right.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depict "Canis Mi" as a dog facing left.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts "Canis Minor" as a dog with a collar.

Canis Minor is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: He is depicted wearing a collar.

"Canis Minor" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It is depicted as a dog facing to our right.

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as "Canis Minor, the Lesser Dog".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Canis Minor" in his *Star Atlas* (1893) and describes it as "The Little Dog".

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) describes this constellation as "Canis Minor" and the "Lesser Dog".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Canis Minor" and describes it as the "Lesser Dog".

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists this as "Canis Minor: The Lesser Dog."

Standard IAU charts depict Canis Minor as a line of the two stars Alpha (α) Canis Minoris (Procyon) and Beta (β) Canis Majoris (Gomeisa).

French astronomers call it "le Petit Chien" and Italian astronomers "il Cane Minore".

Canoe:

This Chahta asterism is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper above).

This Kala Lagaw Ya asterism is the IAU constellation Scorpius which represents the canoe of their mythical figure Thoegay and his first-mate Kang (the star Alpha (α) Scorpii (Antares)).

This Yolgnu asterism is the stars Lambda (λ) Scorpii (Shaula) and Upsilon (υ) Scorpii (Lesath) in the IAU constellation Scorpius. The Yolgnu tell of an older brother who sacrificed his life to save his younger brother who fell out of a capsized canoe (Scorpius). Their ancestors placed them both in the sky as

bright new stars. Ethnoastronomy researchers believe this may be a reference to the supernova CE 393.

This Ngarrindjeri asterism “Yuki” or “Yuuki” is the IAU constellation Crux (Clarke 2009). This canoe belongs to their ancestor Kulda the Meteor Man.

This Rapanui asterism “Nga Vaka” is Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus (Edwards and Edwards 2010, Edwards and Edwards 2010, Edwards 2016, Edwards et al 2018).

This Tahitian asterism “Nga Vaka” is Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus and the IAU constellation Crux (Edwards 2015).

The stars of this Kiribati asterism “Wa” or “Te Wa” are currently unidentified (Trussel and Groves 1978).

This Muscogee asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Berezkin 2005).

This Carib asterism “Kuriala” or “Colliara” is the Big Dipper asterism of the IAU constellation Ursa Major (Magaña, and Jara, 1982).

Canoe Guiding Star:

This Hawaiian star “Hoku-ho'okele-wa'a" is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major. It is also known as, “A’a” (‘burning brightly”), “Hiki-kau-[e]-lia” or “Hiki-kau-e-lono” ("The-small-booby-bird-of-Lono"), “Hiki-kau-lono-meha” ("Star of solitary Lono"; also Lono or Lono-meha), “[Hiki] kaulana-o-meha” or “Kau-ano-meha” ("Standing alone and sacred"), “Hoku-kau'opae” ("Star for placing shrimp"), “Kaulu-lena” or “Kaulua-lena” ("Yellow star"), or “Kaulua[-i-ha'i-mohai]” or “[-a-ha'i-mohai]” ("Flower of the heavens").

Canoe Stars:

This Indonesian asterism “Bintang Biduk” is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper above).

Canopus:

This Greek star “Κάνωβος” or “Kanôbos” is Alpha (α) Carinae in the IAU constellation Carina as listed in Ptolemy’s *Almagest* (2nd century). Earlier Eratosthenes (d.194 B.C.E.) and Hipparchus (190 – 120 B.C.E.) called it “Κάνωβος” or “Kánovos”. Greek mythology lists Canopus as the name of the pilot of the ship of king Menelaus of Sparta on Menelaus’ quest to retrieve Helen of Troy. It was referred to as “Perigeios” (“perigee”) as it was the most southern bright star visible to the Greeks. Latinized, the name becomes Canopus and some translations of the *Almagest* list it as “Kanupus”:

- This star appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as “Canopus”.
- Johann Bayer’s *Uranometria* (1603) lists “Canopus”.
- This star is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as “Canobus”.
- This star is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as “Canobus Sobel”.
- Astronomer John Flamsteed (1646 – 1719) listed it as “Canobus”.
- Robert Hues lists it as “Canobus” in his *A Learned Treatise of Globes* in 1659.

- Edmond Halley lists this star as "Canobus" in *Catalogus Stellarum Australium* in 1679.
- Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) labels this star "Canopus".
- This star appears as "Canopus" in Flamsteed's *Atlas Coelestis* in 1729.
- The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) lists this star as "Canopus", as does the 1778 edition.
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Canobus".
- "Canopus" is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801).
- William Herschel lists "Canobus" in his *Catalogue of 500 new Nebulae* in 1802.
- American uranographer William Croswell (1760 – 1834) lists "Canopus" on his *Mercator Map of the Starry Heavens* in 1810.
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as "Canopus".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Canopus" and places it in "Argo".
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as "Canopus".
- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Canopus" and describes it as the "name of Menelaus' pilot".
- Some suggest that the name is derived from the Egyptian Coptic "Kahi Nub" or "golden earth" (R.H. Allen, 1899, W. T. Lynn, 1905). R.H. Allen wrote that Egyptian pharoah Thothmes III (1481 – 1425 B.C.E.) gave it the name "Karbana" (see below). Scottish uranographer Alexander Jamieson (1782 – 1850) lists Canopus in his *Celestial Atlas* in 1822.
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists the name "Canopus" and describes it as "Alpha (α) Argus".
- The 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) lists the name "Canopus" for this star and describe it as "Alpha (α) Argus".
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists "Canopus" for this star.
- The IAU Working Group on Star Names approved the name Canopus for Alpha (α) Carinae A in 2016.
- NOTE: Canopus would not have been visible to the ancient Greeks and Romans in their homeland. It was visible to the ancient Egyptians in their homeland.

This Egyptian Dendera star "Kanobus" is Alpha (α) Carine (Canopus) in the IAU constellation Carina (Hoffmann 2017) and part of their asterism Horus (see below).

This asterism "Canopus" or "Cornopus" is the IAU constellation Aquarius as listed in an "Ancient Zodiac of Egypt" in *Hindu Astronomy* by W. Brennand in 1896. Brennand has labelled this illustration "from the Barberini Museum", which is probably a reference to the 17th century Palazzo Barberini, which is now the Galleria Nazionale d'Arte Antica. This depicts a female with multiple breasts from which streams of liquid are flowing. In ancient Egyptian skies the stars of Aquarius show up in their asterisms "Giant" (see below) and "Boat" (see above) and in Seleucid skies in their asterism "Great One" (see below). The

Egyptian Dendera star “Kanobus” is part of their asterism “Horus”, which does not include stars from Aquarius at all. Brennan attributes this name for this constellation to the 5th century Roman Macrobius Ambrosius Theodosius, who believed that the Egyptians created the signs of the zodiac and that they were later adopted by the Greeks.

Canopy:

This Greek asterism “Οὐρανίσκος” (“Ouranískos”) is the IAU constellation Corona Australis as listed by 1st century Greek astronomer Geminus of Rhodes. R. H. Allen translates this as “canopy” in his *Star Names* in 1899.

This Latin asterism “Parvum Coelum” (“canopy” or “little sky”) is the IAU constellation Corona Australis.

Canopy of the Emperor:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a loop of stars in the IAU constellation Cassiopeia: The line starts at 40 Cassiopeiae and runs through 42 Cassiopeiae, Omega (ω) Cassiopeiae, Iota (ι) Cassiopeiae (the determinative star), HIP 12821, and HIP 13367, ending at 48 Cassiopeiae.

This Chinese xing guan “Huágài” (华盖) is a circle of stars in the IAU constellation Cassiopeia. The star in the middle of this “canopy” is 38 Cassiopeiae. The circular “edge” of the “canopy” is the stars 31, 40, 43, 48, Omega (ω), and Psi (ψ) Cassiopeiae, and HIP 5926A.

This Chinese Chenzhuo xing guan Huagai (华盖) is made up of stars of the IAU constellation Cepheus:

- The top of the “canopy” is the curving line of stars Beta (β) Cephei (Alfirk), 11 Cephei, 24 Cephei, 31 Cephei, Pi (π) Cephei, and Gamma (γ) Cephei,
- The bottom of the “canopy” runs from Beta (β) Cephei (Alfirk) through 16 Cephei and HIP 111660 to Gamma (γ) Cephei,

The Canopy of the Emperor initially resembled some ceremonial parasols used by Han emperors, while later depictions evolved into circular or irregular shapes, losing their cultural connotation.

Canopy Support (Adjunct to the Canopy):

This Chinese Chenzhuo xing guan is a hooked line of stars forming the “handle” for their xing guan “Canopy of the Emperor” in the IAU constellation Cepheus. Starting at HIP 111660 it runs through HIP 111242, Rho (ρ) 1 & 2 Cephei, HIP 112519, HIP 113116, HIP 112833, HIP 109693, and HIP 115746 to HIP 5928.

Canopy Support (Vassal of Canopy of the Emperor):

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a bent line of stars in the IAU constellation Cassiopeia: The line starts with the star 50 Cassiopeiae and runs through HIP 9586A, 49 Cassiopeiae, 47 Cassiopeiae, HIP 9586, HIP 10309, HIP 13055, and HIP 14844, ending at the determinative star, HIP 19461A.

This Chinese xing guan “Gàng” (杠(附华盖) is a bent line of stars in the IAU constellations Camelopardalis and Cassiopeia. This is connected to the xing guan “Canopy of the Emperor” (see above) at the star 48 Cassiopeiae. The line then runs through 50 Cassiopeiae to a bend in the line at 49 Cassiopeiae and then up through HIP 14862 and Gamma (γ) Camelopardalis.

Cantaratos:

This is a name for the star Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes listed by John Hill in his *Urania* in 1754. Hill attributes this name to 17th century French astronomer Ismaël Boulliau (Bulialdus).

Cape:

This Latin star “Palilicium” is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus:

- The *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus lists this star as “Palilicium”.
- Johann Bayer’s *Uranometria* (1603) lists the names “Palilicium” and “Parilicium”.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Palilicium”.
- “Palilicium” is listed by Robert Hues in his *A Learned Treatise of Globes* in 1659.
- “Palilicium” is listed by John Hill in his *Urania* in 1754.

Cape Clouds:

This is the Large and Small Magellanic Clouds in the IAU constellations Dorado and Tucana. This name was used by Portuguese and Dutch navigators in the Middle Ages. During Ferdinand Magellan’s circumnavigation of the Earth in 1519-22, Venetian explorer Antonio Pigafetta listed them as dim clusters of stars. *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists them as the “Magellanic Clouds” and the “Cape Clouds”. This name is listed in R. H. Allen’s *Star Names* in 1899.

Cape Daisy:

This /Xam star “≠ku-kyam” is either Beta (β) Aquilae (Alshain) and Gamma (γ) Aquilae (Tarazed) in the IAU constellation Aquila. This is part of their asterism the //kohai stars (see above). !Guonni and ≠ku-kyam are sisters of !Gaunu (see Great Star, above) which is the star Altair. We are currently unsure exactly which represents each sister. ≠ku-kyam is a type of flower resembling a daisy, probably the Cape Daisy, Rain Daisy, or Witbotterblom (Dimorphotheca pluvialis).

Capella:

See Small Female Goat, below.

Capella of the Pleiades:

This Bedouin (Negev and Sinai) star “Capella al-'Ayyūq ath-Thurayyā" is the star Alpha (α) Aurigae (Capella) in the IAU constellation Auriga. It is used to point out the position of Al Thurayya (the Pleiades).

Caph:

See Palm, below.

Capibara:

This Carib asterism “Kapiwayuman” or “Kapiwa” represents the capibara (Hydrochoerus capyabara). Its present location is unknown (Magaña, and Jara, 1982).

Capital of Sky:

This Korean lunar mansion “Seong” is made up of a bending line of stars in the IAU constellation Hydra: 35, 32, and 31 Hydrae, HIP 46404A, and Alpha (α), 27, and 26 Hydrae.

Capricorn’s Tail:

This Latin star “Cauda Capricorni” is Alpha (α) 2 Capricorni (Algedi) in the IAU constellation Capricornus. Compare this to the Arabic “al Jady” (see Goat, below).

Capricornus:

Capricornus is a dim constellation with no stars brighter than 3rd magnitude, but its stars appear in 189 of the asterisms in this handbook.

This IAU constellation (IAU abbreviation Cap) was first depicted on a cylinder seal from around the 21st century B.C.E. and recorded in Babylonian star catalogues circa 1000 B.C.E. as “MULSUḪUR.MAŠ” or “Suhurmasu” (see Goat-Fish, below), which may have been influenced by the Egyptian asterism Goat Fish (see below). In Greek mythology it is sometimes identified with Amalthea, the goat that suckled the infant Zeus after his mother saved him from being devoured by Cronos. Aratus (315 – 240 B.C.E) mentioned it in his poem *Phaenomena* (270 B.C.E.) as “Ἀιγοκέρως” or “Aigokéros” (see Having Horns, below) and Ptolemy (c.100 – c.170) listed it in his *Almagest* as “Αἰγόκερος” (“Having Horns”, see below), which was later latinized to “Aegoceros”.

The Temple of Khnum at Esna has a Latopolitan zodiac on the ceiling of the pronaos dating to the age of Ptolemy II Euergetes (246 – 221 B.C.E.) depicts Capricornus as a half ram, half fish, swimming to our left (Bullinger 1882, Seiss 1882).

The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) depicts this constellation as half horned and bearded goat, half fish.

The Mainz Globe from the eastern end of the Roman empire (c. 150 – 220 C.E.) depicts Capricornus as a horned goat facing to our left with a fish tail.

The globe of the 2nd century Farnese Atlas depicts “Capricorni” as a half goat half fish facing to our left (Stevenson 1921).

The 4th century Roman poet Decimius Magnus Ausonius called it “Caper” and 1st century Roman poet Marcus Manilius called it “Flexus Caper” (“bent goat”).

The Leiden Aratea (816) depicts Capricornus as a half fish, half goat swimming to our right (Katzenstein & Savage-Smith, 1988).

“Capricorn” is depicted in editions of the 8th century *Revised Aratus Latinus*: In several editions (Dresden DC 183, Paris BN 12957, Prague IX. C. 6) Capricornus is facing left and possessing a curled tail.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi's son depicts Capricornus as a half goat, half fish and possessing a curled tail. There are two views on one page: One showing him in left profile and the other in right profile.

The Klosterneuberg 685, Paris BN 5239, Paris BN 5543, Vat lat 643, and Zwettl 296 manuscripts of the 11th century *De signis caeli* depict Capricornus with a band separating the goat and fish halves: In the Paris and Vatican manuscripts this is hairy. The Paris BN 5239 manuscript depicts him with two sets of horns. The Durham Hunter 100 manuscript of *De signis caeli* depicts him with a beard.

Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) depicts Capricornus as a half goat, half fish.

The BAV *Astronomia* text, Vatican. lat. 3110 - Florence, ca. 1370; owned by Coluccio Salutati (1331-406) and the Madrid texts (Bibl. Nacional, Matritensis 1983, fol. 116v and Vatican, BAV, Vat. lat. 3121, fol. 12r., Bibl. Nacional, Matritensis 1983, fol. 115v and Vatican, BAV, Vat. lat. 3121, fol. 10v.) depict Aquarius and Capricornus in the same scene Mc Gurk, Patrick (1966).

A Hebrew translation of the Almagest from Catalonia (c1361), Philadelphia (USA), University of Pennsylvania Libraries, Lawrence Schoenberg Collection, ms. ljs057 (old Ms.Sassoon 823), ff.56v, 57r, depicts Capricornus as a creature with the front half of a ram and the back half a green fishes tail.

A quadrans novus found at the House of Agnes site in Canterbury in 2005 in soil dated to c 1375-1425 lists "CAPRICORN" (Dekker 2007).

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Capricornus as a half goat half fish swimming to our right.

The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.168v-169r depicts "Capricornus" as a half goat, half fish, swimming to our left.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.70v-71r depicts Capricornus as a half goat, half fish, swimming to our left. It is not labelled.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Capricornus as a half goat, half fish swimming to our left. It is not labelled.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Capricornus as a half goat, half fish, swimming to our left.

A translation of The *Liber de signis* of Scottish polyglot Michael Scot (1175 – c.1232) in the second half of the 15th century, Darmstadt, Hessische Hochschulebibliothek, Ms 266, depicts this constellation as a half goat, half fish, swimming to our left. It appears to be labelled "Capricorna".

The *Germanicus Aratea* (Siciliensis, c. 1469) depicts "Capricornus" as a half-goat, half-fish swimming to our left. It has a wide ring around its middle.

The *Germanicus Aratea* with scholia Strozziana (c. 1475) depicts Capricornus as a half goat, half fish swimming to our left.

De Astronomica (“the astronomy”), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This depicts “Capricornus” as half goat, half fish, with its tail tied into a knot.

Capricornus appears on the *Imagines constellationum Australium* chart of Romanian theologian Johannes Honter (1498 – 1549) as a half ram half fish facing to our right and labelled with the astrological sign for Capricornus.

The early 16th century Real Academia de Historia, manuscript D-97, f.101v depicts Capricornus as a half goat, half fish, swimming to our left. It is not labelled. The Real Academia de Historia manuscript D-97, f.104v – 105r depicts it reversed, swimming to our right.

The “Nuremburg Maps” *(Die Karte des Nördlichen Sternenhimmels* inv.-Nr. Hz 5576), a pair of celestial hemispheres made in 1503 by Conrad Heinfogel, depicts Capricornus as a half goat, half fish, swimming to our left. Its tail is tied in a knot.

The *imagines coeli septentrionales cum duodecint imaginibus zodiaci* (“images of the northern sky with twelve images of the zodiac”), commonly known as the *Northern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius (Dekker & Lippincott, 1999) lists “Capricornus” and depicts it with the front half a horned goat and the back half a fish’s tail tied in a knot.

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts “Capricornus” as a half ram, half fish, swimming to our left.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts this constellation as a half goat, half fish swimming to our left.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts Capricornus in the same manner as Dürer et al.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts Capricornus as a half goat, half fish (with its tail coiled) facing to our left.

Dele Stelle Fisse (“Of the Fixed Stars”) by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as “Del Capricorno”. The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as the “Goat”.

The Northern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Capricornus as a half goat, half fish, swimming to our left with its tail looped.

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists Capricornus in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts Capricornus as a half ram half fish and labels it with the astrological symbol for Capricornus.

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicts "Capricornus" as a half ram half fish swimming to our left.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts "le Capricorne" as a half goat, half fish, swimming to our right.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts "Capricornus" as a half goat, half fish swimming to our left.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts "Capricorns (sic)" as a half goat half fish swimming to our left.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) depicts "Capricornus" as a half goat half fish swimming to our left.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) depicts "Capricornus" as a half goat, half fish, swimming to our right.

Capricornus is listed in Danish astronomer Tycho Brahe's *Astronomiae Instauratae Progymnasmata* (1602).

German uranographer Johann Bayer (1572 – 1603) depicts this in his *Uranometria* in 1603 with the front half of a goat and the back half a coiled whale's tail. Bayer lists these names for Capricornus: "Capricornus, Poetis Neptunia proles, Aequoris Hircus, Pelagi procella, Caper, Imbrifer, Gelidus, Corniger, Capra, Pan, Aegipan, Algedi, Alcantarus".

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts "Capricornus" as a half ram, half fish moving to our left.

"Capricornus" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and depicted as a half goat half fish lying down facing to our right.

The *Tabulae Rudolpinae* (1627) of Johannes Kepler (1571 – 1630) lists the name "Capricornus" for this constellation.

"Capricorn" is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a half goat half fish.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius labels this constellation "Capricornus".

Capricornus is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661

Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) depicts Capricornus as a half goat half fish.

English astronomer Edmund Halley's chart of 1678 depicts Capricornus as a half ram, half fish facing to the right.

English uranographer John Seller's *A coelestiall planisphere* (1678) depicts "Capricornus" as half goat and half fish, facing to the left.

The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678 by English uranographer James Clerk depicts “Capricornus” as half goat, half fish.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts “Capricornus” as a half goat, half fish facing to our left.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this “Le Capricorne”, “Capricornus”, and “Ἀιγοκέρως” and depicts it as a half goat, half fish swimming to our left.

Dutch uranographer Carel Allard’s *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) labels this constellation “Capricornus in quem Pan a Typhone Gigante mutatus fuit” (“The Capricorn into which Pan was changed by Typhon the Giant”).

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley’s pirated catalogue of Flamsteed’s observations of 1712, depicts Capricornus as a half goat half fish swimming to the right.

Capricornus is listed in English astronomer John Flamsteed’s *Atlas Coelestis* in 1729.

A wooden precession globe (1730) by German uranographer Johann Georg Puschner (Dekker 2003) lists this constellation as “Capricornus”.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts “Capricornus” as a half goat half fish swimming to our right.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts “Capricornus” as a ram with a fish’s tail swimming to the right.

German engraver and cartographer Tobias Conrad Lotter’s *Planisphaerium Coeleste* (1750) depicts Capricornus as a ram with a fish’s tail.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Capricornus as a half ram, half fish, swimming to our right.

French astronomer Abbé Nicolas Louis de Lacaille’s *Planisphère des Étoiles Ausralea* (1756) depicts “le Capricorne”.

French uranographer Gabriel Phillipe de la Hire’s *Planisphere Celeste* (1760) depicts “Le Capricorne” as a ram.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts “Capricornus” as a half goat, half fish, swimming to our left.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts “le Capricorne” as a half goat, half fish swimming to our right.

American uranographer William Croswell (1760 – 1834) depicts “Capricornus the Goat” on his *Mercator Map of the Starry Heavens* in 1810 as half goat, half fish.

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts “Capricornus” as a half goat half fish.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as "Steinbock" ("ibex") and uses this same name in the various editions of his *Jahrbuch*. Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Der Steinbock" and depicts it as a half goat half fish swimming to our right.

Capricornus is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801) as "Capricornus of Steenbok": It is depicted as a half ram half fish swimming to our right.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Capricornus in his *Celestial Atlas* in 1822.

"Capricornus" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as a half goat, half fish facing to our right.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts "Capricornus" as a half fish, half goat, moving to our left.

Capricornus is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822.

"Capricornus" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It is depicted as a half ram half goat swimming to our right.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists "Capricornus" but only describes it as containing "no very conspicuous stars".

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as "Capricornus, the Goat".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Capricornus" in his *Star Atlas* (1893) and describes it as "The Goat".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Capricornus" and describes it as a "Goat".

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Capricornus: The Sea Goat".

The French call this constellation "Capricorne" and the Italians "Capricorno".

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) redesigned the in his book *The Stars - A New Way to See Them* (1952). The standard IAU lines for this constellation have a triangle of the stars Theta (θ), Iota (ι), and Zeta (ζ) Capricorni with a line running from Iota (ι) Capricorni through Gamma (γ) Capricorni to Delta (δ) Capricorni, and two lines running out from Theta (θ) Capricorni:

- One to Omega (ω) Capricorni, and
- One to Beta (β) Capricorni (Dabih) where it branches off in one direction to Alpha (α) 1and 2 Capricorni (Algedi) and in the other to Psi (ψ) Capricorni.

Rey depicts it like this:

- His “head” is Alpha (α) 1 and 2 Capricorni (Algedi),
- His “body” is the quadrilateral of star Beta (β) Capricorni (Dabih), Rho (ρ) Capricorni, Eta (η) Capricorni, and Theta (θ) Capricorni,
- His “front leg” runs from Rho (ρ) Capricorni through Psi (ψ) Capricorni to a “foot” at Omega (ω) Capricorni,
- His “back leg” runs from Eta (η) Capricorni to a “foot” at 24 Capricorni,
- His “fish tail” is the quadrilateral of stars Theta (θ), Zeta (ζ), 36, and Iota (ι) Capricorni, and
- A line runs from Iota (ι) Capricorni through Gamma (γ) Capricorni to Delta (δ) Capricorni.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Capricornus in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* as a large roughly triangular structure of the stars Delta (δ), Gamma (γ), Iota (ι), Theta (θ), Rho (ρ), Psi (ψ), Omega (ω), 24, Zeta (ζ), and Epsilon (ε) Capricorni with a line running out from Rho (ρ) Capricorni through Beta (β) Capricorni (Dabih) to Alpha (α) 1 Capricorni (Algedi).

Sky and Telescope Magazine, founded in 1941, depicts Capricornus in their magazine and publications as a roughly triangular formation of stars starting at Alpha ()α 1 and 2 Capricorni (Algedi) and running through Beta (β) Capricorni (Dabih), Psi (ψ) Capricorni, Omega (ω) Capricorni, 24 Capricorni, Zeta (ζ) Capricorni, Epsilon (ε) Capricorni, Delta (δ) Capricorni, Gamma (γ) Capricorni, Iota (ι) Capricorni, and Theta (θ) Capricorni.

Captain Hook:

This **telescopic** asterism is the open cluster NGC 6633 in the IAU constellation Ophiuchus. It was discovered by Swiss astronomer Jean-Philippe Loys de Chéseaux in 1745-6 in the IAU constellation Ophiuchus. English astronomer Caroline Herschel rediscovered it in 1783 and her brother William Herschel listed it as VIII 72. It is GC 4410 in the *General Catalogue* of 1864. Some observers see it as resembling the “hook” of Captain Hook, a character in Scottish novelist J. M. Barrie’s 1904 stage play *Peter Pan: or the Boy Who Wouldn’t Grow Up*. It is also known as the Tweedledum Cluster (see Tweedledum and Tweedledee, below), “Kermit the Tadpole” (see below), the Otter and Ball (see below), and the Wasp-Waist Cluster (see below).

Captain of the Bodyguards:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is the star Alpha (α) 2 Canum Venaticorum in the IAU constellation Canes Venatici.

This Chinese xing guan “Lángjiàng” (郎将) is the star 31 Comae Berenices in the IAU constellation Coma Berenices.

This Chinese Chenzhuo xing guan “Langjiang” is the star Alpha (α) 1 & 2 Canum Venaticorum (Cor Caroli) in the IAU constellation Canes Venatici.

Capuja:

This Hindu asterism is the IAU constellation Cepheus.

Car of Boötes:

This asterism is the Big Dipper Asterism in the IAU constellation Ursa Major as listed in R. H. Allen’s *Star Names* in 1899. Allen does not identify the culture involved.

Caracal:

This Arabic asterism "'al-ʿAnāqi", "Al-ʿAnaaqi (عناق الأرض), or "Al ʿAnaḳ al ʿArḍ", " meaning "caracal" or "desert lynx", popularly known as "Al Barīd" and later latinized to "Almach", "Almaak", "Alamak", "Almak", "Almaack", or "Almaac" is the star Gamma (γ) 1 and 2 Andromedae in the IAU constellation Andromeda:

- "al-Anāq" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- "Wa-sādis banāt na'sh yusammā al-'anāq" ("the sixth of banāt na'sh, called the caracal" is Zeta (ζ) Ursae Majoris in the IAU constellation Ursa Major as it appears on the star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003).
- "'al-ʿAnāqi" is listed in the works of Persian astronomer Ulugh Beg Mirza (1394 – 1449) and Syrian astronomer Tayyeb Tizini:
- Some editions of the *Almagest* and the 15th century *Alfonsine Tables* give the name "Alamac" for both the constellation and the star Gamma (γ) Andromedae.
- German astronomer Johann Bayer (1572-1625) listed it as "Alamak", "Almaak", and "Alhames" in his *Uranometria* (1603).
- "Alamac" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
- Robert Hues lists it as "Alamac" and "Almaac" in his *A Learned Treatise of Globes* in 1659. It is also known as the She Goat (see below).
- "Alamac" is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661.
- The *Atlas Coelestis* of German astronomer Johann Gabriel Doppelmayr (1742) lists "Alamac".
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Alamak".
- American uranographer William Croswell (1760 – 1834) lists this star as "Alamach" on his *Mercator Map of the Starry Heavens* in 1810.
- "Alamak" is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822.
- German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this star as "Alhamah".
- Scottish uranographer Alexander Jameison's *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822) lists this star as "Alamach".
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich list "Almach".
- *An Improved Moveable Planisphere* (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, lists this star as "Al Maach".
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as "Almach".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Almach".
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as "Almaach".

- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Almach" and describes it as "the bound one".
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists "Almach" for this star.
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists "Almak" and "Almach" for this star, but his 14th edition (1959) only lists "Almak" for Gamma (γ) Andromedae.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists "Almach".
- The IAU approved the name "Almach" for Gamma (γ) Andromedae A in 2016.

Carafe Galaxy:

This **telescopic** asterism is the galaxy ESO 202-23 (AM 0426-480) in the IAU constellation Caelum. It is part of the Carafe Group (see below). This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010) as "Úrceus Caéli" ("Carafe of Caelum"). It is also known as the Carafe Nebula.

Carafe Group:

This **telescopic** asterism is a group of galaxies including elliptical galaxy NGC 1595, barred spiral galaxy NGC 1598, and the galaxy ESO 202-23 in the IAU constellation Caelum. NGC 1595 is listed as 2646 by John Herschel and later in his *General Catalogue* of 1864 as GC 863. NGC 1958 became 2647 and GC 865.

Carafe Nebula:

See Carafe Galaxy, above.

Cardinal's Hat:

This asterism was made up of stars of the IAU constellation Scorpius by German astronomer Erhard Weigel (1625 – 99) who produced celestial charts in 1661, 1681 and 1688 in which he tried to replace existing constellations a new system based upon the heraldry of the nation states and principalities of seventeenth century Europe, as well as of its principal hierarchies and social classes. It is depicted as a red wide brimmed circular hat with tassels next to a crossed sword and shepherd's crook with a mitre above it.

Cared For by the Moon:

This Hawaiian asterism "Hanaiakamalama" is the IAU constellation Crux.

Cariboo:

This Dakelh asterism is the Pleiades cluster in the IAU constellation Taurus (Berezkin 2005). This is being pursued by hunters represented by the Big Dipper asterism (see Hunters, below).

This Inuit asterism "Tukturjuit" (plural form of cariboo) is the Big Dipper asterism in the IAU constellation Ursa Major (MacDonald 1998).

This Upper Kuskokwim asterism "Midzish" is the Pleaides cluster in the IAU constellation Taurus (Cannon 2021). They are being pursued by two as yet unidentified stars.

This Dene Tha' asterism "Mbedzih" is the belt of Orion in the IAU constellation Orion (Cannon 2021).

Caridean shrimp:

This Tukano asterism "Darsiu", "Darsiew", or "Camarão de Rio" is made up of stars of the IAU constellations Aquarius and Cetus (Cardoso 2007, Cardoso 2016).

- The "tail" is the star T Ceti, with the "body" a line of stars running down through 7 and 2 Ceti, 106, 107, and 108 Aquarii, ending at the star 104 Aquarii,
- From 104 Aquarii, star lines branch out to either side:
    - One line goes out to a bend at the star 101 Aquarii and ends at the stars 98 and 99 Aquarii,
    - The other line runs out to a bend at the star 105 Aquarii and then a junction at 102 Aquarii where it forks:
        - One line goes to HIP 116368, and
        - The other line goes to HIP 116591.

Note: Cardoso (2015) writes that some Tukano see this as mainly stars of Aquarius. The Caridean shrimp is a freshwater shrimp.

Carina:

The stars of this constellation appear in 268 of the world's asterisms, which is not surprising since its principal star Alpha (α) Carinae (Canopus) is the second brightest star in the sky and three other stars rate in the top 90 brightest stars: Beta (β) Carinae (Miaplacidus) 28th, Epsilon (ε) Carinae (Avior) 39th, and Iota (ι) Carinae (Aspidiske) 64th.

The IAU constellation Carina (IAU abbreviation Car) was once part of the larger and older constellation Argo Navis (see Argo's Ship, above), which was ᾿Αργω in the *Almagest* by Ptolemy (100 – 170). As Argo Navis was such a large and unwieldy group of stars, in 1763 French astronomer Abbé Nicolas Louis de Lacaille divided it into three constellations now recognized by the IAU: Carina (the hull or keel), Puppis (the poop deck) and Vela (the sails). Note: Lacaille did not rename the stars, keeping the Greek letters of the Bayer classification of the stars of Argo Navis, so Carina has stars with Bayer classifications in the first part of the Greek alphabet, Vela has the middle letters, and Puppis has the end of the alphabet.

"Carina" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875): He indicates the borders of this constellation on the chart but offers no illustration of it. NOTE: On another chart in this atlas Argelander depicts "Argo".

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Carina, The Keel" as an official constellation "recognized in the catalogue of the British Association".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Carina" and describes it as "Keel (of Ship Argo)".

The standard IAU chart depicts Carina as a winding line of stars starting at Beta (β) Carinae (Miaplacidus), running through Omega (ω) Carinae, Theta (θ) Carinae, w Carinae, x Carinae, u Carinae, s Carinae, q Carinae, Iota (ι) Carinae, d Carinae, Epsilon (ε) Carinae, and Alpha (α) Carinae (Canopus) to Nu (ν) Puppis. A star line from Epsilon (ε) Carinae to Gamma (γ) Velorum (Regor) connects Carina to Vela.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Carina in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* as a constellation separate from Puppis and Vela:

- At one end is a bent five-sided figure made up of Iota (ι) Carinae, Upsilon (υ) Carinae, Beta (β) Carinae (Miaplacidus), Omega (ω) Carinae, and Theta (θ) Carinae.
- From Iota (ι) Carinae a bending line of stars runs through Epsilon (ε) Carinae and Chi (χ) Carinae to Alpha (α) Carinae (Canopus).

Sky and Telescope Magazine, founded in 1941, depicts Carina in their magazine and publications as a winding line of stars from Alpha (α) Carinae (Canopus) through Beta (β) Carinae (Miaplacidus), Omega (ω) Carinae, Theta (θ) Carinae, p Carinae, q Carinae, Iota (ι) Carinae, Epsilon (ε) Carinae, and Chi (χ) Carinae to Gamma (γ) Velorum. They add an additional loop at one end made up of the stars Theta (θ), p, Upsilon (υ), x, y, and z1 and z2 Carinae. NOTE: This Sky and Telescope version overlaps the IAU constellation Volans.

Carina Smile:

This **telescopic** asterism is HII region NGC 3199 in the IAU constellation Carina. This was discovered in 1847 by English astronomer John Herschel who listed it as h 3239 in his catalogue. It is GC 2067 in the *General Catalogue* of 1864. It is also known as the "Banana Nebula" (see above).

Carion:

This Latin asterism is the IAU constellation Cassiopeia and was listed by Pliny the Elder (23 – 79 C.E.) in his *Naturalis Historia*. This is a reference to Greek smelter and blacksmith Theodorus of Samos in Caria, who Pliny claims is the inventor of the Laconian lock and key, the key resembling the "W" of Cassiopeia. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Carion" and "Laconian Key" as names for Cassiopeia.

Carman:

This English asterism "Carman" (as in "carter") is the IAU constellation Boötes as described by English linguist John Minsheu (1560 – 1627).

Carnabon:

This Greek asterism "Carnabon", "Carnabas", or "Carnabus" is the IAU constellation Ophiuchus. Carnabon is the slayer of Triopas (see below). Johann Bayer's *Uranometria* (1603) lists "Carnabons & Tropias" for this constellation. The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Carnabons et Triopas" as an alternate name for Ophiuchus.

Carnation of Lynx:

This **telescopic** asterism "Dianthus Lýncis" is the barred spiral galaxy NGC 2500 in the IAU constellation Lynx. It was discovered in 1788 by William Herschel who listed it as "III 709". It became GC 1607 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as it "looks as if it is physically touching the cat's paw at the northern edge".

Carob Tree:

There are two Toba asterisms that translate as Carob Tree:

- One, "Ma'pik" is the Pleiades cluster in the IAU constellation Taurus (Gómez 2011).

- The stars of the other, “Tuna”, are unidentified at present (Gómez 2011).This is a name for this cluster in the hot months.

Caroline’s Cluster:

This **telescopic** asterism is the open cluster NGC 2360 (Caldwell 58) in the IAU constellation Canis Major. This was discovered by English astronomer Caroline Herschel in 1785. Her brother William Herschel listed it in his catalogue as “VII 12”. It is GC 1512 in the *General Catalogue* of 1864. It is also known as the Sugar Pile (see below).

Caroline’s Galaxy:

This **telescopic** asterism is NGC 253 (Caldwell 65), an intermediate spiral galaxy in the IAU constellation Sculptor. It was discovered by English astronomer Caroline Herschel in 1783 and observed by her son John Herschel (1792 – 1871) about a half century later. This is listed as GC 138 in the 1846 *General Catalogue*. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010) in the Latin form “Carolinianus Sculptoris” (“belonging to Caroline”). It is also known as the Sculptor Galaxy (see below), the Silver Coin (see below), the Sculptor Filament, and the Silver Dollar Galaxy (see below).

Caroline’s Rose:

Open cluster NGC 7789 is a **telescopic** asterism in the IAU constellation Cassiopeia and is named Caroline’s Rose for English astronomer Caroline Herschel, who discovered it in 1783. John Herschel listed it as “”VI 30”. John Herschel listed it as h 2284 and later as GC 5031 in his *General Catalogue* of 1864. Its loops of stars and dark lanes look like rose petals. Size 16’ X 16’. English astronomer J. Mullaney described it as a “ghostly open cluster”, which is probably where it picked up the name “Ghost Cluster”. It is also known as the Star Mist Cluster, Herschel’s Spiral Cluster, the Crab Cluster, and the Screaming Skull Cluster. This is listed on Robert Zebahl’s *Faint Fuzzies* website as the “White Rose”.

Carol’s Smiley:

See Smiley Face (below).

Carps:

This Romanian asterism “Crapii” is the IAU constellation Pisces (Ottescu 2009, Lite, Lodina, and Ignat 2018).

Carpenter:

This Babylonian star “Nangar” is Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor. Nangar is an aspect of Marduk.

This Persian asterism NANGAR from the list of Zodiacal Signs in VAT 4956 from the Persian (Achaemenid) Period (539 – 331 B.C.E.) is the IAU constellation Cancer (Bartel van der Waerden 1974).

Carriage:

This Lithuanian asterism “Vežimas” is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper above).

This Romanian asterism “Trăsura” is the IAU constellation Auriga (Ottescu 2009).

This Belarussian asterism “Kareta” or “Kaliaska” is the IAU constellation Ursa Major (Avilin 2009).

Carriage for King:

This Korean asterism “Wang-eul Wihan Macha” (왕을 위한 마차) is a line of two stars in the IAU constellation Libra: Tau (τ) and Upsilon (υ) Librae.

Carriage with Oxen:

This Macedonian asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Cenev 2014).

Carrot:

This American **telescopic** asterism is made up of stars of the IAU constellation Perseus. The “carrot” is the stars HIP 9990, HD 12964, Gaia DR3 506787797134844160, and HIP 10060. The “greenery” at the end of this “carrot” is the stars HD 236950, HD 13123, HD 13049, and Gaia DR3 506885447510110592. This is next to the telescopic asterism “Bunny” (see above). The “Bunny” and “Carrot” were posted by “Jehujones” on *Cloudy Nights* in October 2023.

Carry Us:

This Latin asterism “Geranos” is the IAU constellation Grus as listed by Edward Sherburne in his *Sphere of Marcus Manilius* in 1675.

Carrying Pole:

This Samoan asterism “Amoga” is a line of stars in the IAU constellations Monoceros and Orion (Fitisemanu 2022). One end is the star Pi (π)-3 Orionis, with the line running through the three stars of the belt of Orion (Delta (δ), Epsilon (ε), and Zeta (ζ) Orionis) to Gamma (γ) Monocerotis; associated with the legend of Tiʻitiʻiatalaga, a zenith star for traveling between Sāmoa and Tonga.

Carrying Stick:

This Anutan asterism **“**Te Aamonga” is a line of three stars in the IAU constellation Aquila, starting with the star Gamma (γ) Aquilae, running through Alpha (α) Aquilae (Altair) and ending with the double star Beta (β) Aquilae (Alshain).

Carrying the Head of a Ghost:

This Latin asterism “Portans Caput Larvae” is the IAU constellation Perseus as listed in R. H. Allen’s *Star Names* in 1899.

Cart:

This Belarusian asterism “Voz” or “Buda” is the Big Dipper asterism in the IAU constellation Ursa Major (Avilin 2009). Compare this to “Voz Faraonksi” (see Pharaoh’s Cart, below) and “Vialiki Voz” (see Large Cart, below).

This Italian (Piedmont and Ligurian Alps) asterism “u Car Gars” or “u Mantenay” is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper above).

This Portuguese asterism “Carreta” is the Big Dipper asterism in the IAU constellation Ursa Major as listed by Portuguese poet Luís de Camões and as listed in R. H. Allen’s *Star Names* in 1899.

This Ukrainian asterism “Viz” or “Vizok” (візок) is the Big Dipper asterism in the IAU constellation Ursa Major. It is also sometimes called the “Big Cart” or “Velykyy Vizok” (великий візок).

Cart Pole of the Old Man:

This Babylonian asterism “GISH.KAK dEN.ME.SHÁR.RA” is listed in Anthony Hope’s *A Guide to Ancient Near Eastern Astronomy* in 1996. Anthony identifies this as “probably Zeta [ζ] Persei [in the IAU constellation Perseus]”, which would make it part of the foot of their asterism Old Man (see below). As their asterism Old Man doesn’t include a cart, it is probably not an accurate translation. This “Old Man” is depicted with a walking stick, so possibly it is related to that, although that “stick” is a line between 64 Andromedae and 14 Trianguli.

Carter:

This Arabic asterism “Al-Rākib” (“carter” or “driver”) is the IAU constellation Auriga.

This German asterism “Fuhrmann” is the IAU constellation Auriga as depicted in German astronomer Johann Elert Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820): It is shown as a seated male wearing a hat with a plume holding reins in his left hand cradling a goat in his right arm. Bode’s *Vorstellung Der Gestirne* (1782) lists this constellation as “Fuhrmann” and depicts it the same way. The *Nördliche Sternhimmel* sky map of O. S. Reuters based on the work of German astronomer Johann Elert Bode (1747 – 1826) also calls this “Fuhrmann”. Compare this to Waggoner, below.

This French asterism “Le Chartier” is the IAU constellation Auriga as listed by French uranographer Gabriel Phillipe de la Hire’s *Planisphere Celeste* (1760). He is depicted as viewed from behind, looking over his right shoulder and holding a whip and reins in his left hand, with a goat perched on his right shoulder.

This Romanian star “Cărăușul” is 80 Ursae Majoris in the IAU constellation Ursa Major (Ottescu 2009). It is seen as the carter driving the oxen of the Great Chariot (see below).

This Estonian asterism “Veomees” is the IAU constellation Auriga and appears in the *Sky of Ests (Chudes)* by Aleksander Heintalu (Sass of Vigala) (Kuperjanov 2006).

Cartographer:

This asterism is made up of the stars of the IAU constellation Triangulum by German astronomer Erhard Weigel (1625 – 99) who produced his *Astrocopium Orbi Europaeo Sacrum* chart in 1661, 1681 and 1688 in which he tried to replace existing constellations a new system based upon the heraldry of the nation states and principalities of seventeenth century Europe, as well as of its principal hierarchies and social classes. It depicts a grid map on which is superimposed a compass.

Cartwheel:

There are three **telescopic** “Cartwheel” asterisms:

- One, the Cartwheel Galaxy, is PGC 2248 (ESO 350-40), a lenticular ring galaxy in the IAU constellation Sculptor: It is part of the Cartwheel Galaxy Group. It was discovered by Swiss astronomer Fritz Zwicky in 1941. This name appears in *The Catalogue of One Thousand Named*

Galaxies by astronomers Gerard Bodifee and Michel Berger (2010) as “Carpentária Sculptóris” (“cartwheel of Sculptor”).

- One is the open cluster Messier 37 (NGC 2099) in the IAU constellation Auriga. It was discovered by Italian astronomer Giovanni Battista Hodierna before 1654 and listed by French astronomer Charles Messier in 1764. The 1864 General Catalogue lists it as GC 1295. John Herschel listed it as h 369. South African astronomer Magda Streicher (1999) described it as a “cartwheel shape”. It is also known as the “Diamond Starburst” (see below), and the “Skull” (see below).
- One is the globular cluster NGC 6752 (Caldwell 93) in the IAU constellation Pavo. This was discovered by Scottish astronomer James Dunlop in 1827. John Herschel listed it as h 3778 and later as GC 4467 in the *General Catalogue* of 1864. South African astronomer Magda Streicher (2006) writes “This is my cartwheel globular very small core from where stars spray out in sircles [sic] just like a wheel.” This is also known as the Starfish (see below).

Carved Marble:

This asterism “Marmor Sculptile” is the IAU constellation Reticulum plus a few stars from the IAU constellation Horologium and was created in 1810 by eccentric American educator and uranographer William Croswell (1760 – 1834). It is depicted on his *Mercator Map of the Starry Heavens* in 1810 as a bust of Christopher Columbus.

Cascade:

There are five “cascade” asterisms:

- One is the asterism Pouring Forth of Water (see below) as listed by American astronomer Elijah Burritt (1794 – 1838).
- One asterism is in the IAU constellation Ursa Major and is Corder 2103 on the observing list of American astronomer Jeffrey Corder. Size 320’ X 75’. This is Omega (ω) Ursae Majoris, HIP 53465, 47 Ursae Majoris, 49 Ursae Majoris, and 51 Ursae Majoris.
- One is in the IAU constellation Ursa Major and is Corder 2534 on the observing list of American astronomer Jeffrey Corder. Size 190’ X 20’. This is 81, 83, 84, and 86 Ursae Majoris.
- One is in the IAU constellation Hercules and is Corder 3346 on the observing list of American astronomer Jeffrey Corder. Size 240’ X 50’. This is 79, 83, 87, and 89 Herculis.
- One is in the IAU constellation Cepheus and is Corder 4765 on the observing list of American astronomer Jeffrey Corder. Size 190’ X 25’. This is four 4^{th} – 5^{th} magnitude stars including HIP 113116, 112833, and 109693 and the double star HIP 112519.

There are 347 **telescopic** “cascade” asterisms:

- One is Cseh 53 listed by Hungarian astronomer Viktor Cseh and is in the IAU constellation Canis Major. Cseh describes it as a “1 degree long cascade, direction SE-NW. It is made up of 9.5 – 11 magnitude stars.”
- One is Sánta 99, listed in 2007 by Hungarian astronomer Sánta Gábor, is a chain of 6^{th} – 13^{th} magnitude stars in the IAU constellation Eridanus. Gábor describes it as “pretty rich, bipolar”.
- One is Kernya 25, listed by Hungarian astronomer Gábor János Kernya, which is a cascade of 11^{th} – 13^{th} magnitude stars in the IAU constellation Triangulum. Kernya notes that “at its base is a

faint galaxy of the NGC 1023 group, UGC 2023" and that "the pair of asterism and galaxy can be easily examined with a 30 cm telescope."

- One is Kernya 30, listed by Hungarian astronomer Gábor János Kernya, which is a cascade of 11th – 14th magnitude stars in the IAU constellation Orion. Kernya notes that "the center is dominated by a striking star, HD 34550". Size 17'. It is also known as the HD 34550 cascade.
- One is Kernya 32, listed by Hungarian astronomer Gábor János Kernya, which is in the IAU constellation Cygnus. Kernya describes this as the "HD 203112 cascade" and as a "Milky Way cloud 'stretched' between two brighter stars".
- One is Prestgard 16 on the list of French astronomer Trygve Prestgard, which is in the IAU constellation Cassiopeia. Size 2'. This is about 25' east of HD 17443 and its reflection nebula, vdB 8.
- One is Basel 8 in the IAU constellation Monoceros. Size 30' X 30'. René Merting describes it on the *Faint Fuzzies* website: "At 85X there is an incredibly long conspicuous chain of stars- the stars of this chain seem twisted into each other, and the western end is broadly fanned out- about 30 stars can be seen." This includes HD 259631, HIP 31324, HD 259787, HD 259829, Gaia DR3 3326023296796724096, HD 259991, HD 260052, HD 46710, Gaia DR3 3325974196731176320, and HD 260302.
- One is Lorenzin 2 on American astronomer Tom Lorenzin's list and is located in the IAU constellations Hercules and Ophiuchus. Size 230' X 80'. René Merting lists it on the *Faint Fuzzies* site as a "north-south straight trail." The southern end of the cascade starts at 60 Herculis and runs through 33, 34, and 32 Ophiuchi, to HIP 83308. From here you have a series of pairs of stars: HIP 83083 and 83034A, HIP 82915A and 82870, HIP 82692 and 82615, and HIP 82468 and 82372. The northern end of the cascade is the star HIP 82028.
- One is Lorenzin 4 on American astronomer Tom Lorenzin's list and is located in the IAU constellation Sagitta. Size 25' X 2'. Robert Zebahl lists it on his *Faint Fuzzies* website as a "moderately conspicuous, slightly curved chain of 5 stars. This includes the stars HIP 97982 and 97983.
- One is Persson 1 in the IAU constellation Orion. René Merting lists it on the *Faint Fuzzies* website and describes it as a "double wave composed of eight stars, with the two faintest stars sitting in the east- stellar magnitudes increasing towards the center." Size 70' X 15'. This includes HIP 29371, 29310, 29126A, 29121, 29106, and 29000.
- One is Rinnan's Run, a cascade of stars in the IAU constellation Sextans named after amateur astronomer Dan Rinnan, a member of the Eugene Astronomical Society. The cascade of stars starts at the star 35 Sextantis and runs through a line of stars 3 degrees south southwest including HIP 52455, 52471, 52542, 52591, 52821 to 52856. Size 180'. Tom Lorenzin lists this as Lorenzin 23.
- One is "Lethe", a chain of stars in the IAU constellation Corona Borealis. It is listed on Bruno Alessi's BDCC 7.6 list. In Greek mythology Lethe ("forgetfulness") is the name of a river in Hades: Those who drink from it get forgetfulness.
- One is "Cocytos", a chain of stars in the IAU constellation Hercules. It is listed on Bruno Alessi's BDCC 7.6 list. In Greek mythology Cocytos ("lamentation") is the name of a river in Hades.
- One is Corder 559 in the IAU constellation Perseus, from the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 120' X 30'. It runs NW/SE and starts at the north end at 36 Persei, running down to Nu (ν) Persei.

- One, the “Cancer Cascade”, is in the IAU constellation Cancer and is listed as Corder 1499 on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Corder attributes it to John Raymond. Size 150’ X 25’. This includes about 30 stars down to 10th magnitude. At one end is Omega (ω) 1 and 2 Cancri.
- One is the “HSL Chain”, is a line of 9th magnitude stars in the IAU constellation Sagittarius next to the star 14 Sagittarii. Size 35’ X 20’. This is Lorenzin 3, Corder 3504, and found on the Saguaro Astronomy Club asterism database.
- One is Corder 2891 in the IAU constellation Ursa Minor and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 65’ X 20’. This is tucked into the Little Dipper next to the star Zeta (ζ) Ursae Minoris. The line starts at the star HIP 76097A and runs through HIP 76309, and 77105 to 77629.
- One is in the IAU constellation Hydra and is Ferrero 20 on Laurent Ferrero’s list of asterisms. Ferrero describes it as a “little cascade of stars” all of which are magnitude 11.
- One, Pakan 4 from Edmonton RASC member Randy Pakan’s *Midnight Ramblings 1A* logbook from March 29, 1989, is a chain of 8th and 9th magnitude stars about 30 arcminutes long near galaxy NGC 3365 in the IAU constellation Sextans (which is what Randy was looking for when he found this asterism). This is Corder 2069 on Jeffrey Corder’s list.
- One is in the IAU constellation Andromeda and is Corder 147 on the observing list of American astronomer Jeffrey Corder. Corder describes this as “a nice chain or arc of 8 stars of 6th, 7th, and 8th magnitudes… elongated east/west.” At one end is the double star HIP 4675 A and from here it runs through double star HIP 4581 A, HIP 4100, HIP 3919, the double star HIP 3779, HIP 3604, and HIP 3252 ending at HIP 2900. Size 120 ‘ X 30’.
- One is in the IAU constellation Pisces and is Corder 204 on the observing list of American astronomer Jeffrey Corder. This starts at HIP 6454 and runs through a chain of 6th – 9th magnitude stars including HIP 6307, 6205, 6154, 5884, and 88 Piscium (HIP 5824). Size 65’ X 35’.
- One is in the IAU constellation Cepheus and is Corder 238 on the observing list of American astronomer Jeffrey Corder. Corder describes this as “a string of 6 stars that form nearly a line north/south. The stars are magnitudes 9 and 10 and include an 11th magnitude double star at the northern end. Size 20’.
- One is in the IAU constellation Pisces and is Corder 243 on the observing list of American astronomer Jeffrey Corder. Corder describes this as a “curving chain of 5… stars, including a double star at the north preceding end (Rho (ρ) and 94 [Piscium]”. The rest of the stars include 97 Piscium, HIP 7359, HIP 7447, 103 Piscium, and 105 Piscium. Size 280’ X 75’.
- One is in the IAU constellation Perseus and is Corder 354 on the observing list of American astronomer Jeffrey Corder**.** This is a line of stars running through the Double Cluster (see below). From HIP 10379 at one end, it then runs through 8 Persei, Chi () Persei, the double star HIP 10816, and 9 Persei, ending at the double star HIP 11174. Size 110’ X 30’.
- One is in the IAU constellation Perseus and is Corder 442 on the observing list of American astronomer Jeffrey Corder. Size 65’. Corder describes it as including “18 stars between magnitude 6.5 and 9.5… elongated SSW/NNE.” At one end is the double star HIP 13124A and it includes HIP 13409, 13462, 13407, 13521, 13550, 13640, and 13965.
- One is in the IAU constellation Cetus and is Corder 446 on the observing list of American astronomer Jeffrey Corder. Size 70’ X 20’. Corder describes this as “a nice chain of seven stars… of 8th and 9th magnitude.” The double star HIP 13526 is at one end.

- One is in the IAU constellation Perseus and is Corder 450 on the observing list of American astronomer Jeffrey Corder. Size 25' X 10'. Corder describes this as "a nice chain of 6 almost equal stars of magnitude 9.5 to 10… oriented almost in a line… north/south."
- One is in the IAU constellation Taurus and is Corder 561 on the observing list of American astronomer Jeffrey Corder. Size 40'. At one end is the double star HIP 16846A and 10 Tauri. The line then runs through HIP 16926, HIP 17120, HIP 17097, HIP 17132, HIP 17183, and the double star HIP 17147, ending at HIP 17086.
- One is in the IAU constellation Perseus and is Corder 593 on the observing list of American astronomer Jeffrey Corder. Size 80' X 45'. The chain of stars starts at HIP 18188 and runs through HIP 18062, HIP 17839, and the double star HIP 17818A ending at HIP 17665 and also includes several 8th magnitude stars.
- One is in the IAU constellation Camelopardalis and is Corder 790 on the observing list of American astronomer Jeffrey Corder. Size 125' X 20'. Includes HIP 23937, HIP 23865, the double stars HIP 23838A and HIP 23768, HIP 23576, HIP 23509, and HIP 23315.
- One is in the IAU constellation Auriga and is Corder 881 on the observing list of American astronomer Jeffrey Corder. Size 30' X 15'. This starts at HIP 26910 and runs through the double star HIP 26803, HIP 26632, HIP 26585, the double star HIP 26249A, and HIP 25942, ending at the variable star HIP 25877.
- One is in the IAU constellations Taurus and is Corder 914 on the observing list of American astronomer Jeffrey Corder. Size 80' X 20'. This is nine stars of 6th to 9th magnitude, including the double stars HIP 27320 and 27222, HIP 26964, HIP 26836, and the double star HIP 26599.
- One is in the IAU constellation Orion and is Corder 923 on the observing list of American astronomer Jeffrey Corder. Size 25' X 5'. This is a chain of five 9th magnitude stars including HIP 27212.
- One is in the IAU constellations Auriga and Camelopardalis and is Corder 939 on the observing list of American astronomer Jeffrey Corder. Size 240' X 90'. It starts at Delta (δ) Aurigae and runs through Xi (ξ) Aurigae, through 32, 24, 18, 16, and 15 Camelopardalis, the double star 11 Camelopardalis, and ends at Beta (β) Camelopardalis.
- One is in the IAU constellation Orion and is Corder 997 on the observing list of American astronomer Jeffrey Corder. Size 50' X 20'. This is six stars between magnitude 7 and 9 including HIP 28681, 28668, 28567, 28370, and 28252.
- One is in the IAU constellation Orion and is Corder 1034 on the observing list of American astronomer Jeffrey Corder. Size 60' X 30'. This is a chain of nine stars between 6th – 8th magnitude including HIP 29371,HIP 29310, the double star HIP 29126A, and HIP 29121.
- One is in the IAU constellation Auriga and is Corder 1056 on the observing list of American astronomer Jeffrey Corder. Size 90' X 20'. This is a line of ten stars of 7th – 8th magnitude including HIP 29865, 29891, 29904, 29886, 29901, 29914, and 29925.
- One is in the IAU constellation Auriga and is Corder 1124 on the observing list of American astronomer Jeffrey Corder. Size 65' X 20'. Corder describes this as a "chain of about 12 stars, magnitudes 7 to 9, oriented NW.SE."
- One is in the IAU constellation Monoceros and is Corder 1146 on the observing list of American astronomer Jeffrey Corder. Size 55'. This includes HIP 32288, 32177, 32062, 31446, and the double star HIP 31766.

- One is in the IAU constellation Monoceros and is Corder 1203 on the observing list of American astronomer Jeffrey Corder. Size 50' X 30'. This starts at the double star HIP 33154A and runs through a row of 7^{th} – 9^{th} magnitude stars including HIP 33168, 33175, and 33252.
- One is in the IAU constellation Lynx and is Corder 1214 on the observing list of American astronomer Jeffrey Corder. Size 75' X 25'. This is seven stars of 8^{th} – 9^{th} magnitude including 15 Lyncis, HIP 33542, and 33459.
- One is in the IAU constellation Monoceros and is Corder 1223 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is a chain of six 8^{th} – 9^{th} magnitude stars including the double star HIP 33555A.
- One is in the IAU constellation Lynx and is Corder 1240 on the observing list of American astronomer Jeffrey Corder. Size 45'. This is seven stars of 7^{th} – 10^{th} magnitude including HIP 34079, 33913, and 33835.
- One is in the IAU constellation Camelopardalis and is Corder 1248 on the observing list of American astronomer Jeffrey Corder. Size 30'. This is eleven stars between magnitude 9.5 and 11, including the double star HIP 34082.
- One is in the IAU constellation Gemini and is Corder 1297 on the observing list of American astronomer Jeffrey Corder. Size 40' X 15'. This is eight stars between 8^{th} – 9^{th} magnitude including the double star HIP 35070A.
- One is in the IAU constellation Lynx and is Corder 1351 on the observing list of American astronomer Jeffrey Corder. Size 45' X 20'. This is ten 9^{th} – 10^{th} magnitude stars with HIP 36297 at one end.
- One is in the IAU constellation Gemini and is Corder 1463 on the observing list of American astronomer Jeffrey Corder. Size 80' X 20'. This is twelve stars between magnitude 7.5 and 9 including HIP 39036, 38949, 38893, 38754, 38745, and 38647.
- One is in the IAU constellation Cancer and is Corder 1464 on the observing list of American astronomer Jeffrey Corder. Size 80' X 20'. This is a line of 6^{th} – 9^{th} magnitude stars including HIP 38598, the double star HIP 38730, HIP 38874, HIP 38954, HIP 39067, HIP 39164, and the double stars HIP 39343 and 39418.
- One is in the IAU constellation Hydra and is Corder 1537 on the observing list of American astronomer Jeffrey Corder. Size 75' X 25'. This is nine stars between magnitude 7.5 to 10 and includes HIP 40217, 40247, and the double star HIP 40428A.
- One is in the IAU constellation Leo and is Corder 1867 on the observing list of American astronomer Jeffrey Corder. Size 45' X 25'. This starts with a double star (9/8.75 magnitude) and runs through 7 Leonis and an 8.25 magnitude star to another double star, HIP 47035.
- One is in the IAU constellation Leo and is Corder 1871 on the observing list of American astronomer Jeffrey Corder. Size 25' X 15'. This is a chain of twelve 8^{th} – 11^{th} magnitude stars including HIP 46922.
- One is in the IAU constellation Leo Minor and is Corder 1886 on the observing list of American astronomer Jeffrey Corder. Size 120' X 30'. This is nine 5^{th} – 8^{th} magnitude stars including 9, 10, 11, and 13 Leonis Minoris and HIP 47436, 47403, 47182, 47162, and 46749.
- One is in the IAU constellation Leo and is Corder 1915 on the observing list of American astronomer Jeffrey Corder. Size 160' X 25'.This is nine 7^{th} – 8^{th} magnitude stars including HIP 48699, the double star HIP 48553, HIP 48309, HIP 48145, the double star HIP 48014, HIP 47852, the double stars HIP 47862A and HIP 47518.

- One is in the IAU constellation Leo Minor and is Corder 2016 on the observing list of American astronomer Jeffrey Corder. Size 55' x 20'. This is a chain of 8th – 9th magnitude stars including HIP 50767 and 50947.
- One is in the IAU constellation Draco and is Corder 2204 on the observing list of American astronomer Jeffrey Corder. Size 40' X 30'. This is six 8th – 9th magnitude stars including the star HIP 56483 and the double stars HIP 56192A and 56599A.
- One is in the IAU constellation Draco and is on the observing list of American astronomer John Raymond, who calls it the "Draco Pseudo Cluster" and on the observing list of American astronomer Jeffrey Corder, who lists it both as Corder 2289 and 2290. Size 45' X 35'. This includes HIP 58798, 58808, the double stars HIP 58567A, HIP 58979A, 58976, and 59017B.
- One is in the IAU constellation Sculptor and is Corder 18 on the observing list of American astronomer Jeffrey Corder. Size 40' X 5'. This is part of the Blanco 1 star group and includes HIP 328, 395 and 585.
- One is in the IAU constellation Sculptor and is Corder 19 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is four 7th – 9th magnitude stars including HIP 430.
- One is in the IAU constellation Phoenix and is Corder 37 on the observing list of American astronomer Jeffrey Corder. Size 45' x 15'. Includes HIP 1314, 1140, 970, 872, and the double star HIP 730A.
- One is in the IAU constellation Sculptor and is Corder 140 on the observing list of American astronomer Jeffrey Corder. Size 50' X 15'. This is six 8th – 10th magnitude stars including HIP 3737 and 3664.
- One is in the IAU constellation Phoenix and is Corder 179 on the observing list of American astronomer Jeffrey Corder. Size 75' X 20'. This is five 7th magnitude stars including HIP 5198, 5099, and 4935 and the double stars HIP 4997 and 4985A.
- One is in the IAU constellation Tucana and is Corder 213 on the observing list of American astronomer Jeffrey Corder. Size 50' X 30'. This includes HIP 6446, and HIP 6221, and the double stars Kappa (κ) Tucanae, and HIP 5842C.
- One is in the IAU constellation Cetus and is Corder 235 on the observing list of American astronomer Jeffrey Corder. Size 90' X 25'. This is four 5th – 6th magnitude stars including HIP 6699 and 6835 and the double stars HIP 6789A and 48 Ceti.
- One is in the IAU constellation Phoenix and is Corder 292 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is six 8th – 10th magnitude stars including HIP 8692 and 8627.
- One is in the IAU constellation Phoenix and is Corder 293 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is a 6th magnitude star (HIP 8593) and four 8th magnitude stars including HIP 8562 and HIP 8286.
- One is in the IAU constellation Eridanus and is Corder 316 on the observing list of American astronomer Jeffrey Corder. Size 90' X 20'. This is four 6th – 7th magnitude stars including HIP 9825, 9362, 8985, and the double star 9685.
- One is in the IAU constellation Phoenix and is Corder 341 on the observing list of American astronomer Jeffrey Corder. Size 55' X 20'. This is twelve 7th – 9th magnitude stars including HIP 10145, 10067, 10131, 10073, 10133, 10205, 10278, 10254, and the double star HIP 10225.

- One is in the IAU constellation Cetus and is Corder 376 on the observing list of American astronomer Jeffrey Corder. Size 30'. This is four 8th – 9th magnitude stars including HIP 11234, the double stars HIP 11257A, HIP 11208A, and HIP 11227A.
- One is in the IAU constellation Hydrus and is Corder 425 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is five 9th – 10th magnitude stars including HIP 12822.
- One is in the IAU constellation Eridanus and is Corder 431 on the observing list of American astronomer Jeffrey Corder. Size 15' X 5'. This is five 8th – 9th magnitude stars including HIP 12944.
- One is in the IAU constellation Horologium and is Corder 498 on the observing list of American astronomer Jeffrey Corder. Size 30' X 20'. This is four 5th – 7th magnitude stars including HIP 14765, 14930, 14874, and 14690.
- One is in the IAU constellation Horologium and is Corder 534 on the observing list of American astronomer Jeffrey Corder. Size 75' X 15'. This is twelve 7th – 10th magnitude stars including HIP 16087, 16049, 15747, 15757, 15652, 15613, and the double star HIP 15884A.
- One is in the IAU constellation Fornax and is Corder 584 on the observing list of American astronomer Jeffrey Corder. Size 60' X 30'. This is five 5th – 7th magnitude stars including Rho (ρ) and Sigma (σ) Fornacis and HIP 17693, 17689 and 17667.
- One is in the IAU constellation Eridanus and is Corder 623 on the observing list of American astronomer Jeffrey Corder. Size 45' X 20'. This is six 7th – 9th magnitude stars including HIP 18977 and 19022.
- One is in the IAU constellation Eridanus and is Corder 635 on the observing list of American astronomer Jeffrey Corder. Size 80' X 30'. This is five 6th – 9th magnitude stars including HIP 19511, 19354, 19121, and the double star HIP 19590.
- One is in the IAU constellation Reticulum and is Corder 676 on the observing list of American astronomer Jeffrey Corder. Size 20' X 10'. This is eight 9th – 11th magnitude stars.
- One is in the IAU constellation Eridanus and is Corder 696 on the observing list of American astronomer Jeffrey Corder. Size 80' X 20'. This is eight 7th – 8th magnitude stars including HIP 21309, 21287, 21154, 21104, 20979, and the double star HIP 20965A.
- One is in the IAU constellation Eridanus and is Corder 712 on the observing list of American astronomer Jeffrey Corder. Size 35' X 15'. This is five 8th – 10th magnitude stars including HIP 21471.
- One is in the IAU constellation Eridanus and is Corder 720 on the observing list of American astronomer Jeffrey Corder. Size 50' X 20'. This is five 7th – 8th magnitude stars including HIP 21484, 21512, and 21640.
- One is in the IAU constellation Dorado and is Corder 731 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is seven 5th – 7th magnitude stars including Kappa (κ) Doradus, HIP 22240, 22469, 22844, 23081, 23029, and 23079.
- One is in the IAU constellation Eridanus and is Corder 749 on the observing list of American astronomer Jeffrey Corder. Size 50' X 30'. This is seven 6th – 9th magnitude stars including HIP 22657, 22494, and 22439.
- One is in the IAU constellation Caelum and is Corder 767 on the observing list of American astronomer Jeffrey Corder. Size 55' X 15'. This is ten 7th – 8th magnitude stars including HIP 23059, HIP 23007, and the double star HIP 22988.

- One is in the IAU constellation Lepus and is Corder 772 on the observing list of American astronomer Jeffrey Corder. Size 40' X 15'. This is six 6th – 9th magnitude stars including HIP 23083 and the double stars HIP 23166A and HIP 22991.
- One is in the IAU constellation Pictor and is Corder 946 on the observing list of American astronomer Jeffrey Corder. Size 140' X 45'. This is six 3rd – 6th magnitude stars including Beta (β) Pictoris, HIP 27621, HIP 27947, Delta (δ) Pictoris, Nu (ν) Pictoris and 61 Pictoris.
- One is in the IAU constellation Pictor and is Corder 982 on the observing list of American astronomer Jeffrey Corder. Size 45' x 30'. This is four 5th – 7th magnitude stars including HIP 28150, 28287, 28435, and 28508. Corder notes that if you add a pair of nearby 8th magnitude stars "the asterism also resembles a 'Y'".
- One is in the IAU constellation Dorado and is Corder 990 on the observing list of American astronomer Jeffrey Corder. Size 30' X 20'. This is eight 8th – 11th magnitude stars including HIP 28587, 28179, and 28016, and the double stars HIP 28566A and 28529.
- One is in the IAU constellation Lepus and is Corder 1003 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is six 7th – 9th magnitude stars including HIP 28601
- One is in the IAU constellation Orion and is Corder 1051 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is eight 8th – 10th magnitude stars including the double star HIP 29770A.
- One is in the IAU constellation Canis Major and is Corder 1075 on the observing list of American astronomer Jeffrey Corder. Size 75' X 30'. This is ten 7th – 9th magnitude stars including HIP 30414, 30207, and 30071, and the double stars HIP 30469A, 30300B, and 30171.
- One is in the IAU constellation Canis Major and is Corder 1175 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is seven 8th – 9th magnitude stars including HIP 32352, 32278, and the double star HIP 32498A.
- One is in the IAU constellation Canis Major and is Corder 1200 on the observing list of American astronomer Jeffrey Corder. Size 80' X 25'. This is twelve 7th – 9th magnitude stars including HIP 33336, 33112, 33075, and 32971.
- One is in the IAU constellation Puppis and is Corder 1256 on the observing list of American astronomer Jeffrey Corder. Size 50' X 25'. This is six 6th – 8th magnitude stars including HIP 34339, 34201, 34137, and 33984.
- One is in the IAU constellation Volans and is Corder 1260 on the observing list of American astronomer Jeffrey Corder. Size 8'. This is four 10th magnitude stars.
- One is in the IAU constellation Puppis and is Corder 1262 on the observing list of American astronomer Jeffrey Corder. Size 12'. This is eight 9th – 10th magnitude stars including HIP 34390, 34396, and the double stars HIP 34353A and 34179A.
- One is in the IAU constellation Monoceros and is Corder 1303 on the observing list of American astronomer Jeffrey Corder. Size 30'. This is twelve 4th – 10th magnitude stars including 20 Monocerotis, HIP 34688, 35231, 35306, 35547, 36080, 36137, 36572, and 36526 and the double stars HIP 34975A, HIP 34975A, 35792, and 35896A.
- One is in the IAU constellation Carina and is Corder 1320 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is ten 8th – 11th magnitude stars including HIP 35650 and 35889. This has a small "L" of three stars in the middle.

- One is in the IAU constellation Puppis and is Corder 1349 on the observing list of American astronomer Jeffrey Corder. Size 50' X 30'. This is twelve 6th – 10th magnitude stars including HIP 36222, 36273, and 36267 and the double stars HIP 36264A and 36293A.
- One is in the IAU constellation Puppis and is Corder 1350 on the observing list of American astronomer Jeffrey Corder. Size 45' X 15'. This is twelve 7th – 10th magnitude stars including HIP 36328, 36342 and the double star HIP 36246A.
- One is in the IAU constellation Volans and is Corder 1353 on the observing list of American astronomer Jeffrey Corder. Size 20' X 10'. This is five 6th to 9th magnitude stars including HIP 36346 and 36192.
- One is in the IAU constellation Carina and is Corder 1357 on the observing list of American astronomer Jeffrey Corder. Size 50' X 15'. This is eight 7th – 9th magnitude stars including HIP 36471.
- One is in the IAU constellation Monoceros and is Corder 1372 on the observing list of American astronomer Jeffrey Corder. Size 35' X 15'. This is twelve 7th – 10th magnitude stars including HIP 37142 and 36976.
- One is in the IAU constellation Carina and is Corder 1378 on the observing list of American astronomer Jeffrey Corder. Size 35' X 15'. This is five 4th – 8th magnitude stars including HIP 36942, 36799 and 36682 and the double stars HIP 36854A and 36832.
- One is in the IAU constellation Monoceros and is Corder 1383 on the observing list of American astronomer Jeffrey Corder. Size 75' X 15'. This is six 7th – 9th magnitude stars including HIP 37149, 37126, 37129, and 37138.
- One is in the IAU constellation Monoceros and is Corder 1412 on the observing list of American astronomer Jeffrey Corder. Size 35' X 15'. This is five 6th – 7th magnitude stars including HIP 37815, 37647, and 37655.
- One is in the IAU constellation Puppis and is Corder 1426 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is seven 7th – 8th magnitude stars including HIP 38217, 38121, and the double star HIP 38056A.
- One is in the IAU constellation Puppis and is Corder 1443 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is eight 7th – 10th magnitude stars including HIP 38453.
- One is in the IAU constellation Pyxis and is Corder 1629 on the observing list of American astronomer Jeffrey Corder. Size 60' X 20'. This is eighteen 8th – 9th magnitude stars including HIP 41718, 41742, 41759, 41640 and the double star HIP 41811A.
- One is in the IAU constellation Pyxis and is Corder 1659 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is seven 8th – 10th magnitude stars including HIP 42414.
- One is in the IAU constellation Vela and is Corder 1685 on the observing list of American astronomer Jeffrey Corder. Size 35' X 15'. This is seven 7th – 9th magnitude stars including HIP 43005 and the double star HIP 42901.
- One is in the IAU constellation Pyxis and is Corder 1687 on the observing list of American astronomer Jeffrey Corder. Size 20' X 10'. This is a chain of 5th – 8th magnitude stars including HIP 43383, 43358, 43158, 43000, 42923, and the double star HIP 43031A.
- One is in the IAU constellation Vela and is Corder 1709 on the observing list of American astronomer Jeffrey Corder. Size 75' X 15'. This is a chain of 7th – 8th magnitude stars including HIP 43717, 43711, 43656, 43707, 43303, and the double stars HIP 43792A and 43187A.

- One is in the IAU constellation Carina and is Corder 1712 on the observing list of American astronomer Jeffrey Corder. Size 60' X 20'. This is seven 6^{th} – 8^{th} magnitude stars including HIP 43633, 43566, 43600, 43513, and the double star HIP 43620.
- One is in the IAU constellation Pyxis and is Corder 1815 on the observing list of American astronomer Jeffrey Corder. Size 60' X 45'. This includes Lambda (λ) Pyxidis HIP 46810, 46646, 45805, 45249, and the double stars HIP 46329A and 45001.
- One is in the IAU constellation Vela and is Corder 1829 on the observing list of American astronomer Jeffrey Corder. Size 35' X 15'. This is an arc of 7^{th} – 10^{th} magnitude stars including HIP 46214 and 46342.
- One is in the IAU constellation Vela and is Corder 1832 on the observing list of American astronomer Jeffrey Corder. Size 20' X 10'. This is four 9^{th} – 10^{th} magnitude stars including two optical doubles.
- One is in the IAU constellation Antlia and is Corder 1838 on the observing list of American astronomer Jeffrey Corder. Size 40' X 25'. This includes HIP 46558, 46841, 46856, 46810, 46646, 46593, and 46585 and the double star HIP 46578.
- One is in the IAU constellation Antlia and is Corder 1846 on the observing list of American astronomer Jeffrey Corder. Size 40' X 15'. This is five 7^{th} – 9^{th} magnitude stars including HIP 46807, 46976, and the double stars HIP 46736 and HIP 46877A.
- One is in the IAU constellation Chamaeleon and is Corder 1870 on the observing list of American astronomer Jeffrey Corder. Size 40' X 20'. This is six 7^{th} – 10^{th} magnitude stars including HIP 47186 and the double star HIP 47658.
- One is in the IAU constellation Vela and is Corder 1939 on the observing list of American astronomer Jeffrey Corder. Size 6'. This is five 9^{th} – 10^{th} magnitude stars.
- One is in the IAU constellation Hydra and is Corder 1967 on the observing list of American astronomer Jeffrey Corder. Size 60' X 20'. This is five 7^{th} – 8^{th} magnitude stars including HIP 49742, 49839, 49902, 50013, and 50043. Corder describes this as an "arc of four stars" but this looks to me like a straight line of five.
- One is in the IAU constellation Hydra and is Corder 1982 on the observing list of American astronomer Jeffrey Corder. Size 30' X 10'. This is seven 8^{th} – 9^{th} magnitude stars including HIP 50284.
- One is in the IAU constellation Vela and is Corder 2017 on the observing list of American astronomer Jeffrey Corder. Size 100' X 20'. This is six 6^{th} – 7^{th} magnitude stars plus some 8^{th} – 9^{th} magnitude stars north preceding, including HIP 51245, 51225, and 51001.
- One is in the IAU constellation Vela and is Corder 2024 on the observing list of American astronomer Jeffrey Corder. Size 40' X 15'. This is ten 8^{th} – 9^{th} magnitude stars including HIP 51136, 51174, 51271, 51292 and the double star HIP 51214.
- One is in the IAU constellation Vela and is Corder 2048 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is six 7^{th} – 9^{th} magnitude stars including HIP 51947, 52230, 52622, 52865 and the double stars HIP 51635A and 52378.
- One is in the IAU constellation Carina and is Corder 2050 on the observing list of American astronomer Jeffrey Corder. Size 25' X 15'. This is ten 6^{th} – 7^{th} magnitude stars including HIP 55046, 54931, 54276, 53205, 52730, 52785 and the double stars HIP 55140 and 53556A.

- One is in the IAU constellation Hydra and is Corder 2062 on the observing list of American astronomer Jeffrey Corder. Size 60' X 45'. This is fifteen 8^{th} – 10^{th} magnitude stars including HIP 51860, 52073,and 52292.
- One is in the IAU constellation Leo and is Corder 2092 on the observing list of American astronomer Jeffrey Corder. Size 65' X 20'. This is eight 8^{th} – 9^{th} magnitude stars including HIP 53369, and 53207, and the double star 53443.
- One is in the IAU constellation Hydra and is Corder 2104 on the observing list of American astronomer Jeffrey Corder. Size 50' X 15'. This is eleven 7^{th} – 10^{th} magnitude stars including HIP 53689 and 53741 and the double star HIP 53684.
- One is in the IAU constellation Vela and is Corder 2107 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is four 6^{th} – 8^{th} magnitude stars including HIP 53806 and 53836, and the double star HIP 53771.
- One is in the IAU constellation Hydra and is Corder 2148 on the observing list of American astronomer Jeffrey Corder. Size 35'. This is ten 7^{th} – 9^{th} magnitude stars including HIP 54576, 54605, 54704, 54807, 54847, and 55099.
- One is in the IAU constellation Centaurus and is Corder 2153 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is a band of 8^{th} – 10^{th} magnitude stars including HIP 54925 and 54859.
- One is in the IAU constellation Hydra and is Corder 2161 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is six 9^{th} – 10^{th} magnitude stars.
- One is in the IAU constellation Centaurus and is Corder 2248 on the observing list of American astronomer Jeffrey Corder. Size 80' X 30'. This is four 4^{th} – 7^{th} magnitude stars including HIP 57840, 57700, 57340, and the double star HIP 57443.
- One is in the IAU constellation Centaurus and is Corder 2269 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is four 8^{th} – 9^{th} magnitude stars including HIP 58075, 58068, and 58054.
- One is in the IAU constellation Crater and is Corder 2270 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is four 9^{th} magnitude stars.
- One is in the IAU constellation Centaurus and is Corder 2318 on the observing list of American astronomer Jeffrey Corder. Size 15' X 5'. This is six 10^{th} – 11^{th} magnitude stars including HIP 59741.
- One is in the IAU constellation Virgo and is Corder 2324 on the observing list of American astronomer Jeffrey Corder. Size 40' X 20'. This is five 6^{th} – 9^{th} magnitude stars including HIP 59720 and the double star HIP 59750.
- One is in the IAU constellation Chamaeleon and is Corder 2352 on the observing list of American astronomer Jeffrey Corder. Size 45' X 30'. This is six 7^{th} – 10^{th} magnitude stars including HIP 60526, 60650, 60770, and the double star HIP 60782A.
- One is in the IAU constellation Centaurus and is Corder 2382 on the observing list of American astronomer Jeffrey Corder. Size 75' X 20'. This is ten 7^{th} – 9^{th} magnitude stars including HIP 61344, 61593, 61679, and the double star HIP 61451.
- One is in the IAU constellation Crux and is Corder 2412 on the observing list of American astronomer Jeffrey Corder. Size 30' X 15'. This is ten 7^{th} – 9^{th} magnitude stars.
- One is in the IAU constellation Centaurus and is Corder 2420 on the observing list of American astronomer Jeffrey Corder. Size 45' X 15'. This is six 7^{th} – 9^{th} magnitude stars.

- One is in the IAU constellation Musca and is Corder 2446 on the observing list of American astronomer Jeffrey Corder. Size 40' X 25'. This is ten 8th – 9th magnitude stars including HIP 63563, 63649, and 63761, and the double star HIP 63924A.
- One is in the IAU constellation Centaurus and is Corder 2462 on the observing list of American astronomer Jeffrey Corder. Size 250' X 45'. This is six 5th – 6th magnitude stars including HIP 64472, 64590, 64677, 64851, and 65178, and the double star HIP 64332A.
- One is in the IAU constellation Centaurus and is Corder 2482 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is four 9th – 10th magnitude stars.
- One is in the IAU constellation Centaurus and is Corder 2497 on the observing list of American astronomer Jeffrey Corder. Size 20' X 10'. This is five 7th – 9th magnitude stars including HIP 65409.
- One is in the IAU constellation Hydra and is Corder 2551 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is six 8th – 10th magnitude stars including HIP 67531 and the double star HIP 67479A.
- One is in the IAU constellation Centaurus and is Corder 2560 on the observing list of American astronomer Jeffrey Corder. Size 25'. This includes 4 Centauri, HIP 67652 and the double star HIP 67696A.
- One is in the IAU constellation Virgo and is Corder 2570 on the observing list of American astronomer Jeffrey Corder. Size 40' X 25'. This is four 7th – 8th magnitude stars including HIP 68024 and 68107 and the double stars HIP 68001A and 68038.
- One is in the IAU constellation Virgo and is Corder 2575 on the observing list of American astronomer Jeffrey Corder. Size 90' X 25'. This is five 7th magnitude stars including HIP 68776, 68415, 68236, and 67978, and the double star HIP 68110.
- One is in the IAU constellation Centaurus and is Corder 2579 on the observing list of American astronomer Jeffrey Corder. Size 60' X 25'. This is twelve 6th – 10th magnitude stars including HIP 68352 and 68474.
- One is in the IAU constellation Circinus and is Corder 2582 on the observing list of American astronomer Jeffrey Corder. Size 120' X 35'. This is a chain of 7th – 9th magnitude stars including HIP 68692, 68584, 68412, 68582, 68341, 68183, 67910, and 67869.
- One is in the IAU constellation Centaurus and is Corder 2584 on the observing list of American astronomer Jeffrey Corder. Size 30' X 15'. This is a cascade of 8th – 10th magnitude stars including HIP 68454 and the double star HIP 68448A.
- One is in the IAU constellation Virgo and is Corder 2588 on the observing list of American astronomer Jeffrey Corder. Size 100' X 30'. This is twelve 8th – 9th magnitude stars including HIP 68450, 68505, 68539, 68605, 68718, and 68668, and the double star HIP 68486A.
- One is in the IAU constellation Boötes and is Corder 2591 on the observing list of American astronomer Jeffrey Corder. Size 150' X 30'. This is five 5th – 6th magnitude stars including HIP 68708, 68583, 68508, and 68498, and the double stars HIP 68682, and 68594.
- One is in the IAU constellation Virgo and is Corder 2592 on the observing list of American astronomer Jeffrey Corder. Size 130' X 40'. This is fifteen 8th – 9th magnitude stars and one 4th magnitude star, including Tau (τ) Virginis, HIP 68450, 68505, 68539, 68605, 68718, and 68668 and the double star HIP 68486A.

- One is in the IAU constellation Boötes and is Corder 2607 on the observing list of American astronomer Jeffrey Corder. Size 50' X 20'. This is six 6th – 8th magnitude stars including HIP 69248, and 69260, and the double stars HIP 69178 and 69281A.
- One is in the IAU constellation Centaurus and is Corder 2610 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is five 7th – 10th magnitude stars including the double star HIP 69261.
- One is in the IAU constellation Libra and is Corder 2666 on the observing list of American astronomer Jeffrey Corder. Size 65' X 20'. This is seven 8th – 10th magnitude stars including HIP 71212, 71152, 71045, and 70469.
- One is in the IAU constellation Hydra and is Corder 2670 on the observing list of American astronomer Jeffrey Corder. Size 45' X 15'. This is eight 9th to 10th magnitude stars including HIP 71231.
- One is in the IAU constellation Virgo and is Corder 2685 on the observing list of American astronomer Jeffrey Corder. Size 75' X 15'. This is eight 7th – 9th magnitude stars including HIP 71508, 71527, and 71455.
- One is in the IAU constellation Ursa Minor and is Corder 2690 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is five 9th – 10th magnitude stars including HIP 71514.
- One is in the IAU constellation Draco and is Corder 2703 on the observing list of American astronomer Jeffrey Corder. Size 150' X 60'. This is twelve 6th – 9th magnitude stars including HIP 72664, 72293, 72073, 71911, and 71623, and the double stars HIP 73105A and 72912A.
- One is in the IAU constellation Circinus and is Corder 2708 on the observing list of American astronomer Jeffrey Corder. Size 35' X 20'. This is five 7th – 9th magnitude stars including HIP 72048 and 72171.
- One is in the IAU constellations Hydra and Libra and is Corder 2710 on the observing list of American astronomer Jeffrey Corder. Size 200' X 40'. This is 4 Librae and 54, 55, 56, 57 and 58 Hydrae. Astronomer John Raymond calls this asterism "Hydra-Libra" and it is part of the Mini Scorpius asterism (see Scorpion, below).
- One is in the IAU constellation Centaurus and is Corder 2714 on the observing list of American astronomer Jeffrey Corder. Size 30' X 15'. Corder describes this as a "thick 'bar' of faint stars" including one 7th magnitude star, HIP 72459 in the middle. This includes the double star HIP 72445A.
- One is in the IAU constellation Libra and is Corder 2719 on the observing list of American astronomer Jeffrey Corder. Size 45'. This is four 9th – 10th magnitude stars including the double star HIP 72593A.
- One is in the IAU constellation Lupus and is Corder 2721 on the observing list of American astronomer Jeffrey Corder. Size 35' X 15'. This is nine 8th – 10th magnitude stars including HIP 72608, 72756, and 72841, and the double star HIP 72821A.
- One is in the IAU constellations Serpens and Virgo and is Corder 2723 on the observing list of American astronomer Jeffrey Corder. Size 45' X 30'. This is seven 6th – 9th magnitude stars including 1 & 2 Serpentis, HIP 72449, 72226, and 72122 and the double star HIP 72888.
- One is in the IAU constellation Libra and is Corder 2728 on the observing list of American astronomer Jeffrey Corder. Size 100' X 30'. This is fifteen 6th – 9th magnitude stars including HIP 72677, HIP 72525, and 72501, 10 Librae, and the double star HP 72645.

- One is in the IAU constellation Lupus and is Corder 2731 on the observing list of American astronomer Jeffrey Corder. Size 45' X 15'. This is five 8th magnitude stars including HIP 73117, 72903, and 72742.
- One is in the IAU constellation Libra and is Corder 2742 on the observing list of American astronomer Jeffrey Corder. Size 105' X 20'. This is Xi (ξ) 1 & 2 Librae, 17 Librae, and 18 Librae.
- One is in the IAU constellation Hydra and is Corder 2743 on the observing list of American astronomer Jeffrey Corder. Size 60' X 20'. This is ten 8th – 9th magnitude stars including HIP 73260.
- One is in the IAU constellation Boötes and is Corder 2747 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is four 8th – 10th magnitude stars including the double star HIP 73185A.
- One is in the IAU constellation Boötes and is Corder 2759 on the observing list of American astronomer Jeffrey Corder. Size 75' X 25'. This is Beta (β) Boötis (Nekkar), HIP 73476, HIP 73353, and 40 Boötis.
- One is in the IAU constellation Ursa Minor and is Corder 2768 on the observing list of American astronomer Jeffrey Corder. Size 120' X 60'. This is five 4th – 7th magnitude stars including HIP 73706, 73578, 73623, 73706, and 74082.
- One is in the IAU constellation Ursa Minor and is Corder 2786 on the observing list of American astronomer Jeffrey Corder. Size 120' X 45'. This is eighteen 6th – 9th magnitude stars including 9 Ursae Minoris, HIP 74625, 74453, 74155, 74097, 73784, 734212, and the double star HIP 73135B.
- One is in the IAU constellation Serpens and is Corder 2801 on the observing list of American astronomer Jeffrey Corder. Size 50' X 5'. This is four 7th – 8th magnitude stars including 3 Serpentis and HIP 74585, and 74508.
- One is in the IAU constellation Libra and is Corder 2810 on the observing list of American astronomer Jeffrey Corder. Size 30'. This is eight 9th – 9th magnitude stars including HIP 74892 and 74667.
- One is in the IAU constellation Serpens and is Corder 2831 on the observing list of American astronomer Jeffrey Corder. Size 40' X 15'. This is eight 7th – 10th magnitude stars including HIP 75382, 75315, and 75194.
- One is in the IAU constellation Lupus and is Corder 2838 on the observing list of American astronomer Jeffrey Corder. Size 30' X 15'. This is five 8th – 9th magnitude stars including HP 75442 and 75400.
- One is in the IAU constellation Lupus and is Corder 2853 on the observing list of American astronomer Jeffrey Corder. Size 15' X 29. This is six 9th – 10th magnitude stars.
- One is in the IAU constellation Libra and is Corder 2886 on the observing list of American astronomer Jeffrey Corder. Size 55' X 15'. This is eight 8th – 10th magnitude stars including HIP 76430 and the double star HIP 76578A.
- One is in the IAU constellation Apus and is Corder 2896 on the observing list of American astronomer Jeffrey Corder. Size 25' X 15'. This is five 6th – 9th magnitude stars including HIP 76767, 76481, and the double star HIP 76429A.
- One is in the IAU constellation Lupus and is Corder 2900 on the observing list of American astronomer Jeffrey Corder. Size 40'. This is sixteen 7th – 10th magnitude stars including HIP 76560 and 76821.

- One is in the IAU constellation Serpens and is Corder 2929 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is five 7th – 9th magnitude stars including HIP 77676.
- One is in the IAU constellation Norma and is Corder 2933 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is four 8th – 9th magnitude stars including HIP 77614.
- One is in the IAU constellation Triangulum Australe and is Corder 2940 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is five 6th – 7th magnitude stars including Epsilon (ε) Trianguli Australis, HIP 78346, 77173, and 76934, and the double stars HIP 78279A and 77390A.
- One is in the IAU constellation Apus and is Corder 2951 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is four 8th – 9th magnitude stars including HIP 78079.
- One is in the IAU constellation Lupus and is Corder 2959 on the observing list of American astronomer Jeffrey Corder. Size 120' X 30'. This is five 6th – 7th magnitude stars including HIP 78665, 78486, and 78058, and the double star HIP 78196.
- One is in the IAU constellation Corona Borealis and is Corder 2973 on the observing list of American astronomer Jeffrey Corder. Size 170' X 15'. This is four stars including HIP 78276 and the double stars Tau (τ) Coronae Borealis, HIP 78649, and HIP 79358.
- One is in the IAU constellation Norma and is Corder 2976 on the observing list of American astronomer Jeffrey Corder. Size 35' X 15'. This is seven 8th – 10th magnitude stars including HIP 78766.
- One is in the IAU constellation Scorpius and is Corder 2996 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is four 8th – 10th magnitude stars.
- One is in the IAU constellation Hercules and is Corder 3012 on the observing list of American astronomer Jeffrey Corder. Size 60' X 15'. This is four 7th – 8th magnitude stars including 13 and 15 Herculis and HIP 79504.
- One is in the IAU constellation Draco and is Corder 3029 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is seven 9th – 10th magnitude stars.
- One is in the IAU constellation Ophiuchus and is Corder 3046 on the observing list of American astronomer Jeffrey Corder. Size 55' X 20'. This is five 7th – 8th magnitude stars including HIP 80266, and 80373, and the double star HIP 80261.
- One is in the IAU constellation Scorpius and is Corder 3071 on the observing list of American astronomer Jeffrey Corder. Size 60' X 10'. This is five 7th – 8th magnitude stars including HIP 80770 and 80875.
- One is in the IAU constellation Norma and is Corder 3076 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is four 8th magnitude stars including HIP 81076 and 81071.
- One is in the IAU constellation Hercules and is Corder 3128 on the observing list of American astronomer Jeffrey Corder. Size 60' X 30'. This is five 8th magnitude stars including 82415 and 82305.
- One is in the IAU constellation Draco and is Corder 3132 on the observing list of American astronomer Jeffrey Corder. Size 30'. This is five 8th – 9th magnitude stars including HIP 82420.
- One is in the IAU constellation Hercules and is Corder 3134 on the observing list of American astronomer Jeffrey Corder. Size 12'. This is six 9th – 10th magnitude stars with an optical triple star in the middle.

- One is in the IAU constellation Hercules and is Corder 3167 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is five 8th – 10th magnitude stars.
- One is in the IAU constellation Scorpius and is Corder 3187 on the observing list of American astronomer Jeffrey Corder. Size 70' X 20'. This is nine 8th – 9th magnitude stars including HIP 83252 and 83374 and the double star HIP 83336.
- One is in the IAU constellation Scorpius and is Corder 3190 on the observing list of American astronomer Jeffrey Corder. Size 35' X 15'. This is five 7th – 9th magnitude stars including HIP 83368, 83263, and 83202.
- One is in the IAU constellation Ara and is Corder 3221 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is four 9th magnitude stars including HIP 84208.
- One is in the IAU constellation Ara and is Corder 3226 on the observing list of American astronomer Jeffrey Corder. Size 5'. This is four 9th magnitude stars.
- One is in the IAU constellation Scorpius and is Corder 3237 on the observing list of American astronomer Jeffrey Corder. Size 70' X 20'. This is five 6th – 8th magnitude stars including HIP 84612 and the double stars HIP 84709 and 84489.
- One is in the IAU constellation Ophiuchus and is Corder 3242 on the observing list of American astronomer Jeffrey Corder. Size 25' X 10'. This is nine 9th – 10th magnitude stars including the double star HIP 84595A.
- One is in the IAU constellation Ophiuchus and is Corder 3246 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is five 9th – 11th magnitude stars.
- One is in the IAU constellation Ophiuchus and is Corder 3259 on the observing list of American astronomer Jeffrey Corder. Size 50' X 20'. This is six 7th – 8th magnitude stars including HIP 84996, 84933, 84930, 84931, and 84951.
- One is in the IAU constellation Ara and is Corder 3270 on the observing list of American astronomer Jeffrey Corder. Size 20' X 10'. This is four 7th – 9th magnitude stars including HIP 85337 and the double stars HIP 85342 and 85326.
- One is in the IAU constellation Apus and is Corder 3272 on the observing list of American astronomer Jeffrey Corder. Size 15' X 10'. This is four 9th magnitude stars including HIP 85328.
- One is in the IAU constellation Serpens and is Corder 3287 on the observing list of American astronomer Jeffrey Corder. Size 45'. This is six 7th – 9th magnitude stars including HIP 85600.
- One is in the IAU constellation Ophiuchus and is Corder 3288 on the observing list of American astronomer Jeffrey Corder. Size 55' X 25'. This is nine 8th – 9th magnitude stars including HIP 85719 and 85632.
- One is in the IAU constellation Scorpius and is Corder 3289 on the observing list of American astronomer Jeffrey Corder. Size 20' X 15'. This is nine 7th – 10th magnitude stars including HIP 85588, 85680, 85701, 85786, and the double star HIP 85641A.
- One is in the IAU constellation Scorpius and is Corder 3293 on the observing list of American astronomer Jeffrey Corder. Size 40' X 15'. This is five 7th – 9th magnitude stars including HIP 85811 and 85752.
- One is in the IAU constellation Scorpius and is Corder 3317 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is seven 6th – 8th magnitude stars including Q Scorpii, HIP 86047, 86117, 86119, and 86246, and the double star HIP 86286A.

- One is in the IAU constellation Ara and is Corder 3343 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is eight 7th – 8th magnitude stars including HIP 86516, 86690, 86701, and 86773.
- One is in the IAU constellation Hercules and is Corder 3356 on the observing list of American astronomer Jeffrey Corder. Size 30' X 15'. This is four 8th magnitude stars including HIP 87025.
- One is in the IAU constellation Hercules and is Corder 3365 on the observing list of American astronomer Jeffrey Corder. Size 40' X 20'. This is nine 9th magnitude stars including HIP 87027 and 87095.
- One is in the IAU constellation Sagittarius and is Corder 3379 on the observing list of American astronomer Jeffrey Corder. Size 80' X 20'. This is eight 7th – 9th magnitude stars including HIP 87370, 87227, 87156, 87003, and 86970.
- One is in the IAU constellation Ophiuchus and is Corder 3384 on the observing list of American astronomer Jeffrey Corder. Size 45' X 25'. This is five 6th – 9th magnitude stars including HIP 87335, 87415, and 87479.
- One is in the IAU constellation Hercules and is Corder 3451 on the observing list of American astronomer Jeffrey Corder. Size 40' X 15'. This is four 6th – 7th magnitude stars including HIP 88669 and 88602 and the double star HIP 88754A.
- One is in the IAU constellation Hercules and is Corder 3454 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is eight 8th – 10th magnitude stars including the double star HIP 88598A.
- One is in the IAU constellation Ophiuchus and is Corder 3463 on the observing list of American astronomer Jeffrey Corder. Size 90' X 40'. This is five 3rd – 7th magnitude stars including 71 & 72 Ophiuchi, and the double star HIP 88728.
- One is in the IAU constellation Corona Australis and is Corder 3466 on the observing list of American astronomer Jeffrey Corder. Size 25' X 10'. This is five 9th magnitude stars.
- One is in the IAU constellation Sagittarius and is Corder 3481 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is four 7th – 9th magnitude stars including HIP 88906 and the double star HIP 88864A.
- One is in the IAU constellation Ophiuchus and is Corder 3493 on the observing list of American astronomer Jeffrey Corder. Size 25' X 10'. This is ten 8th – 11th magnitude stars including HIP 89283.
- One is in the IAU constellation Pavo and is Corder 3510 on the observing list of American astronomer Jeffrey Corder. Size 12'. This is four 8th – 9th magnitude stars including HIP 89394.
- One is in the IAU constellation Sagittarius and is Corder 3513 on the observing list of American astronomer Jeffrey Corder. Size 25' X 10'. This is twelve 8th – 11th magnitude stars including HIP 89510 and 89454.
- One is in the IAU constellation Hercules and is Corder 3537 on the observing list of American astronomer Jeffrey Corder. Size 55'. This is twelve 5th – 9th magnitude stars including 105 Herculis, HIP 90295, and the double stars HIP 89994A and 90120A.
- One is in the IAU constellation Lyra and is Corder 3551 on the observing list of American astronomer Jeffrey Corder. Size 75' X 30'. This is five 7th – 8th magnitude stars including HIP 90612, 90488, 90393, 90258, and 90079.
- One is in the IAU constellation Pavo and is Corder 3582 on the observing list of American astronomer Jeffrey Corder. Size 6'. This is seven 10th – 11th magnitude stars.

- One is in the IAU constellation Sagittarius and is Corder 3598 on the observing list of American astronomer Jeffrey Corder. Size 70' X 15'. This starts at the globular cluster NGC 6652 and runs through eight 5^{th} – 8^{th} magnitude stars including HIP 91137 and 91020 and the double stars HIP 91014 and 90763A.
- One is in the IAU constellation Sagittarius and is Corder 3600 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is five 9^{th} – 11^{th} magnitude stars.
- One is in the IAU constellation Hercules and is Corder 3624 on the observing list of American astronomer Jeffrey Corder. Size 20' X 10'. This is four 7^{th} – 8^{th} magnitude stars including HIP 91685, 91659, and 91622.
- One is in the IAU constellation Telescopium and is Corder 3629 on the observing list of American astronomer Jeffrey Corder. Size 100' X 30'. This is fifteen 8^{th} – 9^{th} magnitude stars including HIP 91096, 91211, 91589, 91840, 91844, 91840, and 92077, and the double stars HIP 91301, 91508, and 91928A.
- One is in the IAU constellation Aquila and is Corder 3632 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is four 7^{th} – 9^{th} magnitude stars including HIP 91822, 91855, and 91910.
- One is in the IAU constellation Sagittarius and is Corder 3637 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is four 8^{th} – 9^{th} magnitude stars including the double star HIP 91866.
- One is in the IAU constellation Draco and is Corder 3638 on the observing list of American astronomer Jeffrey Corder. Size 8'. This is four 9^{th} magnitude stars.
- One is in the IAU constellation Lyra and is Corder 3683 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is eight 8^{th} – 11^{th} magnitude stars including HIP 92626, 92641, and 92612 and the double star HIP 92631A.
- One is in the IAU constellation Aquila and is Corder 3685 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is six 7^{th} – 9^{th} magnitude stars including HIP 92617.
- One is in the IAU constellation Sagittarius and is Corder 3694 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is five 9^{th} – 10^{th} magnitude stars.
- One is in the IAU constellation Pavo and is Corder 3706 on the observing list of American astronomer Jeffrey Corder. Size 140' X 20'. This is six 7^{th} – 8^{th} magnitude stars including HIP 93535, 93372, 93012, and 92545.
- One is in the IAU constellation Sagittarius and is Corder 3716 on the observing list of American astronomer Jeffrey Corder. Size 150' X 40'. This is six 6^{th} – 7^{th} magnitude stars including HIP 93993, 93498, 93315, 93132, 92780, and the double star HIP 92929.
- One is in the IAU constellation Aquila and is Corder 3798 on the observing list of American astronomer Jeffrey Corder. Size 45' X 15'. This is six 7^{th} – 8^{th} magnitude stars including HIP 94638.
- One is in the IAU constellation Sagittarius and is Corder 3809 on the observing list of American astronomer Jeffrey Corder. Size 35' X 15'. This is six 9^{th} – 10^{th} magnitude stars.
- One is in the IAU constellation Sagittarius and is Corder 3842 on the observing list of American astronomer Jeffrey Corder. Size 35' X 20'. This is four 7^{th} – 8^{th} magnitude stars including the double star HIP 95159.

- One is in the IAU constellation Sagittarius and is Corder 3905 on the observing list of American astronomer Jeffrey Corder. Size 25' X 20'. This is four 8th – 9th magnitude stars including HIP 96475, 96440, and 96422.
- One is in the IAU constellation Sagittarius and is Corder 3907 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is four 8th – 9th magnitude stars including HIP 96554 and 96531.
- One is in the IAU constellation Aquila and is Corder 3922 on the observing list of American astronomer Jeffrey Corder. Size 45' X 15'. This is five 6th – 9th magnitude stars including HIP 96845, 96844, and 96847 and the double star HIP 96840A.
- One is in the IAU constellation Draco and is Corder 3963 on the observing list of American astronomer Jeffrey Corder. Size 60' X 20'. This is five 7th – 9th magnitude stars including HIP 96542, 96839, 98382, and 99433.
- One is in the IAU constellation Draco and is Corder 4012 on the observing list of American astronomer Jeffrey Corder. Size 35' X 20'. This is four 6th – 9th magnitude stars including HIP 98666.
- One is in the IAU constellation Aquila and is Corder 4016 on the observing list of American astronomer Jeffrey Corder. Size 45' X 25'. This is ten 7th – 9th magnitude stars including HIP 98442 and 98455.
- One is in the IAU constellation Sagittarius and is Corder 4019 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is seven 6th – 9th magnitude stars including HIP 98420 and 98485. Corder describes this both as a "chain" or "bar" of stars.
- One is in the IAU constellation Draco and is Corder 4022 on the observing list of American astronomer Jeffrey Corder. Size 40' X 20'. This is five 8th – 10th magnitude stars including HIP 98816 and the double star HIP 98244A.
- One is in the IAU constellation Cygnus and is Corder 4031 on the observing list of American astronomer Jeffrey Corder. Size 60' X 25'. This is ten 7th – 9th magnitude stars including HIP 98146, 98493, 98731, 98940, and 99102 and the double stars HIP 98367 and 98734A.
- One is in the IAU constellation Cygnus and is Corder 4041 on the observing list of American astronomer Jeffrey Corder. Size 35' X 20'. This is nine 5th – 9th magnitude stars including HIP 98783 and 98746 and the double star HIP 98767.
- One is in the IAU constellation Vulpecula and is Corder 4048 on the observing list of American astronomer Jeffrey Corder. Size 40' X 20'. This is ten 8th – 10th magnitude stars including HIP 98873.
- One is in the IAU constellation Sagittarius and is Corder 4073 on the observing list of American astronomer Jeffrey Corder. Size 40' X 20'. This is seven 7th – 9th magnitude stars including HIP 99465, 99364, 99305, 99083, and 99022.
- One is in the IAU constellation Cygnus and is Corder 4094 on the observing list of American astronomer Jeffrey Corder. Size 35' X 25'. This is eight 7th – 10th magnitude stars.
- One is in the IAU constellation Cygnus and is Corder 4098 on the observing list of American astronomer Jeffrey Corder. Size 20' X 15'. This is nine 8th – 11th magnitude stars including HIP 99905.
- One is in the IAU constellation Capricornus and is Corder 4102 on the observing list of American astronomer Jeffrey Corder. Size 40' X 20'. This is five 8th – 9th magnitude stars including HIP 99901 and 99903.

- One is in the IAU constellation Aquila and is Corder 4111 on the observing list of American astronomer Jeffrey Corder. Size 50' X 20'. This is twelve 7th – 10th magnitude stars including HIP 100082 and 100025.
- One is in the IAU constellation Capricornus and is Corder 4112 on the observing list of American astronomer Jeffrey Corder. Size 65' X 35'. This is four 3rd – 6th magnitude stars: Alpha (α) 1 and 2, Nu (ν), and 3 Capricorni.
- One is in the IAU constellation Aquila and is Corder 4122 on the observing list of American astronomer Jeffrey Corder. Size 65' X 20'. This is five 6th – 8th magnitude stars including HIP 100247, 100237, and 100232.
- One is in the IAU constellation Cygnus and is Corder 4147 on the observing list of American astronomer Jeffrey Corder. Size 45' X 20'. This is twelve 8th – 10th magnitude stars.
- One is in the IAU constellation Vulpecula and is Corder 4163 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is five 7th – 9th magnitude stars including HIP 101054, 101041, 101002, and 100983.
- One is in the IAU constellation Draco and is Corder 4180 on the observing list of American astronomer Jeffrey Corder. Size 50' X 20'. This is seven 8th – 10th magnitude stars including HIP 101890.
- One is in the IAU constellation Microscopium and is Corder 4186 on the observing list of American astronomer Jeffrey Corder. Size 30' X 15'. This is four 8th – 9th magnitude stars including HIP 101450 and the double star HIP 101465A.
- One is in the IAU constellation Delphinus and is Corder 4210 on the observing list of American astronomer Jeffrey Corder. Size 45' X 30'. This is five 5th -7th magnitude stars including Theta (θ) Delphini, HIP 101848, 101943, and 101967. The SAC names this asterism for the star Theta (θ) Delphini.
- One is in the IAU constellations Aquila and Aquarius and is Corder 4211 on the observing list of American astronomer Jeffrey Corder. Size 50' X 20'. This is seven 7th – 9th magnitude stars including HIP 101827, 101852, and 101911.
- One is in the IAU constellation Delphinus and is Corder 4233 on the observing list of American astronomer Jeffrey Corder. Size 45' X 25'. This is eight 8th – 9th magnitude stars including HIP 102385, 102450, and 102510 and the double stars HIP 102398A, 102400, and 102390A.
- One is in the IAU constellation Cygnus and is Corder 4243 on the observing list of American astronomer Jeffrey Corder. Size 110' X 25'. This is seven 6th – 8th magnitude stars including HIP 102499, 102572, 102801, and 102956 and the double stars HIP 198387, 102712A, 102796A, and 102804.
- One is in the IAU constellation Delphinus and is Corder 4246 on the observing list of American astronomer Jeffrey Corder. Size 120' X 25'. This is five 7th – 8th magnitude stars including HIP 102631, 102680, and 102774.
- One is in the IAU constellation Capricornus and is Corder 4248 on the observing list of American astronomer Jeffrey Corder. Size 65' X 20'. This is nine 6th – 10th magnitude stars including HIP 102591, 102658, and 102659.
- One is in the IAU constellation Vulpecula and is Corder 4250 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is eight 7th – 10th magnitude stars including HIP 102815, 102740, and the double star HIP 102728A.

- One is in the IAU constellation Delphinus and is Corder 4256 on the observing list of American astronomer Jeffrey Corder. Size 20' X 10'. This is five 7^{th} – 8^{th} magnitude stars including HIP 102917 and 102878.
- One is in the IAU constellation Cepheus and is Corder 4277 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is four 8^{th} – 9^{th} magnitude stars including the double stars HIP 103461A and 103421.
- One is in the IAU constellation Delphinus and is Corder 4279 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is five 8^{th} – 9^{th} magnitude stars including HIP 103444.
- One is in the IAU constellation Delphinus and is Corder 4300 on the observing list of American astronomer Jeffrey Corder. Size 25' X 10'. This is five 8^{th} – 9^{th} magnitude stars.
- One is in the IAU constellation Cepheus and is Corder 4305 on the observing list of American astronomer Jeffrey Corder. Size 25' X 15'. This is four 8^{th} – 9^{th} magnitude stars including HIP 103908.
- One is in the IAU constellation Aquarius and is Corder 4306 on the observing list of American astronomer Jeffrey Corder. Size 120' X 15'. This is six 6^{th} – 7^{th} magnitude stars including HIP 103889, 103899, 103931, 103932, and 103926.
- One is in the IAU constellation Indus and is Corder 4341 on the observing list of American astronomer Jeffrey Corder. Size 60' X 15'. This is eight 7^{th} – 9^{th} magnitude stars including HIP 104721, 104621, and the double star HIP 104604A.
- One is in the IAU constellation Pegasus and is Corder 4352 on the observing list of American astronomer Jeffrey Corder. Size 90' X 15'. This is four 7^{th} – 8^{th} magnitude stars including HIP 104967, 104884, 104729 and the double star HIP 104771A.
- One is in the IAU constellation Indus and is Corder 4353 on the observing list of American astronomer Jeffrey Corder. Size 40' X 15'. This is six 7^{th} – 9^{th} magnitude stars including HIP 104865, 105110, and the double star HIP 104662A.
- One is in the IAU constellation Cygnus and is Corder 4364 on the observing list of American astronomer Jeffrey Corder. Size 45' X 20'. This is fourteen 7^{th} – 10^{th} magnitude stars including HIP 105024, 105036, and the double star HIP 105130.
- One is in the IAU constellation Cygnus and is Corder 4382 on the observing list of American astronomer Jeffrey Corder. Size 35' X 20'. This is eight 8^{th} – 9^{th} magnitude stars including HIP 105346 and 105345.
- One is in the IAU constellation Equuleus and is Corder 4384 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is made up of four 9^{th} magnitude stars.
- One is in the IAU constellation Aquarius and is Corder 4389 on the observing list of American astronomer Jeffrey Corder. Size 45' X 15'. This is ten 8^{th} – 11^{th} magnitude stars including HIP 105302, 105469 and 105534.
- One is in the IAU constellation Pavo and is Corder 4392 on the observing list of American astronomer Jeffrey Corder. Size 40' X 15'. This is seven 8^{th} magnitude stars including HIP 105401 and the double stars HIP 105445A and 105441.
- One is in the IAU constellation Vulpecula and is Corder 4422 on the observing list of American astronomer Jeffrey Corder. Size 20' X 10'. This is four 7^{th} – 8^{th} magnitude stars including HIP 106037.

- One is in the IAU constellation Capricornus and is Corder 4455 on the observing list of American astronomer Jeffrey Corder. Size 45' X 5'. This is four 8th – 9th magnitude stars including HIP 106497, 106441, and 106380.
- One is in the IAU constellation Capricornus and is Corder 4461 on the observing list of American astronomer Jeffrey Corder. Size 45' X 25'. This is eight 6th – 9th magnitude stars including 37 and 38 Capricorni and HIP 106561.
- One is in the IAU constellation Pegasus and is Corder 4470 on the observing list of American astronomer Jeffrey Corder. Size 50' X 25'. This is seven 5th – 9th magnitude stars including 4 Pegasi, HIP 106707, and 106660.
- One is in the IAU constellation Pegasus and is Corder 4486 on the observing list of American astronomer Jeffrey Corder. Size 80' X 15'. This is eight 7th – 9th magnitude stars including HIP 107046, 107084, 107100, 107102, 107139, and 107221.
- One is in the IAU constellation Pegasus and is Corder 4501 on the observing list of American astronomer Jeffrey Corder. Size 35' X 15'. This is seven 5th – 8th magnitude stars including 12 Pegasi and HIP 107394 and 107498. John Raymond calls this asterism "12" after the middle star 12 Pegasi.
- One is in the IAU constellation Cygnus and is Corder 4506 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is four 8th – 10th magnitude stars including HIP 107540.
- One is in the IAU constellation Pegasus and is Corder 4535 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is made up of seven 9th – 10th magnitude stars.
- One is in the IAU constellation Pegasus and is Corder 4536 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is seven 8th – 10th magnitude stars including HIP 108094.
- One is in the IAU constellation Indus and is Corder 4550 on the observing list of American astronomer Jeffrey Corder. Size 80' X 25'. This is eight 7th – 10th magnitude stars including HIP 108093, 108310, 108631, and 108740.
- One is in the IAU constellation Capricornus and is Corder 4554 on the observing list of American astronomer Jeffrey Corder. Size 35' X 15'. This is five 8th – 9th magnitude stars including HIP 108452, 108522 and the double star HIP 108414.
- One is in the IAU constellation Cygnus and is Corder 4559 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is six 8th – 9th magnitude stars including HIP 108602.
- One is in the IAU constellation Lacerta and is Corder 4577 on the observing list of American astronomer Jeffrey Corder. Size 100' X 40'. This is a thick chain of ten 6th – 8th magnitude stars including HIP 109745, 109121, 109079, 109102, 108933, 108645, and the double stars HIP 109303, 109354, 108845A, and 108774.
- One is in the IAU constellation Pegasus and is Corder 4580 on the observing list of American astronomer Jeffrey Corder. Size 35' X 15'. This is six 7th – 10th magnitude stars including HIP 108963 and the double star HIP 108117A.
- One is in the IAU constellation Lacerta and is Corder 4589 on the observing list of American astronomer Jeffrey Corder. Size 30' X 10'. This is seven 7th – 9th magnitude stars including HIP 109131, 109157, and 109217.
- One is in the IAU constellation Cepheus and is Corder 4596 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is five 8th – 10th magnitude stars including HIP 109379.

- One is in the IAU constellation Aquarius and is Corder 4636 on the observing list of American astronomer Jeffrey Corder. Size 45' X 20'. This is four 6th – 7th magnitude stars including HIP 109952, 110018, 110060, and 110126.
- One is in the IAU constellation Aquarius and is Corder 4654 on the observing list of American astronomer Jeffrey Corder. Size 60' X 10'. This is six 8th – 9th magnitude stars including HIP 110563 and the double star HIP 110426.
- One is in the IAU constellation Lacerta and is Corder 4684 on the observing list of American astronomer Jeffrey Corder. Size 80' X 20'. This is eight 4th – 9th magnitude stars including 6 Lacertae, HIP 111077 and 111189.
- One is in the IAU constellation Pegasus and is Corder 4690 on the observing list of American astronomer Jeffrey Corder. Size 30' X 10'. This is seven 9th – 10th magnitude stars including HIP 111119.
- One is in the IAU constellation Cepheus and is Corder 4694 on the observing list of American astronomer Jeffrey Corder. Size 180' X 30'. This is twenty 5th – 9th magnitude stars including 26 Cephei, HIP 110998, 111387, 111617, 111950, 112169, and 112562.
- One is in the IAU constellation Lacerta and is Corder 4695 on the observing list of American astronomer Jeffrey Corder. Size 65' X 20'. This is nine 3rd – 9th magnitude stars including Alpha (α) Lacertae and HIP 111147, 111184, and 111197, and the double star HIP 111164A.
- One is in the IAU constellation Aquarius and is Corder 4708 on the observing list of American astronomer Jeffrey Corder. Size 45' X 20'. This is four 6th – 8th magnitude stars including 61 Aquarii, HIP 111506, and 111522.
- One is in the IAU constellation Pegasus and is Corder 4720 on the observing list of American astronomer Jeffrey Corder. Size 120' X 50'. This is sixteen 6th – 9th magnitude stars including HIP 111466, 111526, 111807, 111938, 112138, and 112099, and the double star HIP 111433A.
- One is in the IAU constellation Grus and is Corder 4721 on the observing list of American astronomer Jeffrey Corder. Size 125' X 30'. This is five 6th – 7th magnitude stars including HIP 111815, 111819 and the double stars HIP 111718A, 111643A, and 111594.
- One is in the IAU constellation Pegasus and is Corder 4727 on the observing list of American astronomer Jeffrey Corder. Size 60' X 15'. This is seven 6th – 9th magnitude stars including 40 and 41 Pegasi, HIP 111943, and 111956, and the double star HIP 112076A.
- One is in the IAU constellation Lacerta and is Corder 4737 on the observing list of American astronomer Jeffrey Corder. Size 90' X 45'. This is five 4th – 7th magnitude stars including 11 Lacertae, HIP 112042, 112217, 112351, and 112417.
- One is in the IAU constellation Cepheus and is Corder 4752 on the observing list of American astronomer Jeffrey Corder. Size 30' X 20'. This is six 8th – 9th magnitude stars including HIP 112165 and 113108.
- One is in the IAU constellation Pegasus and is Corder 4756 on the observing list of American astronomer Jeffrey Corder. Size 90' X 15'. This is ten 7th – 9th magnitude stars including HIP 112303, 112359, and 112689, and the double star HIP 112495.
- One is in the IAU constellation Lacerta and is Corder 4781 on the observing list of American astronomer Jeffrey Corder. Size 45' X 20'. This is four 5th – 8th magnitude stars including HIP 113200 and 113144 and the double star HIP 113222.

- One is in the IAU constellation Octans and is Corder 4785 on the observing list of American astronomer Jeffrey Corder. Size 30' X 15'. This is seven 9th – 11th magnitude stars including HIP 113840.
- One is in the IAU constellation Cepheus and is Corder 4787 on the observing list of American astronomer Jeffrey Corder. Size 100' X 30'. This is ten 7th – 9th magnitude stars running through the Cave Nebula (SH 2-155) including HIP 114070, 113947, 113793, 113249, and 113218, and the double stars HIP 113461A, 113306A, and 113301.
- One is in the IAU constellation Aquarius and is Corder 4796 on the observing list of American astronomer Jeffrey Corder. Size 140' X 35'. This is five 6th – 8th magnitude stars including HIP 113896, 113686, 113345, and the double star HIP 113184A.
- One is in the IAU constellation Tucana and is Corder 4801 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is four 8th – 9th magnitude stars including HIP 113548.
- One is in the IAU constellation Pisces and is Corder 4812 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is four 7th – 8th magnitude stars including HIP 113727.
- One is in the IAU constellation Aquarius and is Corder 4819 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is six 8th – 11th magnitude stars including the double stars HIP 113779 and 113769B.
- One is in the IAU constellation Pegasus and is Corder 4827 on the observing list of American astronomer Jeffrey Corder. Size 300' X 30'. This is seven 2nd – 10th magnitude stars including Alpha (α) Pegasi (Markab), HIP 113994 and 114049, and the double stars HIP 114081, 114096, 114034, 114183, and 114189.
- One is in the IAU constellation Tucana and is Corder 4848 on the observing list of American astronomer Jeffrey Corder. Size 30' X 10'. This is six 9th – 10th magnitude stars including HIP 114731.
- One is in the IAU constellation Octans and is Corder 4849 on the observing list of American astronomer Jeffrey Corder. Size 45' X 20'. This is five 6th – 9th magnitude stars including HIP 114550, 114884 and 114993 and the double star HIP 115028A.
- One is in the IAU constellation Pegasus and is Corder 4852 on the observing list of American astronomer Jeffrey Corder. Size 65' X 40'. This is five 6th – 8th magnitude stars including HIP 114863, 114835, 114742, and 114806.
- One is in the IAU constellation Pisces and is Corder 4867 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is five 9th – 10th magnitude stars including HIP 115050 and 115063.
- One is in the IAU constellation Andromeda and is Corder 4890 on the observing list of American astronomer Jeffrey Corder. Size 35' X 20'. This is five 7th – 9th magnitude stars including HIP 115778 and the double stars HIP 115715 and 115655.
- One is in the IAU constellation Pegasus and is Corder 4927 on the observing list of American astronomer Jeffrey Corder. Size 30' X 10'. This is four 7th – 8th magnitude stars including HIP 116361, 116378, and the double star HIP 116396.
- One is in the IAU constellation Pegasus and is Corder 4939 on the observing list of American astronomer Jeffrey Corder. Size 120' X 25'. This is ten 6th – 9th magnitude stars including HIP 116965, 116718, 116636, 116502, and 116307 and the double stars HIP 116926A and 116838A.
- One is in the IAU constellation Pegasus and is Corder 4957 on the observing list of American astronomer Jeffrey Corder. Size 40 X 20'. This is twelve 8th – 9th magnitude stars.

- One is in the IAU constellation Pisces and is Corder 4979 on the observing list of American astronomer Jeffrey Corder. Size 60' X 25'. This is twelve 8th – 10th magnitude stars including HIP 117529 and the double star HIP 117704A.
- One is in the IAU constellation Aquarius and is Corder 4981 on the observing list of American astronomer Jeffrey Corder. Size 75' X 35'. This is ten 5th – 9th magnitude stars including HIP 117824, 117734, 117414, and 108, 107, 106, 104 and 103 Aquarii. One is made up of stars in the IAU constellation Scutum. It is Hölgye 1 on the list of Hungarian astronomer Attila Hölgye. This is the stars HD 175546, Gaia DR3 4255357703204500480, Gaia DR3 4254985136206134656, HIP 92781, HIP 92746, HD 175020, HIP 92686, and HIP 92654. The stars HD 175209 and 175208 form a right angle at the middle of the cascade.
- One is made up of stars in the IAU constellation Andromeda. It is Dezsi 4 on the list of Hungarian astronomer Attila Dezsi. This is a cascade of 6 stars next to Gaia DR3 350283586905833600.
- One is a "Starry Path" made up of stars of the IAU constellation Perseus. This was posted on *Cloudy Nights* by American astronomer Dale Smith in February 2024. Starting at HIP 13965 it runs through HIP 13713, HIP 13635, HIP 13512, HIP 13339, and HIP 13181 to HIP 13155.
- One is a "Starry Path" made up of stars of the IAU constellations Andromeda and Perseus. This was posted on *Cloudy Nights* by American astronomer Dale Smith in February 2024. Starting at Theta (θ) Persei it runs through HIP 12453, HIP 11997, HIP 11785, 66 Andromedae, 65 Andromedae, and 64 Andromedae, to 63 Andromedae.

Caskels:

This Selk'nam star is Alpha (α) Carinae (Canopus) in the IAU constellation Carina. Caskels is a man-eating giant defeated by their mythical shaman Kwányip (see below).

Caph Cassiopeia Cascade:

This **telescopic** asterism is a cascade of stars in the IAU constellation Cassiopeia and is Ennis 23 on the observing list of Canadian astronomer Charles Ennis. Starting at the double star Beta (β) Cassiopeiae (Caph) it then runs through three double stars in a row: HIP 876A, HIP 848, and HIP 940, then runs through HIP 874, and 902, ending at a group of five stars in the shape of a "W" including HIP 1023, 951, and 857. NOTE: The three double stars (but not Caph) at one end of the cascade are Corder 34 on the observing list of Jeffrey Corder. Corder notes these three doubles in a row but doesn't mention that Caph is also a double, making it four in a row. Size 95' X 15'

Casper the Friendly Ghost Nebula:

This asterism is the reflection nebula Messier 78 in the IAU constellation Orion. It was discovered by French astronomer Pierre Méchain in 1780 and included in Charles Messier's catalogue. In the 1864 General Catalogue it is GC 1267, and in John Herschel's catalogue it is h 368. It has been named this recently as to someone it resembled the main character in Famous Studios animated cartoon series *Casper the Friendly Ghost* (1945 – 1959). It is also known as the Bogeyman Nebula.

Cassiopeia:

The "W" asterism of this constellation is very easy to spot in the sky and the stars of this constellation show up in 316 of the asterisms of the world's sky cultures and is the way this constellation is depicted on IAU charts.

The IAU constellation Cassiopeia (IAU abbreviation Cas) was first mentioned in Aratus' poem *Phaenomena* (270 B.C.E.) and is one of the 48 original constellations listed by Ptolemy (100 – 170), which he listed as "Κασσιέπεια" ("Kassiepeia") in his *Almagest* (see Queen Kassiepeia below). Teucros uses the name Eileithyia. Cassiopeia is the Latin version of the original Greek name. It is named for the wife of King Cepheus of Ethiopia, who became another of Ptolemy's constellations (see Cepheus, below). It is also known as the "Queen's W". Variations include "Cassiepia" (as listed by 1st century Roman author Gaius Julius Hyginus), "Cassiope", and "Cushiopeia" (as described by English painter Edwin Landseer, who described her as the "Queen of Cush").

The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) depicts Cassiopeia seated parallel to the tropics, on the equinoctial colure, when she should be resting on the Arctic circle as in the myth she was suspended in the sky upside down as a punishment for her pride.

The Mainz Globe from the eastern end of the Roman empire (c. 150 – 220 C.E.) depicts Cassiopeia as a crowned woman seated on some sort of throne facing to our right with a wand or stick in her upraised left hand.

The globe of the 2nd century Farnese Atlas depicts this constellation as a female seated in a chair with her arms raised (Stevenson 1921).

This constellation appears as "Cassiepeia", a paranatellonta of the third decan of Aries and of Virgo as listed in the *Sphaera Barbarica* described by Teucros (Mosenkis, date n/k).

The *De ordine ac positione stellarum in signis* ("*On the order and position of the stars in the signs*") in the Salzburg compilation (810 – 818) of Abbot Arno of Salzburg (785 – 821) lists "Casiepia".

Cassiopeia appears in the Leiden *Aratea* (816) as a crowned woman in long robes facing us seated in a chair, holding her arms out slightly bent to form a "W" shape.

This constellation appears as "Cassiepia" in editions of the 8th century *Revised Aratus Latinus*:

- In two editions (St Gall 250, St Gall 902) she is wearing a crown and seated on a throne with no back,
- In two editions (Gottweig 7 (146), Siena L. IV. 25) she is wearing a dome-shaped crown and has a halo.

The Paris BN, 12117, Paris BN lat 8663, Los Angeles, Getty Ludwig XII 5, and Vat Reg lat 309 manuscripts of the *De ordine ac positione stellarum in signis* depict Cassiopeia with a cloak over her head.

The 11th century *De signis caeli ("of the signs of heaven*") lists "Cassepia", "Caiepia", and "Sasepia", the latter term translating as "Sage". The Oxford Laud 644, Padua 27 and Venice VIII 22 manuscripts of *De signis caeli* depict Cassiopeia seated on a throne made of sticks. In the Padua 27 and Venice VIII 22 editions she is wearing a cloak draped over her left shoulder and has exposed her right breast and navel. The Dijon 448 manuscript of *De signis caeli* depicts Cassiopeia on a circular throne and does not expose her breast. The Klosterneuberg 685, Paris BN 5239, Paris BN 5543, Vat lat 643, and Zwettl 296 manuscripts of *De signis caeli* depict Cassiopeia seated on a throne with a tall, curved back, wearing a pointed or Phrygian cap. The Montecassino 3 manuscript of *De signis caeli* depicts no back on Cassiopeia's throne.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi's son depicts Cassiopeia as viewed from the earth and the sky as are all of the constellations in this book. She is depicted as a female in ankle-length robes seated on a

throne. She is wearing earrings, a tikka, a necklace, and bracelets. On one page the throne is turned to our right and on the other page it is turned to our left. She is sitting on the side of the throne so that she is facing us on both pages. Her arm next to the back of the throne is holding one of the uprights of the back of the throne and her other arms is gesturing palm upwards.

The oldest known Islamic celestial glove, made between 1080 – 1085 by Ibrahim ibn Sa'id al-Wazzan and his son Mohammad depicts Cassiopeia as a woman seated in a chair facing to our left looking over her left shoulder at Cepheus and gesturing towards him with her left hand.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Hunt 212 (1171) depicts Cassiopeia seated on a throne with her left leg crossed over her right leg. She is gesturing out to her side with her left hand and has her right hand raised in a manner that makes it look as if it is tied to the top of the back of her throne. It is shown overlapping a camel representing Camelopardalis.

The *Liber de signis* of Scottish polyglot Michael Scot (1175 – c.1232) depicts "Cassiopeia" as a well dressed woman with her arms stretched out to either side.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Cassiopiea as a crowned woman seated on a throne. The throne is turned to our left, partially showing its back, and Cassiopeia is looking sideways towards us waving with her right hand and holding the back of her throne with her left hand.

Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) depicts Cassiopeia as a crowned queen seated on a throne turned slightly to our left. Her right hand is raised as if in greeting and her left arm is wound around one of the uprights of the throne. It is labelled "dhāt al-kursī" ("the seated woman").

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Cassiopeia as a female seated on a throne which is turned to our right. She is wearing a crown and calf length robes. She is holding the back of the throne with her right hand and gesturing with her left hand.

The mid 15th century Wein, Oesterr. National Bibl., manuscript Lat 5415, ff.168v-169r depicts "Cassiopeia" as a nude figure crouching in front of a throne. They have their back to us and are slightly turned to our left, so it is impossible to determine the gender of this figure. The figure is holding a feather in their left hand and their right hand is raised skyward.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.71v-72r depicts Cassiopeia as a nude figure striding to our left in front of a throne. The figure is holding a feather in their left hand and has their right hand raised above their head. It is not labelled and is poorly drawn.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Cassiopeia as a tiny featurless figure sitting on a throne. It is not labelled.

The vault of the Old Sacristy of the Basilica di S. Lorenzo in Firenze, Italy (1442) depicts Cassiopeia as a female seated on a throne turned partly to our right. She is holding her right hand up over her head and gesturing to one side with her left hand.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Cassiopeia as a female seated in a simple chair. She has

ankle length robes but her right breast is exposed. Her left hand is held skyward and her right hand is extended out to her side, palm forward, revealing a wound in her palm which is dripping blood.

The *Germanicus Aratea* (Siciliensis, c. 1469) depicts "Cassiepia" as a robed female seated on a wide throne with her arms outstretched.

The *Germanicus Aratea* with scholia Strozziana (c. 1475) depicts Cassiopeia as a woman nude from the waist up seated on a throne facing us with arms outstretched.

De Astronomica ("the astronomy"), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This depicts a woodcut of Cassiopeia seated on a bench with two forked branches and a pole forming a back with her arms outstretched and tied to these uprights. She is wearing an ankle length garment, but her breasts are exposed.

The Constance Celestial Globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts "Cassiopeia" as a nude woman seated sideways (facing to our left) on a throne who looks in a hand mirror in her left hand and has her right hand tied to an ornament at the centre of the back of the throne.

The early 16th century Real Academia de Historia, manuscript D-97, f.101v depicts Cassiopeia as a nude female seated on a throne. She is holding a feather aloft in her left hand and her right hand is on her right knee. It is not labelled. The Real Academia de Historia, manuscript D-97, f.104v – 105r depicts this reversed, with her throne turned to our right and holding the feather in her right hand.

The "Nuremburg Maps" *(Die Karte des Nördlichen Sternenhimmels* inv.-Nr. Hz 5576), a pair of celestial hemispheres made in 1503 by Conrad Heinfogel, depicts Cassiopeia as a crowned nude female seated in a throne which is turned to face to our left, holding a feather in her left hand and with her right hand raised as if in greeting.

The *imagines coeli septentrionales cum duodecint imaginibus zodiaci* ("images of the northern sky with twelve images of the zodiac"), commonly known as the *Northern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius depicts Cassiopeia as a nude female seated on a throne with a canopy which is turned to our left. Her right hand is raised skyward, and she is holding a feather in her left hand.

Gores for a celestial globe by German polymath Johann Schöner (1477 – 1547) from 1515, 1534, and 1535 (Dekker & Lippincott, 1999) depict Cassiopeia seated on a very tall throne with a sickle in one hand and a spiked crown on her head. In the 1515 gores she is labelled "Cassiopeia" but in the 1534 and 1535 gores she is named "CASSIEPEA". Celestial globe gores (1517) of Schöner depicts "Cassiopeia" as a crowned female seated on a throne that is turned far to our left so that we can see the back of it. He is holding what could be either a feather or a sickle in her left hand and her right hand is gesturing towards the sky. A celestial globe (1522) of Schöner depicts "Cassiopeia" as a woman seated on a throne turned to face to our left. In her left hand she is holding a feather or frond, and her right hand is touching the canopy of her throne over her head.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts Cassiopeia in the same manner as Dürer et al.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts "Cassiopeia" as a woman seated on a throne as viewed from her left side: Details are hard to make out due to damage to the globe, but it appears that she is turned to face away from us with her right arm raised over her head.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts "Cassiopeia" as a woman on a throne as viewed from the left side. She is turned to face away from us, holding a frond in her left hand and having her right arm raised over her head.

Dele Stelle Fisse ("Of the Fixed Stars") by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as "Di Cassiepia". The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as "Cassiopea".

The Northern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Cassiopeia as a nude female standing in front of a throne which is turned slightly to our left. She is in left profile, with her left leg raised as if about to step onto something. Her left arm is pointing at something ahead of her. Her right arm is concealed.

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists this constellation as "Cassiopea" in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

The *Globus Coelestis* chart (1584) of Swiss German artist Jost Amman (1539 – 1591) depicts "Cassiopeia" as a female seated on a throne with her left hand pointing skyward and a feather raised in her right hand.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts this constellation as a nude female seated in a chair. She is pointing skyward with her right hand and seems to be holding something out in her left hand.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius does not depict Cassiopeia on this chart.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts "Cassiopeia" as a crowned female in a long robe seated on a throne. She is facing to our left, looking over her right shoulder and gesturing upwards with her right hand.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) depicts "Cassiepea" as a female in a long robe wearing a dome shaped hat with a six pointed star on top. She is seated on a throne and has her arms spread wide.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) depicts Cassiopeia as a queen seated on a throne.

Cassiopeia is listed in Danish astronomer Tycho Brahe's *Astronomiae Instauratae Progymnasmata* (1602).

German uranographer Johann Bayer (1572 – 1625) depicts this in his *Uranometria* in 1603 as a woman seated on a chair with her right hand over her head and holding aloft a plume in her left hand. Bayer lists the following names for this constellation: "Cassiepea, Cassiopea, Cathedra Mollis, Mulier Sedis, Seliquastri, Seliquastrum, Siliquastrum, Sella, Solijm, Sedes regalis, Habens palmam delibutam, Canis, vel Cerua".

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Cassiepeae" and depicts it as a woman seated on a chair.

Johannes Kepler's *Stella Nova in Pede Serpentarii* (1606) lists this constellation as "Cassiopeja".

Cassiopeia is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as "Cassiopea" and is depicted as a crowned woman in a long robe holding her arms high with a feather in her left hand.

Giovanni Paolo Gallucci's *Theatrum Mundi, et Temporis* (1614) depicts "Casiopeya" as a short haired woman seated on a couch. She is naked but has drapery over her lap.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the name "Cassiopeia" for this constellation.

"Cassiopeia" is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a crowned female in a long robe seated on a throne with her arms raised high, holding a feather in her left hand.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts "Cassiopeia" as a female in full-length robes seated on a throne which faces to our left. She is holding a leafy branch in her right hand and is waving a cloth over her head with her left hand.

Cassiopeia is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as seated on a throne with her left leg crossed over her left, with her left arm raised.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum,* depicts "Cassiopeia" as a female seated on a throne on a plinth. She has drapery around her that leaves her breasts bare. She is holding a strip of drapery from her headdress over her head in her left hand and a frond or feather in her right hand.

Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) depicts Andromeda seated on a gold throne wearing purple robes: She has both hands raised above her head.

The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678 by English uranographer James Clerk depicts "Cassiopeia" as a female wearing a crown seated on a throne holding a streaming cloth aloft in her left hand with her right hand raised to head height.

English uranographer John Seller's *A coelestiall planisphere* (1678) depicts "Cassiopeia" as a female seated on a throne with her arms raised.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this “Cassiopee” and “Cassiopeia” and depicts her as a female crowned with a diadem seated on a throne. She is holding up a frond in her right hand and is holding up the shoulder strap of her garment in her left hand.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley’s pirated catalogue of Flamsteed’s observations of 1712, depicts Cassiopeia as a female seated on a throne with her arms raised and a frond in her left hand.

Cassiopeia is listed in English astronomer John Flamsteed’s *Atlas Coelestis* in 1729: She is depicted sitting on a throne, holding her tresses in her right hand and holding a frond aloft in her left hand.

The *Atlas Coelestis* of German astronomer Johann Gabriel Doppelmayr (1742) depicts “Cassiopeia” as a woman seated on a through holding aloft a feather in her left hand and a piece of cloth in her right hand.

German engraver and cartographer Tobias Conrad Lotter’s *Planisphaerium Coeleste* (1750) depicts Cassiopeia as a female seated on a throne with her arms raised above her shoulders.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Cassiopeia as a female seated on a throne. He is wearing calf length robes and a conical hat. She is holding aloft a feather or frond in her left hand and is holding her right hand over her head as if she is about to remove her hat.

French uranographer Gabriel Phillipe de la Hire’s *Planisphere Celeste* (1760) depicts “Cassiopée” as a female seated on a canopied throne with her right hand touching her head and her left hand holding a feather.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts “Cassiopeia” as a seated female holding a feather in her rith hand and holding her left arm in an arc over her head.

Johann Elert Bode‘s *Vorstellung Der Gestirne* (1782) lists this constellation as “Cassiopeja” in the text but “Cassiopiea” on the charts. It depicts her as a female seated on a chair with her arms raised to form the “W” of this constellation.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as “Cassiopea” in his *Della Specola Astronomica De’ Regj Studj Di Palermo* (1792).

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts “Cassiopée” on a northern sky chart as standing beside a throne as if she has just stood up and is turning away from us to our right: She is holding a frond of some sort in her right hand. In the same atlas in a close-up chart she is depicted as seated on a throne holding both arms aloft as if flexing her biceps and is holding a piece of cloth in her right hand and her braids in her left hand: She is wearing a robe which exposes her left breast. In the 1778 edition she is depicted seated on a throne wearing a robe which exposes her left breast. She has both arms raised, her right hand holding her tresses.

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts

"Cassiopeia" as a female seated on a throne, naked from the waist up, holding some drapery over her head with her left hand and a feather aloft in her right hand.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts "Cassiopeia" as a seated woman with her left arm over her head and her right hand holding aloft a feather.

"Cassiopeia" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) as a robed female sitting on a throne with her left hand over her head and her raised left hand holding a frond.

American uranographer William Croswell (1760 – 1834) depicts Cassiopeia on his *Mercator Map of the Starry Heavens* in 1810 as a woman seated a throne, her breasts exposed, with her right hand touching her head and her left hand holding a feather aloft.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as "Cassiopeia" and depicts her as seated on a throne holding a branch aloft in her left hand.

Scottish astronomer Alexander Jamieson (1782 – 1850) listed Cassiopeia in his Celestial Atlas in 1822. She is depicted as a female seated on a throne wearing a robe which exposes her left breast. She has both arms raised, her right hand holding part of the robe and the left hand looks as if it is holding a brush that she is using to brush her hair. Jameison's *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822) depicts Cassiopeia in a similar manner.

American uranographer Elijah Burritt's *The Constellations for each Month in the Year* (1835) depicts "Cassiopeia" as a woman seated on a throne, with her breasts bared, and her arms raised above her head.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts "Cassiopeia" as a seated female facing to our left gesturing to her left with her left hand.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts "Cassiopeia" as a female seated on a throne holding her arms up to make a "W" shape.

Cassiopeia is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822. She is depicted as seated in a chair, nude except for a drapery that runs over her right shoulder and over her right leg. She is wearing sandals and holding a frond in her raised left hand.

"Cassiopeia" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): She is depicted as a female in a long robe seated on a throne with her arms raised high.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this constellation as "Cassiopeia" and describes it as "a queen seated on her throne".

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) listed "Cassiopeia, The Lady in the Chair" as an official constellation "recognized in the catalogue of the British Association".

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation simply as "Cassiopeia".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Cassiopeia" in his *Star Atlas* (1893).

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Cassiopeia" and does not describe it.

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Cassiopeia" as "the starred Ethiop queen".

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) redesigned the lines of Cassiopeia in his book *The Stars - A New Way to See Them* (1952) by extending one end of the "W" of Cassiopeia by running a line from Epsilon (ε) Cassiopeiae through 48 Cassiopeiae to 50 Cassiopeiae.

Cassiopeia in Cassiopeia:

This telescopic asterism is made up of stars of the IAU constellation Cassiopeia: HD1863, 1825, 1821, Gaia DR3 419538250936734208, and Gaia DR3 41972612980958336. It was posted by "jrazz" on Cloudy Nights in October 2022.

Cassiopeia Salt and Pepper Cluster:

See Salt and Pepper, below.

Cassiopeia's Volcano:

This **telescopic** asterism is made up of stars of the IAU constellation Cassiopeia. It was posted on *Cloudy Nights* by American astronomer "Fiske" in February 2022. The "V" shape of the volcano is defined by HIP 43, HIP 118116, HIP 117775, HIP 117830, HIP 118090, HIP 124, and HIP 418. The "lava flow" is starts at SH 2-169 and SH 2-168 and runs down to WZ Cassiopeiae and HIP 181. The Widow's Web Cluster (NGC 7790) and open cluster NGC 7788 resemble ash clouds on one side of this "volcano".

Cast Away Children:

This Salish asterism "Esʔsḱʷlelt" is the Hyades cluster and the Pleiades cluster in the IAU constellation Taurus (Pete 2023). Each star represents a character:

- Snc̓le ("Coyote") is Alpha (α) Tauri (Aldebaran),
- Theta (θ) 1 and 2 Tauri (Hyadum II and III) are a pair of dancing head lice,
- Badger's wife is Delta (δ) 1 Tauri,
- Badger's children are Delta (δ) 2 and 3 Tauri and Epsilon (ε) Tauri,
- Coyote's favorite child is Gamma (γ) Tauri,
- Coyote's other "cast away" children are the Pleiades cluster.

Castaway Cluster:

This **telescopic** asterism is the open cluster NGC 6520 in the IAU constellation Sagittarius, which was discovered by English astronomer William Herschel in 1785 who listed it as "VII 7". It is GC 4358 in the *General Catalogue* of 1864. This is also known as the Dead Man's Chest (see below) and the Cosmic Dandelion (see Dandelion, below).

Castle of Arianrhod:

This Welsh asterism "Caer Arianrhod" is the IAU constellation Corona Borealis and is also known as the Castle of the Silver Circle. R. H. Allen lists this in his *Star Names* in 1899. Victorian folklorist Marie Trevelyan (1852 – 1922) listed it as the "Circle of Arianrhod" and "Caer Arianrhod" in her *Folk-lore and Folk-stories of Wales* (1909). Lady Charlotte Guest (1812 – 1895) also lists Caer Arianrod as a name for this constellation in her translation of the *Mabinogion*.

Castle of Gwydion:

This Welsh asterism is made up of the stars of the IAU constellation Draco (Freer 2004). NOTE: Trevelyan, Marie. *Folk-Lore and Folk-Stories of Wales* (1909) lists "Caer Gwydion" and "Gwydion's Circle" names for the Milky Way.

Castle of the Silver Circle:

See Castle Arianrhod, above.

Castle with Rampart:

This Korean asterism "Seongbyeog-i Issneun Seong" (성벽이 있는 성) is a hexagon of stars in the IAU constellation Capricornus: Iota (ι), Theta (θ), Eta (η), Chi (χ), Phi (ϕ), and 29 Capricorni.

Castor:

This Greek and Roman star is the sextuple star system Alpha (α) Geminorum in the IAU constellation Gemini. Castor is one of the twin sons of Zeus and Leda in Greek and Roman mythology:

- Dante Alighieri (1265 – 1321) and the Italians call it "Castore".
- Pliny the Elder (23 – 79 C.E.) called it "Castores" in his *Naturalis Historia*.
- *Dele Stelle Fisse* ("Of the Fixed Stars") by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists "Castore".
- Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) labels this "Castor al Apollo".
- The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) lists this star as Castor.
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Castor".
- Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this star as "Castore" in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).
- The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) lists "Castor" for this star.
- The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer lists "Castor".
- American uranographer William Croswell (1760 – 1834) lists "Castor" on his *Mercator Map of the Starry Heavens* in 1810.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists "Castor" in his *Celestial Atlas* in 1822.
- Admiral William Henry Smyth's *Prolegomena* of 1844 lists "Castor".

- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich lists this star as "Castor".
- *An Improved Moveable Planisphere* (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, lists this star as "Castor".
- This is listed as "Castor" in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on Jamieson's *Celestial Atlas*.
- English astronomers Crossley, Gledhill, and Wilson list "Castor" in *A Handbook of Double Stars with a Catalogue of Twelve Hundred Double Stars and Extensive Lists of Measures* (1879).
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as "Castor".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Castor".
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as "Castor".
- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Castor".
- *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Castor".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list "Castor" for this star.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists "Castor" for this star.
- "Lelum" is the Lithuanian name for Alpha (α) Geminorum (Castor) in the IAU constellation Gemini.
- The IAU Working Group on Star Names chose Castor as the name for the star Alpha (α) Geminorum Aa.

Cat:

This Greek lunar mansion is listed in the *Magical Papyrus 121*, preserved in the British Museum, and dated to the 3rd century C.E. (Mosenkis, date n/k). Mosenkis describes this as "a Greek interpretation of the Sumerian AL.LUL": This would make it stars in the IAU constellation Cancer.

This Egyptian asterism is one of the paranatellonta of the second decan of Aries as listed in the *Sphaera Barbarica* described by Teucros (Mosenkis, date n/k). Mosenkis describes this as "Perseus' sickle, or less Auriga, a half of Triangulum".

A sitting cat appears alongside the Greek asterism Ram (see below) on the Daressy Zodiac of the Roman Imperial Period.

In 1870 English astronomer Richard A. Proctor proposed naming IAU constellation Canis Minor "Felis" ("the cat") and Canis Major "the dog" as he thought that these abbreviated titles would take up less space on celestial charts. In *A New Star Atlas* (1887) Proctor drops this idea and lists Canis Minor as an official constellation "recognized in the catalogue of the British Association".

Another "cat" asterism was "Felis", created by French astronomer Jérôme Lalande in 1799, who wrote: "I am very fond of cats. I will let this figure scratch on the chart. The starry sky has worried me quite enough in my life, so that now I can have my joke with it." Variations of the name include "Faelis". This asterism was made up of stars between the IAU constellations Antlia and Hydra. It first appeared in German astronomer Johann Ehlert Bode's *Uranographia sive Astronum Descriptio* in 1801, in Bode's Die

Gestirne as “Katze”, in Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) as “Katze” and Lalande’s *Bibliographie Astronomique* in 1805 and on Secchi’s planisphere in 1878 as “Gatto”. Scottish uranographer Alexander Jamieson (1782 – 1850) listed Felis in his *Celestial Atlas* in 1822. Felis is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852: The author is unknown, but it is based on Jamieson’s *Celestial Atlas*. The central star of Felis is Mu (μ) Hydrae:

- The cat’s “head” is four 8th to 9th magnitude stars including HIP 51060,
- The “body” is a rough oval of 9th magnitude stars on the opposite side of Mu (μ) Hydrae plus the star HIP 51185, and
- From HIP 51185 a “tail” runs out through HIP 51148 and three other 8th to 9th magnitude stars.

This IAU star “Felis” is the star HIP 48615 (HD 85951) in the IAU constellation Hydra. The IAU approved the name “Felis” for HIP 48615 as it was once in the now obsolete constellation Felis (see above).

This **telescopic** asterism is in the IAU constellations Cassiopeia and is Ennis 31 on the observing list of Canadian astronomer Charles Ennis. The “head” is the triangle of stars HIP 11067, 10743, and 10681. The “neck” is the stars HIP 10629 and HD 13560. The “front leg” is HIP 10780 and 10893. The “back leg” is HIP 9765, the double star HIP 9720A, 53 Cassiopeiae, and HIP 9635. The cat’s curving “back” is HIP 10388, 9997, 9690, and 52 Cassiopeiae. The cat’s “tail” is the line between the double stars HIP 9312 and HIP 8626. Size 150’ X 80”. NOTE: John Raymond lists 52 and 53 Cassiopeiae as his asterism “52-53 CAS” and Jeffrey Corder lists these two stars as Corder 317.

Cat Scratch:

This **telescopic** asterism NGC 5907 is a spiral galaxy in the IAU constellation Draco. It is viewed edge-on with a spiraling tidal stream of stars. It was discovered in 1788 by English astronomer William Herschel who listed it as “II 759”. John Herschel listed it as h 1917 and it became GC 4087 in his *General Catalogue* of 1864. NOTE: Lord Rosse thought he was looking at two objects separated by the dust lane, and created the name NGC 5907, but this was later discovered not to be a separate object. It is GC 4086 in the *General Catalogue* of 1864. NGC 5906 (GC 4086) now refers to the fainter part of the galaxy west of the dust lane, which was recorded by George Johnstone Stoney in 1850. It is also known as the Splinter Galaxy (see below), the Enveloped of Draco (see below) and the Knife Edge Galaxy (see above).

Cat Stars:

This Celtic (Gaulish) asterism “Catosđirai” is the Hyades cluster in the IAU constellation Taurus (Boutet 2017). It was also known as “Cat Palug” (“defective cat”) or “Cattos Pallucos” (“customary cat”).

Catalpa Brightness:

This Chinese Chenzhuo xing guan “Ziming” is the star Lambda (λ) Draconis in the IAU constellation Draco. It is part of their xing guan Purple Forbidden West Wall.

Caterpillar Jaguar:

This Barasana asterism “Iya Yai” is the IAU constellation Scorpius. Hugh-Jones (2006) writes that some Barasana add “parts of Lupus and Libra… as feet”. It is described by some as a jaguar with a snake for a tail. Caterpillar Jaguar is also known as “Anya Haku” (see Father of All Snakes, below).

Caterpillar Nebula:

This **telescopic** asterism is the dark nebula Barnard 168 (LDN 1055) in the IAU constellation Cygnus. Size 100'X 20'. René Merting describes it on the *Faint Fuzzies* website: "The dark nebula starts faintly in the west and then pulls east as a dark well-defined tube… south of the nebula a prominent star chain pulls from SW to NE and ends near Cr 470." NOTE: This is next to IC 5146, the Cocoon Nebula (see below). It is Lorenzin 12 on Tom Lorenzin's list and listed in Gary Seronik's *Binocular Highlights* and in Steve Coe's *Best of Barnard's Dark Nebulae*. It is also known as the Asphalt Path (see above), and the Dark Cigar (see below).

Catherine:

This German asterism "Catherine" or "Saint Catherine" is the IAU constellation Aquila and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures. This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "S. Catharina Al Aquila cum Antinous". Edward Sherburne lists it as "Saint Katherine" in his Sphere of Marcus Manilius in 1675 and John Hill lists it in his *Urania* in 1754 as "Katherine".

Cat's Cradle of the Children:

This Hawaiian asterism "Ka Hei-Hei o Na Keiki" is the seven brightest stars of the IAU constellation Orion: It is a new Hawaiian name as any original name has been lost. It was also known as "Ku'uku'u" ("spider") or "Po" ("night").

Cat's Eye:

There are three **telescopic** "Cat's Eye" asterisms:

- One is the planetary nebula NGC 6543 (Caldwell 6) in the IAU constellation Draco. It was discovered by English astronomer William Herschel in 1786 who listed it as IV 37". It is GC 4373 in the *General Catalogue* of 1864. English amateur astronomer William Huggins (1824 – 1910) made the first spectroscopic investigation of a planetary nebula on this nebula. It is also known as the Sunflower Nebula or the Snail Nebula. Size 0.3' X 0.3.
- One is the planetary nebula NGC 3242 (Caldwell 59) in the IAU constellation Hydra. It was discovered in 1785 by English astronomer William Herschel who listed it as "IV 27". John Herschel included it in his catalogue as h 3248 and later as GC 2102 in his *General Catalogue* of 1864. American astronomer Tom Lorenzin gave it this name. It is also known as the Ghost of Jupiter due to its similar size and appearance to the planet when viewed in a telescope eyepiece. It is also known as the Eye Nebula.
- One is Messier 94 (NGC 4736) is a spiral galaxy in the IAU constellation Canes Venatici. It was discovered by French astronomer Pierre Méchain in 1781. It is listed in the 1864 General Catalogue as GC 3258 and in John Herschel's catalogue as h 1456. It is also known as the Croc's Eye Galaxy.

Cat's Eyes:

This asterism is the stars Lambda (λ) and Upsilon (υ) Scorpii in the IAU constellation Scorpius. It was given this name by American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941). Rey lists it his book *The Stars - A New Way to See Them* (1952).

Cat's Head:

This Egyptian asterism is one of the paranatellonta of the first decan of Aries as listed in the *Sphaera Barbarica* described by Teucros (Mosenkis, date n/k). Mosenkis describes this as "Perseus or less Arcturus". Arcturus is in Boötes in a different part of the sky, so I assume that it is made up of stars of the IAU constellation Perseus.

Cat's Paw Nebula:

This **telescopic** asterism is emission nebula NGC 6334 in the IAU constellation Scorpius. It was discovered in 1837 by English astronomer John Herschel who listed it as h 3678 and later as GC 4288 in his *General Catalogue* of 1864.

Cat's Paw of Lynx:

This **telescopic** asterism "Aelúropus Lýncis" is the peculiar ring galaxy NGC 2445 (Arp 143) in the IAU constellation Lynx which is interacting with NGC 2444 (GC 5392). It was discovered by Édouard Stephan in 1877 and later became GC 5393 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as it "looks as if it is physically touching the cat's paw at the northern edge". It is also known as the "Genie in a Bottle".

Cattle Corral:

The stars of this Mapuche asterism are unidentified at present.

Cattle Fires:

This Dinka asterism is the IAU constellation Canis Major: The Dinka believed them to be cattle fires of people who tended livestock on the plains.

Cattle Herd:

This Maasai asterism is the Pleiades cluster in the IAU constellation Taurus.

Cattle Master:

The Uppsala Archaeoastronomical Project proposed the IAU constellation Orion for this Minoan asterism. This asterism was passed on to me by Dana Corby of Ariadne's Tribe in Tacoma, Washington in November 2023.

Cattle of Athamantos Helles:

This Latin asterism "Pecus Athamantidos Helles" is the IAU constellation Aries.

Cattle Pen:

This Babylonian asterism "É.TÙR" or "tarbasu" is listed in Anthony Hope's *A Guide to Ancient Near Eastern Astronomy* in 1996 but the stars have not been identified.

Cattle Thief:

This Zulu star "iNtshola" is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga (Slotegraaf 2013).

Cattleman:

This Arabic star "al-Baqqār" (البقار) is Beta (β) Boötis in the IAU constellation Boötes:

- This was later latinized to "Nekkar" or "Nakkar".
- John Hill gives the name "Neckar" in his *Urania* in 1754.
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Nikkar, a corruption from al bakkár, the herdsman" as well as "Nekkar,… from al-nakkár, the digger" and attributes this to the Egyptian astronomer Ibn Yunis (Abū ibn 'Abd al-Rahmān ibn Ahmad ibn Yūnus al-Safafī, 950 – 1009).
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Nekkar".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list this star as "Nekkar".
- The IAU approved the name Nekkar for Beta (β) Boötis.

Cauldron of Cerridwen:

This Welsh asterism listed by Victorian folklorist Marie Trevelyan (1852 – 1922) in her *Folk-lore and Folk-stories of Wales* (1909) is currently unidentified.

Cauliflower:

This **telescopic** asterism "three-lobe nebula" is the HII region and open cluster Messier 20 (NGC 6514) in the IAU constellation Sagittarius. It was listed by French astronomer Charles Messier in 1764, but American astronomer Sherburne Wesley Burnham (1838 – 1921) noted in *Burnham's Celestial Handbook* that it was "probably first seen by Le Gentil in 1747": This would be French astronomer Guillaume Le Gentil (1725 – 1792). It is listed in the General Catalogue of 1864 as GC 4355 and John Herschel listed it elsewhere as h 1991 and 3718. South African astronomer Richard Ford (2010) describes this as having a "cauliflower shape". This is more commonly known as the Trifid Nebula (see below).

Cautel:

This asterism is Ptolemy's asterism Argo's Ship (see Argo's Ship, above) as listed by Dutch uranographer Hugo Grotius (1583 – 1645), who admitted "Hoc quid sit nescio" ("I don't know what this is"). Cautel is an obsolete term, meaning deceit or trickery, which doesn't seem to fit here.

Cavalier:

This German star is 80 Ursae Majoris in the IAU constellation Ursa Major as listed by German astronomer Johann Bayer (1572-1625) and by R. H. Allen in his *Star Names* in 1899.

Cavalier's Hat:

This **telescopic** asterism is in the IAU constellation Pegasus and is Ennis 84 on the observing list of Canadian astronomer Charles Ennis. Size 45' X 10'. The "brim" starts at SAO 90170 and runs through HIP 108679, HIP 108618, and HIP 108548 to HD 208799. The top of the hat is a curve from HIP 108618, through SAO 90161 and Gaia DR3 1782689780376695552 to HIP 108548. A "feather" in the hat is formed by the triangle of stars SAO 90161, Gaia DR3 1782645486378315648 and Gaia DR3 1782632120440092416. This asterism includes stars of Corder 4555.

Cavalry of Emperor:

This large Korean asterism “Hwangje-ui Gibyeong” (황제의 기병) is made up of stars of the IAU constellations Centaurus, Circinus, Lupus, and Crux:

- The central feature is a pentagon of the stars Gamma (γ), Epsilon (ε), Upsilon (υ) 1 and 2, Mu (μ), Iota (ι), and Eta (η) Centauri,
- From Gamma (γ) Centauri a line runs off through Sigma (σ), and Delta (δ) Centauri to the IAU constellation Crux, which forms the end of the line,
- From Epsilon (ε) Centauri a line runs to Nu (ν) Centauri, where it splits:
- One line runs to HIP 70264A where it splits to Mu (μ) 1 Crucis in one direction and Beta (β) Circini in the opposite direction, and
- One line runs down through Zeta (ζ) and Kappa (κ) 1 Lupi to Mu (μ) Lupi.

Cave Nebula:

There are two **telescopic** “cave” asterisms:

- One is the HII region SH 2-155 (C 9, LBN 529) in the IAU constellation Cepheus. This cloud has a rectangular dark spot on one side resembling a cave. This name was coined by English astronomy educator Patrick Moore (1923 – 2012), who included it in his *Caldwell Catalogue* as Caldwell 9.
- This is also an alternative name for the Wolf’s Cave Nebula (see below).

Cave of Chickens:

This Raivavae asterism “Anamoa” is the Pleiades cluster in the IAU constellation Taurus (Edwards 2015).

Cavern of the Flounder:

This Māori asterism “Te Rua-Patiki” is the Coal Sack Nebula (see Coal Sack Nebula below).

Caverns of Mist:

This Polynesian asterism from the Tuamotu archipelago is the dust lanes of the Milky Way near the galactic bulge near the IAU constellation Scorpius.

Cayrel’s Star:

This **telescopic** star is an ultra-metal-poor halo star BD-16 251 in the IAU constellation Cetus (magnitude 11.6). It is named after French astronomer Roger Cayrel (1925 – 2021).

Cebalrai:

See Shepherd’s Dog, below.

Cecrops:

This Greek asterism “Cecrops” is the IAU constellation Aquarius:

- Johann Bayer’s *Uranometria* (1603) lists “Cecrops” for Aquarius.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Cecrops”.
- “Cecrops” is listed by John Hill in his *Urania* in 1754. Hill translates this as “urn”, but Cecrops I and II are rulers of Athens in Greek mythology who are both related in myths regarding the God of the Sea, Poseidon.

Cedron:

This asterism is the IAU constellation Eridanus as listed in Edward Sherburne's *Sphere of Marcus Manilius* in 1675, in John Hill's *Urania* in 1754, and as listed by German astronomer Wilhelm Schickard (1592 – 1635). Cedron is a stream David crossed and is mentioned in 2 Samuel 15:23.

Ceginus:

Ceginus is the star Phi (ϕ) Boötis in the IAU constellation Boötes:

- A celestial globe (1522) of German polymath Johann Schöner (1477 – 1547) lists this star as "Cegnius"
- German astronomer Johann Bayer (1572-1625) listed it as "Thegius" but also gives this as an alternate name for the constellation and elsewhere lists "Ceginus" as a name for Gamma (γ) Boötis.
- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) lists "Arabice Theguius".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Thegius".
- R.H. Allen lists "Ceginus", "Seginus", "Chegninus", and "Cheguius" as former names of the constellation Boötes in his *Star Names* in 1899.
- Other variations include "Chegnius", "Chegninus", and "Cheguinus". These names are believed to be Latin mistranslations of an Arabic rendering of the name of the constellation Boötes in Ptolemy's *Almagest* (2nd century). Compare this to Seginus, below, which is the name for the star Gamma (γ) Boötis. NOTE: Ceginus, Chegnius, Chegninus, and Cheguinus have been used by some, including Johann Bayer for the IAU constellation Cepheus.

Ceibo:

This **telescopic** Uruguayan star "Ceibo" is HIP 37284 (HD 63454) in the IAU constellation Chamaeleon (magnitude 9.36). It was given this name in the IAU NameExoWorlds campaign. The Ceibo is a tree native to Uruguay. It has an exoplanet named Ibirapitá: This is a tree, also known as the Artigas tree, named for a national hero.

Celaeno:

See Dark One, below.

Celebration Gate:

This Chinese Chenzhuo xing guan "Qingmen" is the star Iota (ι) Draconis in the IAU constellation Draco. It is part of their xing guan Purple Forbidden East Wall.

Celebration of Sky:

This Korean asterism "Haneul-ui Chugha" (하늘의 축하) is a line of stars with another line "crossing the T" at the end in the IAU constellation Taurus:

- The line of stars starts at HIP 21670 and runs through 88, 90, and 79 Tauri, ending at 73 Tauri. Two lines branch off from 73 Tauri to form the "T":
- One to Rho (ρ) Tauri, and
- One to 57 Tauri.

Celeris:

This Latin asterism is the IAU constellation Equuleus. Celeris was the brother of the winged horse Pegasus, given by the God Mercury to Castor.

Celestial Arsenal:

There are two Chinese Chenzhuo xing guans named “Tianku” (天库):

- One is the star HIP 69038 in the IAU constellation Boötes. It represents generals and military affairs.
- One is the star Alpha (α) Aurigae (Capella) in the IAU constellation Auriga. It is part of their xing guan Five Chariots.

Celestial Balance:

This Chinese star “Tianquan” from the Three Kingdoms to the Ming Dynasty is Delta (δ) Ursae Majoris in the IAU constellation Ursa Major.

This Chinese Chenzhuo xing guan “Tianquan” is the star Delta (δ) Ursae Majoris in the IAU constellation Ursa Major. It is part of their xing guan Northern Dipper.

Celestial Barn:

This Chinese Chenzhuo xing guan “Tiancang” is the star Theta (θ) Aurigae in the IAU constellation Auriga. It is part of their xing guan Five Chariots.

Celestial Beam:

This Chinese star “Tianliang” is Tau (τ) Sagittarii in the IAU constellation Sagittarius and is part of their xiù (lunar mansion) “Dǒuxiù” (斗宿) – see Dipper, below.

Celestial Bed:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is two intersecting bent lines of three stars in the IAU constellation Draco:

- The first bent line starts at HIP 72664, runs to a bend at HIP 71876A and ends at HIP 68184.
- The second bent line starts at HIP 73507, runs to a bend at HIP 71040, and ends at the determinative star, HIP 70952.

This Chinese xing guan “Tiānchuáng” (天床) is made up of stars in the IAU constellation Ursa Minor: 6 Ursae Minoris and HIP 69373, 74605, 73199, 77277 and 79414.

This Chinese Chenzhuo xing guan “Tiānchuáng” is a zig-zagging line of stars in the IAU constellation Draco and Ursa Major: Starting at HIP 71111 it runs through HIP 71040, HIP 65728,10 Draconis, HIP 62402, and 8 Draconis to 9 Draconis.

Celestial Boat:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a curving line of star in the IAU constellation Perseus: One end starts at Lambda (λ) Persei and runs through b Persei, Mu (μ) Persei, 48 Persei, Delta (δ) Persei, Psi (ψ) Persei, Alpha (α) Persei (Mirfak – determinative star), and Gamma (γ) Persei, ending at Eta (η) Persei.

This Chinese xing guan “Tiānchuán” (天船) is a curving line of stars in the IAU constellation Perseus: HIP 19949 and 20156, Mu (μ) Persei, 48 Persei, Delta (δ) Persei, Psi (ψ) Persei, Alpha (α) Persei (Mirfak), Gamma (γ) Persei, and Eta (η) Persei. They call the star Lambda (λ) Persei inside of this curve “Stored Water”.

This Chinese Chenzhuo xing guan “Tiānchuán” is a curved line of stars in the IAU constellation Perseus: Starting at HIP 19949 it runs through HIP 20070, Mu (μ) Persei, 48 Persei, Delta (δ) Persei, Psi (ψ) Persei, Alpha (α) Persei (Mirfak), and Gamma (γ) Persei to HIP 14382.

Celestial Cereals:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a pentagon of stars in the IAU constellation Vela: Gamma (γ) Velorum, w Velorum, e Velorum, b Velorum, and c Velorum (determinative star).

This Chinese Chenzhuo xing guan is a kite shaped asterism made up of the stars of the IAU constellations Carina and Vela. Four stars form a “diamond” or “kite” shape: Delta (δ) Velorum, Kappa (κ) Velorum, HIP 46701, and Iota (ι) Carinae. From Delta (δ) Velorum a line runs out to Omicron (ο) Velorum to form a “tail”.

Celestial Cock:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of two stars in the IAU constellation Sagittarius: 57 and 55 Sagittarii (the latter being the determinative star).

This Chinese xing guan “Tiānjī” (天鸡) is a line of two stars in the IAU constellation Sagittarius: 55 and 56 Sagitarii.

This Chinese Chenzhuo xing guan “Tiānjī” is a line of two stars in the IAU constellation Sagittarius: 61 and 55 Sagittarii.

Celestial Collaborators:

This Chinese star “ Tiantong” is Phi (φ) Sagittarii in the IAU constellation Sagittarius and is part of their xiù (lunar mansion) “Dǒuxiù” (斗宿) – see Dipper, below.

Celestial Comma:

This **telescopic** asterism is NGC 4038 and NGC 4039 (Caldwell 60/61), a pair of colliding galaxies in the IAU constellation Corvus. These galaxies were discovered by English astronomer William Herschel in 1785 who listed them as “IV 28.1” and “IV 28.2”. They are GC 2670 and GC 2671 in the *General Catalogue* of 1864. It was given this name by American astronomer Tom Lorenzin in his *1000+ The Amateur Astronomer’s Field Guide to Deep Sky Observing*. This is also known as the Antennae Galaxies (see above), the Ring Tail Galaxy (see below), the Snorter (see below), the “Little Shrimp”, the “Doughnut with a Bite Taken Out of It” (see below) and the Mosquito Larvae (see below). It is Arp 244 in Arp’s *Atlas of Peculiar Galaxies*. American astronomer Steve Coe (1949 – 2018) also used this name.

Celestial Conclave:

This Chinese xing guan “Tiān'ē” (天阿) is the star 62 Arietis in the IAU constellation Aries. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Tiān'ē” is the star HIP 20842 in the IAU constellation Taurus.

Celestial Discipline:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a bending line of stars in the IAU constellations Corona Borealis and Hercules: The line starts at the star f Herculis and runs through Theta (θ) Herculis, HIP 85382, 72 Herculis, 59 Herculis, Epsilon (ε) Herculis, Zeta (ζ) Herculis, and Nu (ν) 1 and 2 Coronae Borealis, ending at the determinative star, Xi (ξ) Coronae Borealis. Kemp et al (2022) describe this as a "prison".

This Chinese xing guan "Tiānjì" (天纪) is a "W" shaped group of stars in the IAU constellations Corona Borealis and Hercules: Theta (θ), Epsilon (ε), Zeta (ζ), and 61 Herculis, and Xi (ξ) Coronae Borealis and HIP 86178.

This Chinese Chenzhuo xing guan "Tiānjì" is a zig-zagging line of stars in the IAU constellations Corona Borealis, Hercules, and Lyra: Starting at Xi (ξ) Coronae Borealis it runs through Nu (ν) 1 & 2 Coronae Borealis, Zeta (ζ) Herculis, Epsilon (ε) Herculis, 59 Herculis, 68 Herculis, Theta (θ) Herculis, and Kappa (κ) Lyrae to Mu (μ) Lyrae.

Celestial Dog:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a curving line of stars with a "fork" at one end in the IAU constellations Monoceros and Puppis:

- The curving line stars at KQ Puppis (next to Messier 47) and runs through 140 Puppis (the determinative star), 4 Puppis, and 5 Puppis, ending at Alpha (α) Monocerotis.
- From Alpha (α) Monocerotis two lines run out:
    - One to the star HIP 37394,and
    - One to the star HIP 36640.

This Chinese xing guan "Tiāngǒu" (天狗) is a bent line of stars in the IAU constellations Pyxis and Vela: Delta (δ), Gamma (γ), Alpha (α), and Beta (β) Pyxidis, and HIP 43603, 43325, 42884, and 42312.

This Chinese Chenzhuo xing guan "Tiāngǒu" is made up of stars of the IAU constellation Monoceros: From 27 Monocerotis, three lines run out:

- One runs to Zeta (ζ) Monocerotis,
- One runs to 28 Monocerotis, and
- One runs through HIP 38474, HIP 37901, and 25 Monocerotis to HIP 36388.

Celestial Drumstick:

This Chinese xing guan "Tiānfú" (天桴) is a line of stars in the IAU constellation Aquila: 58, 62, Eta (η), and Theta (θ) Aquilae. It is close to their xing guan "Drum at the River" (see below).

This Chinese Chenzhuo xing guan Tianfu (天桴) is a bent line of three stars in the IAU constellation Aquila: HIP 100541, Tau (τ) Aquilae, and Phi (φ) Aquilae. The Celestial Drumstick was originally located near the Drum at the River which coincided with its astrological meaning. Over time, it was gradually moved downward, and its connection with Drum at the River gradually weakened.

Celestial Earth God's Temple:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a bending line of stars in the IAU constellation Puppis: One end starts at c Puppis and runs through n Puppis, E Puppis, D Puppis, and x Puppis, ending at v Puppis (the determinative star).

This Chinese xing guan “Tiānshè” (天社) is a bent line of stars in the IAU constellation Vela: The line of stars starts at Gamma (γ) Velorum and runs through b, Delta (δ), and Kappa (κ) Velorum ending at N Velorum.

This Chinese Chenzhuo xing guan “Tiānshè” is made up of stars of the IAU constellation Puppis. Two stars form a central line: HIP 37752 and HIP 38455.

- From HIP 37752 two lines go out to Pi (π) Puppis and HIP 37096, and
- From HIP 38455 two lines go out to Zeta (ζ) Puppis and HIP 38414

Celestial Emperor:

This Chinese star was a pole star listed during the Shang Dynasty (1600 – 1027 B.C.E.). Alpha (α) Ursae Minoris (Polaris) was NOT the pole star at that time (due to precession). Possible stars proposed for this pole star include i Draconis, 42 Draconis, or 184 Draconis, or Beta (β) Ursae Minoris (Kochab), but it is possible that this was something carried over from as early as 3000 B.C.E., so it is difficult to pin down the exact star.

Celestial Farmland (in Horn Mansion):

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of two stars in the IAU constellation Virgo: 84 Virginis and Omicron (o) Virginis (the determinative star).

This Chinese xing guan “Tiāntián” (天田) is a line of two stars in the IAU constellation Virgo: Tau (τ) and Omicron (o) Virginis.

This Chinese Chenzhuo xing guan is a line of two stars in the IAU constellations Virgo: 84 Virginis and Omicron (o) Virginis.

Celestial Farmland (in Ox Mansion):

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of three stars in the IAU constellation Capricorn, each of which has two lines of stars running off from it in opposite directions:

- The line of three stars is HIP 102094, 101384, and 4 Capricorni (the determinative star).
- From HIP 102094 two lines run out:
    - One to the star HIP 101997, and
    - One to the star HIP 103092
- From HIP 101384 two lines run out:
    - One to the star HIP 101090, and
    - One to the star HIP 100738.
- From the star 4 Capricorni, two lines run out:
    - One to the star Sigma (σ) Capricorni, and
    - One to the star HIP 99825.

This Chinese xing guan “Tiāntián” (天田) is a quadrilateral of stars in the IAU constellations Piscis Austrinus and Capricornus: 24, Psi (ψ), and Omega (ω) Capricorni and 3 Piscis Austrini.

This Chinese Chenzhuo xing guan “Tiāntián” is a lattice of stars in the IAU constellations Capricornus, Microscopium, and Sagittarius: The centre line is the stars HIP 102094, HIP 101384, and 4 Capricorni. From HIP 102094 lines run out to HIP 101997 and HIP 102092. From HIP 101384 lines run out to HIP 100738 and 101090. From 4 Capricorni lines run out to Sigma (σ) Capricorni and HIP 99825.

Celestial Flail:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of three stars in the IAU constellation Capricorn, each of which has two lines of stars running off from it in opposite directions:

- The line of three stars is HIP 102094, 101384, and 4 Capricorni (the determinative star).
- From HIP 102094 two lines run out:
    - One to the star HIP 101997, and
    - One to the star HIP 103092
- From HIP 101384 two lines run out:
    - One to the star HIP 101090, and
    - One to the star HIP 100738.
- From the star 4 Capricorni, two lines run out:
    - One to the star Sigma (σ) Capricorni, and
    - One to the star HIP 99825.

This Chinese Chenzhuo xing guan “Tiānbàng” is a bent line of five stars in the IAU constellations Draco and Hercules: Iota (ι) Herculis, Gamma (γ) Herculis, Beta (β) Herculis (Kornephoros), Nu (ν) 1 Draconis, and Xi (ξ) Draconis.

This Chinese xing guan “Tiānbàng” (天棓) is made up of stars of the IAU constellations Draco and Hercules:

- The “handle” is a line running between Gamma (γ) Draconis and 85 Herculis.
- A curve of stars forming the “flail” runs from Gamma (γ) Draconis to Beta (β) Draconis (Rastaban), 25 Draconis, and Xi (ξ) Draconis.

This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

Celestial Foodstuff:

This Chinese xing guan “Tiānlǐn” (天廩) is a line of four stars in the IAU constellation Taurus: 5, 4, Xi (ξ), and Omicron (ο) Tauri. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Tiānlǐn” is a line of four stars in the IAU constellation Taurus: Omicron (ο) Tauri, Xi (ξ) Tauri, 4 Tauri, and 5 Tauri.

Celestial Ford:

This Chinese xing guan “Tiānjīn” (天津) is an oval of stars at one end of the IAU constellation Cygnus:

- One side starts at Delta (δ) Cygni (the determinative star) and runs down through Omicron (ο) 1 and 2 Cygni, Alpha (α) Cygni (Deneb), Nu (ν) Cygni, Tau (τ) Cygni, and Upsilon (υ) Cygni, ending at Zeta (ζ) Cygni, and
- The other side runs from Zeta (ζ) Cygni through Epsilon (ε) and Gamma (γ) Cygni back to Delta (δ) Cygni.

This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Tiānjīn Zēng” is an oval of stars in the IAU constellation Cygnus: From Delta (δ) Cygni it runs around through Gamma (γ) Cygni, Epsilon (ε) Cygni, Zeta (ζ) Cygni, Upsilon (υ) Cygni, Tau (τ) Cygni, Nu (ν) Cygni, Alpha (α) Cygni (Deneb), and Omicron (ο) 1 & 2 Cygni.

Celestial Gate:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of two stars in the IAU constellation Virgo: 73 Virginis and 61 Virginis (the determinative star).

This Chinese star Tiānguān (天關) is Zeta (ζ) Tauri in the IAU constellation Tauri. The IAU approved the name Tianguan for the star Zeta (ζ) Tauri A.

This Chinese xing guan "Tiānmén" (天門) is a line of two stars in the IAU constellation Virgo: 53 and 69 Virginis.

Celestial Great One:

This Chinese xing guan "Tiānyǐ" (太乙) is the star 10 Draconis in the IAU constellation Draco. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore. NOTE. The IAU approved the name Tianyi for the star 7 Draconis and Taiyi for the star 8 Draconis.

This Chinese Chenzhuo xing guan "Tiānyǐ" is the star Kappa (κ) Draconis in the IAU constellation Draco. It is part of their xing guan Purple Forbidden West Wall.

Celestial High Terrace:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a quadrilateral of stars in the IAU constellation Taurus: 97 Tauri (the determinative star), HIP 22176, 96 Tauri and HIP 23043.

There are two Chinese xing guans called ""Tiāngāo" (天高)" from the Three Kingdoms to the Ming Dynasty:

- One is the star Alpha (α) Tauri (Aldebaran). It is also known as Side General (see below).
- One is a diamond of four stars in the IAU constellation Taurus: Iota (ι), Eta (η), 97, and 107 Tauri.

There are two Chinese Chenzhuo xing guans called "Tiangao" in the IAU constellation Taurus:

- One is the star Alpha (α) Tauri (Aldebaran). It is part of their xing guan "Net".
- One is an angular "box" of the stars Tau (τ) Tauri, HIP 21604, 97 Tauri, and Iota (ι) Tauri.

Celestial Hook:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a curving line of stars in the IAU constellation Cepheus: It stars at the star Gamma (γ) Cephei, 33 Cephei, 31 Cephei, 24 Cephei, 11 Cephei, Beta (β) Cephei (Alderamin, the determinative star), to a bend at HIP 100261, ending at HIP 101134.

This hook-shaped Chinese xing guan "Tiāngōu" (天钩) is made up of stars of the IAU constellation Cepheus: It starts at Omicron (o) Cephei then runs down through HIP 113864, Iota (ι) Cephei, 26 Cephei, Xi (ξ) Cephei, Alpha (α) Cephei (Alderamin), and Eta (η) Cephei and then curves around through Theta (θ) Cephei, HIP 100357, 99731, and 100933, and ends at 4 Cephei.

This Chinese Chenzhuo xing guan "Tiāngōu" is a "hooked" line of stars in the IAU constellations Cepheus and Cygnus: From 63 Cygni it runs through Xi (ξ) Cygni, 68 Cygni, Rho (ρ) Cygni, Pi (π) 2 & 1 Cygni, Mu (μ) Cephei, and Nu (ν) Cephei to HIP 108317.

Celestial Horse:

Four stars forming part of the Chinese xing guan Wang Linag (see below) from the Three Kingdoms to the Ming Dynasty bear the name “Tiansi”:

- Zeta (ζ) Cassiopeiae,
- 18 Cassiopeiae,
- Eta (η) Cassiopeiae, and
- Gamma (γ) Cassiopeiae

Celestial Jellyfish:

See Jellyfish, below.

Celestial Keyhole:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a circle of stars in the IAU constellations Ophiuchus and Sagittarius: 4 Sagittarii (the determinative star), 1 Sagittarii, 70 Sagittarii, HIP 89678, HIP 88839, HIP 88012, HIP 87836, and 63 Ophiuchi.

This Chinese xing guan “Tiānyuè” (天籥) is a circle of stars in the IAU constellation Ophiuchus and Sagittarius: 2 Sagitarii, and 51, 52, 58, and 63 Ophiuchi, and HIP 87099.

This Chinese Chenzhuo xing guan “Tiānyuè” is a circle of stars in the IAU constellations Ophiuchus and Sagittarius: HIP 88839, HIP 89678, 70 Sagittarii, 1 Sagittarii, 4 Sagittarii, 63 Ophiuchi, HIP 87836, and HIP 88012.

Celestial King:

This Chinese star “Tianwang” is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius and is part of their asterism Heart (see below).

This Chinese Chenzhuo xing guan “Tianwang” is the star Alpha (α) Scorpii (Acrab) in the IAU constellation Scorpius. It is also known as “Great Star”.

Celestial Kitchen:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is two bent intersecting lines of three stars in the IAU constellation Draco:

- The first line is the stars HIP 91315, Delta (δ) Draconis (the determinative star), and Rho (ρ) Draconis, and
- The second line is the stars 42 Draconis, 58 Draconis, and Epsilon (ε) Draconis.

This Chinese xing guan “Tiānchú” (天厨) is a curve of stars in the IAU constellation Draco: Delta (δ), Sigma (σ), Epsilon (ε), Rho (ρ), 64, and Eta (η) Draconis.

This Chinese Chenzhuo xing guan “Tiānchú” is made up of stars of the IAU constellation Draco: This is a “box” of the stars Pi (π) Draconis, Rho (ρ) Draconis, Epsilon (ε) Draconis, Tau (τ) Draconis, Upsilon (υ) Draconis, and Delta (δ) Draconis.

Celestial Lance:

This Chinese xing guan “Gěnghé” (梗河) is a line of three stars in the IAU constellation Boötes: Sigma (σ), Rho (ρ), and Epsilon (ε) Boötis (the determinative star). This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Gěnghé” is a line of three stars in the IAU constellation Boötes: Epsilon (ε) Boötis, Sigma (σ) Boötis, and Rho (ρ) Boötis.

Celestial Meadows:

This Chinese xing guan “Tiānyuàn” (天苑) is a curving line of stars in the IAU constellations Cetus and Eridanus: The line starts at the determinative star, Gamma (γ) Eridani and runs through 26 Eridani, Delta (δ) Eridani, Epsilon (ε) Eridani, Zeta (ζ) Eridani, Eta (η) Eridani, 89 Ceti, Tau (τ) 1, 2, 3, 4, 5, 6, 7, and 8 Eridani, ending at Tau (τ) 9 Eridani. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan is a large “U” shaped asterism made up of stars of the IAU constellations Cetus and Eridanus: Starting at HIP 19398 it runs through Gamma (γ) Eridani, Pi (π) Eridani, Delta (δ) Eridani, Epsilon (ε) Eridani, Zeta (ζ) Eridani, Eta (η) Eridani, Pi (π) Ceti, and Tau (τ) 1,2,3,4, 5,6 & 8 and 9 Eridani.

Celestial Milk:

This Chinese xing guan “Tiānrǔ” (天乳) is the star Mu (μ) Serpentis in the IAU constellation Serpens. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Tianru” is the star 110 Virginis in the IAU constellation Virgo.

Celestial Money:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is an oval of stars in the IAU constellation Aquarius: 49 Aquarii, 47 Aquarii (the determinative star), 41 Aquarii, and HIP 109509, 109199, 109375, 109737, 109990, and 110746.

This Chinese xing guan “Tiānqián” (天钱) is a pentagon of stars in the IAU constellation Piscis Austrinus: Theta (θ), Iota (ι), Mu (μ), Tau (τ), and 13 Piscis Austrini.

This Chinese Chenzhuo xing guan “Tiānqián” is a bent oval of stars in the IAU constellation Aquarius. It runs from 69 Aquarii through HIP 112021, HIP 111066, 50 Aquarii, 53 Aquarii, 47 Aquarii, 49 Aquarii, HIP 111515, and 68 Aquarii.

Celestial Official:

This Chinese star “Tianfu” is Zeta (ζ) Sagittarii in the IAU constellation Sagittarius and is part of their xiù (lunar mansion) “Dǒuxiù” (斗宿) – see Dipper, below.

This Chinese Chenzhuo xing guan “Tianfu” is the star Zeta (ζ) Sagittarii in the IAU constellation Sagittarius.

Celestial Orchard:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a bending line of stars in the IAU constellation Eridanus: The line starts at the star Upsilon (υ) 1 Eridani (the determinative star) and runs through Upsilon (υ) 2, 3 and 4 Eridani, f, g, h, Gamma (γ), e, Theta (θ) 1 Eridani, and HIP 12486, ending at s Eridani.

This Chinese xing guan “Tiānyuán” (天园) is a jagged line of stars in the IAU constellations Eridanus and Phoenix. It starts at one end with Upsilon (υ) 1, 2, 3 and 4 Eridani, then runs through g, f, Theta (θ), s, Kappa (κ), Phi (φ), and Chi (χ) Eridani, ending at the star Delta (δ) Phoenicis.

This Chinese Chenzhuo xing guan is a long bending line of stars in the IAU constellation Eridanus: Starting at Nu (ν) 1,2, 3, & 4 Eridani, it runs through HIP 17797, HIP 17874, HIP 17351, Gamma (γ) Eridani, HIP 16310, 82 Eridani, Theta (θ) 1 Eridani, and Iota (ι) Eridani to HIP 12413.

Celestial Pass:

This Chinese xing guan “Tiānguān” (天关) is the star Zeta (ζ) Tauri in the IAU constellation Taurus. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Tianguan” is the star Zeta (ζ) Tauri in the IAU constellation Taurus.

Celestial Pier:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a curved line of stars in the IAU constellation Auriga: 16 Aurigae, 19 Aurigae (the determinative star), Phi (φ) Aurigae, and HIP 25580, ending at HIP 25475.

This Chinese xing guan “Tiānhuáng” (天潢) is made up of stars in the IAU constellation Auriga. The central star is 19 Aurigae. From this, four lines go out to the stars Mu (μ), Sigma (σ), Phi (φ) and 14 Aurigae.

Celestial Pigsty:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is an oval of stars in the IAU constellation Cetus and Pisces: Starting at the determinative star, 20 Ceti, the line runs through 25, 39, and 42 Ceti, f and e Piscium, and HIP 3992.

This Chinese xing guan “Tiānhùn” (天溷) is made up of four stars in the IAU constellation Cetus: Phi (φ) 1 and 3, 21, and 18 Ceti.

This Chinese Chenzhuo xing guan “Tiānhùn” is a loop of stars in the IAU constellations Cetus and Pisces: From 89 Piscium it runs through 80 Piscium, HIP 3765, 20 Ceti, 25 Ceti, 37 Ceti, and 39 Ceti.

Celestial Pillar:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a bent quadrilateral of stars in the IAU constellation Draco: HIP 102599 (the determinative star), HIP 104756, 76 Draconis, 75 Draconis, and 74 Draconis.

This Chinese xing guan “Tiānzhù” (天柱）is a curve of stars in the IAU constellation Draco: 76, 77, 69, 59, and 41 Draconis.

This Chinese Chenzhuo xing guan “Tiānzhù” is a “cross” of stars in the IAU constellation Draco: Starting at the star 19 Draconis it runs to HIP 78893, HIP 80161, 15 Draconis and across to 18 Draconis.

Celestial Pivot:

This Chinese star “Tianshu” was a pole star listed during the Shang Dynasty (1600 – 1027 B.C.E.). Alpha (α) Ursae Minoris (Polaris) was NOT the pole star at that time (due to precession). Possible stars proposed for this pole star include i Draconis, 42 Draconis, or 184 Draconis, or Beta (β) Ursae Minoris

(Kochab), but it is possible that this was something carried over from as early as 3000 B.C.E., so it is difficult to pin down the exact star.

In the Three Kingdoms to Ming Dynasty period this name was given to two stars:

- The star Alpha (α) Ursae Majoris (Dubhe) in the IAU constellation Ursa Major, and
- The star HIP 62572A in the IAU constellation Ursa Minor.

There are two Chinese Chenzhuo xing guans called “Tianshu”:

- One is the star Alpha (α) Ursae Majoris (Dubhe) in the IAU constellation Ursa Major. It is part of their xing guan Northern Dipper.
- One is the star HIP 65595 in the IAU constellation Ursa Minor. It is part of their xing guan “Northern Pole”. It is also known as “Ancient Star”.

Celestial Premier:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a triangle of stars in the IAU constellations Hydra and Sextans: Gamma (γ) Sextantis (the determinative star), 6 Sextantis, and 33 Hydrae.

This Chinese xing guan “Tiānxiàng” (天相) is a small triangle of stars in the IAU constellation Sextans: Epsilon (ε), 17, and 18 Sextantis.

This Chinese star “Tianxiang” is Lambda (λ) Sagittarii in the IAU constellation Sagittarius and is part of their xiù (lunar mansion) “Dǒuxiù” (斗宿) – see Dipper, below.

There are two Chinese Chenzhuo xing guans called “Tianxiang”:

- One is the star Lambda (λ) Sagittarii in the IAU constellation Sagittarius.
- One is a triangle of stars in the IAU constellations Hydra and Sextans: Gamma (γ) Sextantis, 33 Hydrae, and 6 Sextantis.

Celestial Prison:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is an oval of stars in the IAU constellation Ursa Major: Starting at the determinative star 37 Ursae Majoris, it runs around through 36 Ursae Majoris, HIP 52136, 44 Ursae Majoris, 43 Ursae Majoris, and 39 Ursae Majoris.

This Chinese xing guan “Tiānláo” (天牢) is made up of stars in the IAU constellation Ursa Major: Omega (ω), 47, 49, 56, 57, and 58 Ursae Majoris.

This Chinese Chenzhuo xing guan is an oval of stars in the IAU constellation Ursa Major: 36 Ursae Majoris, HIP 52136, 44 Ursae Majoris, 43 Ursae Majoris, 39 Ursae Majoris, and 37 Ursae Majoris.

Celestial Quadriga:

This Mithraic asterism is made up of the stars of the IAU constellations Draco and Ursa Minor (Reza Assasi 2013). The center of the asterism is the smaller asterism Swastika (see below) which becomes Mithra’s quadriga. At each of the four ends of the swastika are a “horse”:

- The first horse’s “head” is the triangle of stars 47 Draconis, 45 Draconis, and 39 Draconis, with the “neck” running from 39 Draconis to Xi (ξ) Draconis (Grumium), the “body” a line from Xi (ξ)

Draconis to Gamma (γ) Ursae Minoris (Pherkad), and the "horse's hooves" being the stars 24 Draconis and Beta (β) Draconis (Rastaban).

- The second horse's "head" is the triangle of stars Chi (χ) Draconis, Phi (ϕ) Draconis, and Psi (ψ) 1 Draconis, with the "neck" running from Phi (ϕ) Draconis to Upsilon (υ) Draconis, the "body" a line from Upsilon (υ) Draconis to Tau (τ) Draconis, and the horse's "hooves" are Epsilon (ε) Draconis and Delta (δ) Draconis (Altais).
- The third horse's "head" is a triangle of the stars 3, 4 and 5 Ursae Minoris, with the "neck" running from 5 Ursae Minoris to Beta (β) Ursae Minoris (Kochab), and the "body" being a line from Kochab to Zeta (ζ) Ursae Minoris and the "horse's hooves" being the stars Gamma (γ) Ursae Minoris (Pherkad) and Eta (η) Ursae Minoris.
- The final horse's "head" is the triangle of stars HIP 76957, 78286, 78542, with the "neck" between 78542 and HIP 78180, the "horse's body" being a line from HIP 78180 to Iota (ι) Draconis (Edasich) and the "horse's hooves" are the stars Theta (θ) Draconis and HIP 77277.

Celestial Ramparts:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a ragged oval of stars in the IAU constellations Grus and Piscis Austrinus: Gamma (γ) Gruis, HIP 108294, HIP 108681, HIP 109289, Mu (μ) Piscis Austrini, Tau (τ) Piscis Austrini, Eta (η) Piscis Austrini, HIP 106913, HIP 106564, 7 Piscis Austrini, HIP 106907, and HIP 107019.

This Chinese xing guan "Tiānlěichéng" (天垒城) is a ragged spiral of stars in the IAU constellations Aquarius and Capricornus. It starts at one end at Xi (ξ) Aquarii, then runs through 46, 47, Lambda (λ), and 50 Capricorni, 18 Aquarii, 29 Capricorni, 9, 8, Nu (ν), 14, and 17 Aquarii, and ends at 19 Aquarii.

This Chinese Chenzhuo xing guan "Tiānlěichéng" is a bent oval of stars in the IAU constellations Aquarius, Capricornus, and Piscis Austrinus: It runs from Zeta (ζ) Capricorni through 8 Piscis Austrinus, Eta (η) Piscis Austrinus, Lambda (λ) Piscis Austrinus, HIP 109737, 41 Aquarii, 35 Aquarii, HIP 108784, HIP 107901, Kappa (κ) Capricorni, Epsilon (ε) Capricorni, 37 Capricorni, and 36 Capricorni.

Celestial River:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of four stars in the IAU constellation Ophiuchus: c Ophiuchi, b Ophiuchi, Theta (θ) Ophiuchi (the determinative star), and 36 Ophiuchi.

This Chinese xing guan "Tiānjiāng" (天江) is a line of three stars in the IAU constellation Ophiuchus: 44, Theta (θ), and 36 Ophiuchi.

Celestial Roach:

This Italian asterism "Celeste Lasca" (the Rutilus or Roach fish) is the IAU constellation Pisces as listed by Dante Alighieri and in R. H. Allen's *Star Names* in 1899.

Celestial Rotating Jade:

This Chinese star "Tianxuan" from the Three Kingdoms to the Ming Dynasty is Beta (β) Ursae Majoris (Merak) in the IAU constellation Ursa Major.

This Chinese Chenzhuo xing guan "Lucun" is the star Beta (β) Ursae Majoris (Merak) in the IAU constellation Ursa Major. It is part of their xing guan Northern Dipper.

Celestial Secret:

This Chinese star “Tianji” is Sigma (σ) Sagittarii in the IAU constellation Sagittarius and is part of their xiù (lunar mansion) “Dǒuxiù” (斗宿) – see Dipper, below.

This Chinese Chenzhuo xing guan “Tianji” is the star Sigma (σ) Sagittarii in the IAU constellation Sagittarius.

Celestial Shining Pearl:

This Chinese star “Tianji” from the Three Kingdoms to the Ming Dynasty is Gamma (γ) Ursae Majoris in the IAU constellation Ursa Major.

This Chinese Chenzhuo xing guan “Tianji” is the star Gamma (γ) Ursae Majoris in the IAU constellation Ursa Major. It is part of their xing guan Northern Dipper.

Celestial Sisters:

This Shaawanwaki asterism is the IAU constellation Corona Borealis. These celestial sisters descend to Earth every night to dance. R. H. Allen lists this in his *Star Names* in 1899. The star Alpha (α) Coronae Borealis (Alphecca) is the wife of their hunter White Hawk (see below).

Celestial Slander:

This Chinese xing guan “Tiānchán” (天谗) is the star 42 Persei in the IAU constellation Perseus. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Tiānchán” is the star Eta (η) Persei in the IAU constellation Perseus.

Celestial Snow Angel:

This **telescopic** asterism is HII region is SH 2-106 in the IAU constellation Cygnus.

Celestial Spear:

This tiny Chinese xing guan “Tiānqiāng” (天枪) is a triangle of stars in the IAU constellation Boötes: Theta (θ), Iota (ι), and Kappa (κ) Boötis. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Tiānqiāng” is a triangle of stars in the IAU constellation Boötes: Theta (θ) Boötis, 17 Boötis, and Iota (ι) Boötis.

Celestial Spokes:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of two stars in the IAU constellation Libra: 39 Librae (the determinative star) and 42 Librae.

This Chinese xing guan “Tiānfú” (天辐) is a line of two stars in the IAU constellation Libra: 39 and 40 Librae.

This Chinese Chenzhuo xing guan “Tiānfú” is a line of two stars in the IAU constellation Scorpius: 1 and 2 Scorpii.

Celestial Spring:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is an oval of stars with four lines running out of the oval in the IAU constellations Sagittarius and Telescopium:

- The oval is the stars HIP 98032, 97749, 97067, 96234, 95823, and 96721.
- From HIP 98032 a line runs to HIP 98512,
- From HIP 97749 a line runs out to the determinative star, Theta (θ) 1 Sagittarii,
- From HIP 96234 a line runs out to HIP 94986, and
- From HIP 95823 a line runs out to Beta (β) 1 and 2 Sagittarii (Rukbat).

This Chinese xing guan "Tiānyuān" (天渊) is a line of two stars in the IAU constellation Sagittarius: Alpha (α) Sagittarii (Rukbat) and the double binary star system Beta (β) 1 and 2 Sagitarii (Arkab).

This Chinese Chenzhuo xing guan "Tiānyuān" is a rough oval of stars with four lines radiating from it in the IAU constellation Sagittarius: The oval is made up of the stars Iota (ι) Sagittarii, HIP 97749, HIP 97067, HIP 96234, HIP 95823, and HIP 96178. The four radiating lines are:

- Iota (ι) Sagittarii to HIP 98512,
- HIP 97749 to Theta (θ) Sagittarii,
- HIP 96234 to HIP 94986, and
- HIP 95823 to Beta (β) 1 & 2 Sagittarii (Arkab).

Celestial Stable:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is an oval of stars in the IAU constellations Andromeda and Cassiopeia: Starting at the determinative star 22 Andromedae it runs around through HIP 2225, HIP 2900, 20 Cassiopeiae, 22 Cassiopeiae, Xi (ξ) Cassiopeiae, HIP 1921A, HIP 1415, and HIP 967.

This Chinese xing guan "Tiānjiù" (天厩) is a triangle of stars in the IAU constellation Andromeda: Rho (ρ), Sigma (σ), and Theta (θ) Andromedae.

This Chinese Chenzhuo xing guan is an oval of stars in the IAU constellations Andromeda and Cassiopeia: Xi (ξ) Cassiopeiae, HIP 1921, HIP 1415, HIP 967, 22 Andromedae, HIP 2225, HIP 2900, Pi (π) Cassiopeiae, HIP 3478, and 22 Cassiopeiae.

Celestial Street:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of two stars in the IAU constellation Taurus: Kappa (κ) 1 and 2 Tauri (the determinative star) and Upsilon (υ) Tauri.

This Chinese xing guan "Tiānjiē" (天节) is a line of two stars in the IAU constellation Taurus: Kappa (κ) and Omega (ω) Tauri.

This Chinese Chenzhuo xing guan is a line of two stars in the IAU constellation Taurus: Upsilon (υ) Tauri and Kappa (κ) 1 Tauri.

Celestial Tally:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is made up of stars of the IAU constellation Taurus:

- At one end is a quadrilateral of stars starting at the determinative star c Tauri and running around through d Tauri, HIP 22044, and HIP 22157.

- From d Tauri a line runs out through r Tauri, Mu (μ) Tauri, and HIP 18975, ending at Nu (ν) Tauri.

This Chinese xing guan "Tiānjié" (天节) is roughly a "Z" shape in the IAU constellation Taurus. From Rho (ρ) Tauri, the line goes through Eta (η) Tauri to a bend at 57 Tauri, then through 79 Tauri to a curve starting at 90 Tauri, and then through 93 and 88 Tauri, ending at 66 Tauri.

This Chinese Chenzhuo xing guan "Tiānjié" is a bending line of stars in the IAU constellation Eridanus: It runs from 39 Eridani through Omicron (ο) 1 & 2 Eridani, HIP 19996, Xi (ξ) Eridani, Nu (ν) Eridani, and 51 Eridani to HIP 21718 where it splits into two lines:

- One running to Mu (μ) Eridani, and
- One running to 45 Eridani.

Celestial Temple:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of stars that forms a large "C" shaped enclosure made up of stars in the IAU constellations Antlia, Pyxis and Vela: Starting at the determinative star Theta (θ) Pyxidis it runs around through Kappa (κ) Pyxidis, Gamma (γ) Pyxidis, Alpha (α) Pyxidis, Beta (β) Pyxidis, k Velorum, HIP 45754, Epsilon (ε) Pyxidis, Lambda (λ) Pyxidis, Zeta (ζ) Antliae, Epsilon (ε) Antliae, HIP 48219, Theta (θ) Antliae, and HIP 46578.

This Chinese Chenzhuo xing guan is a closed loop of stars resembling a large letter "C" in the IAU constellations Antlia, Pyxis, and Vela: Starting at Lambda (λ) Velorum, it runs around through HIP 44511, HIP 47175, HIP 48374, Psi (ψ) Velorum, Epsilon (ε) Antliae, Alpha (α) Pyxidis, Beta (β) Pyxidis, HIP 40943, HIP 40706, HIP 40326, HIP 40096, HIP 42570, HIP 43023, HIP 42884, and HIP 44191.

Celestial Wine Cup:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a triangle of stars in the IAU constellation Gemini: Delta (δ) Geminorum (the determinative star), 56 Geminorum, and 63 Geminorum.

This Chinese xing guan "Tiānzūn" (天樽) is a triangle of stars in the IAU constellation Gemini: Omega (ω), Delta (δ), and 57 Geminorum.

This Chinese Chenzhuo xing guan "Tiānzūn" is a bent line of three stars in the IAU constellations Auriga and Gemini: 28 Geminorum, 53 Aurigae, and 49 Aurigae.

Celestial Wolf:

This Chinese xing guan "Tiānláng" (天狼) is the star Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Holberg 2007). This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore. It was also known as "Lang" ("wolf").

Celestial Yin Force:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is made up of stars in the IAU constellation Aries. From a central star, Tau (τ) 2 Arietis, four lines run out:

- One to 65 Arietis,
- One to Tau (τ) 1 Arietis
- One to Zeta (ζ) Arietis, and

- One to the determinative star, Delta (δ) Arietis.

This Chinese xing guan "Tiānyīn" (天阴) is five stars in the IAU constellation Aries: Tau (τ) 1 and 2, Zeta (ζ), Delta (δ), and 66 Arietis.

This Chinese Chenzhuo xing guan is made up of stars of the IAU constellation Taurus: From the central star HIP 19261 four lines run out:

- One to HIP 18170
- One to HIP 18717
- One to HIP 19284, and
- One through HIP 19529 to HIP 19641.

Celtic:

This Latin asterism "Celticus" is the IAU constellation Hercules and relates to forms of that hero worshipped in early Celtic territories.

Celtic of Ursa Major:

This **telescopic** asterism "Célticus Úrsae Majóris" is the spiral galaxy NGC 3631 in the IAU constellation Ursa Major. It was discovered in 1789 by William Herschel who listed it as "I 226". It became GC 2379 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They call it this as it "shows some resemblance to ancient Celtic patterns on coins and jewels".

Ceneus:

This Dutch asterism appeared on a globe created by the Dutch uranographer Willem Jansz Blaeu (1571 – 1638) in the place of the IAU constellations Chamaeleon and Musca. It is possibly a reference to the Lapith Caeneus.

Censer:

This Arabic asterism "Almabkhara" (المبخرة), latinized to "Al Mijmarah" or "Al Mugamrah" is the IAU constellation Ara:

- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) listed this constellation as "Almegramith".
- German poet Philipp von Zesen (1619 – 1689) lists this constellation as "Almugamra".
- Robert Hues lists "Almugamra" in his *A Learned Treatise of Globes* in 1659.
- Edward Sherburne lists it as "Almegrameth" in *The Sphere of Marcus Manilius* in 1675 as does John Hill's *Urania* in 1754.

This Latin asterism "Thuribulum", "Turribulum", or "Turibulum" is the IAU constellation Ara:

- A Hebrew translation of the Almagest from Catalonia (c1361), Philadelphia (USA), University of Pennsylvania Libraries, Lawrence Schoenberg Collection, ms. ljs057 (old Ms.Sassoon 823), ff.56v, 57r, depicts "Thuribulum" as a three-legged vase with flames rising from it.
- Jesuit German mathematician Christopher Clavius (1538 – 1612) lists this constellation as "Lar, sive Thuribulum, sev Ara" in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

- In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicts "Lar sieu Thuribulum, vel ara" as a cubical altar with burning sticks on top.
- The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) lists this constellation as "Thuribulum" and depicts it as an hourglass shaped altar with flames rising from it.
- The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch lists "Thuribulum" as an alternate name for Ara.
- Johann Bayer's *Uranometria* (1603) lists "Thuribulum".
- The *Tabulae Rudolpinae* (1627) of Johannes Kepler (1571 – 1630) lists the name "Thuribulum" for this constellation.
- Robert Hues lists "Thuribulum" in his *A Learned Treatise of Globes* in 1659. English astronomer Edmond Halley lists "Thuribulum" in his *Catalogus Stellarum Australium* in 1679.
- Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) labels this constellation "Ara al Thuribulum".

The Leyden Manuscript shows Ara as a tripod censer with incense burning.

This French asterism "Encensoir" is the IAU constellation Ara.

NOTE: R. H. Allen writes in his *Star Names* in 1899 that Censer is a "Euphratian" name given to the IAU constellation Libra. This could be Akkadian, Assyrian, or even Seleucid.

Centaur:

This Greek asterism "Κένταυρος" ("Kentaurus") is the IAU constellation Centaurus as mentioned in Aratus' poem *Phaenomena* (270 B.C.E.) and as originally described by Ptolemy (c.100 – c.170) in his *Almagest.* It is made up of stars of the IAU constellations Centaurus and Crux:

- The "head" is a triangle of the stars 1, 2, 3 and 4 Centauri.
- The "body" runs from Iota (ι) Centauri through HIP 65373, Gamma (γ) Centauri, and E Centauri to the base of the "tail" at Delta (δ) Centauri, then through Rho (ρ) Centauri, F Centauri, Epsilon (ε) Centauri, Zeta (ζ) Centauri, Upsilon (υ) 1 Centauri, and Phi (φ) Centauri to the other shoulder at Theta (θ) Centauri.
- One "arm" runs from Iota (ι) Centauri to n Centauri (HIP 62896).
- The other "arm" runs from Theta (θ) Centauri to an "elbow" at Chi (χ) Centauri and through Eta (η) Centauri to a "hand" at Kappa (κ) Centauri.
- The "tail" is the line between Delta (δ) Centauri and A Centauri.
- Two "rear legs" are lines running out from F Centauri:
- One runs through Gamma (γ) Crucis to Beta (β) Crucis (Mimosa), and
- One runs through Delta (δ) Crucis to Alpha (α) 1 Crucis (Acrux).
- Two "front legs" are lines running out from Epsilon (ε) Centauri to Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar).

NOTE: John Hill lists the name "Pher" as "one of the old Greek names" of the IAU constellation Centaurus in his *Urania* in 1754.

This Arabic asterism "Alqantur" (القنطور) or "Qanturūs" is the IAU constellation Centaurus. "Qanturūs" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

This Assyrian asterism “EN.TE.NA.MASH.LUM” is the IAU constellation Centaurus.

Centaur Beast:

This Latin asterism “Bestia Centauri” is the IAU constellation Lupus as listed by Italian astronomer Giovanni Battista Riccioli (1598 – 1671): Lupus is right next to the IAU constellation Centaurus so could be seen as associated with the centaur.

Centaur’s Altar:

This Greek asterism “Ara Centauri” is the IAU constellation Ara (which is nearby the IAU constellation Centaurus).

Centaur’s Crown:

This Greek asterism is the IAU constellation Corona Australis as described by the Roman general Germanicus (15 B.C.E. – 19 C.E.).

Centaurus:

The stars Alpha (α) Centauri (Rigil Kentaurus, Toliman, or Bungula- 3rd brightest star in the sky) and Beta (β) Centauri (Hadar- 11th brightest star in the sky) are the Southern Pointers or the Pointers (which is the Hawaiian name for them) leading from the Southern Cross to the southern horizon and thus helping to distinguish Crux from the False Cross (see False Cross, below). This constellation also contains the 54th brightest star (Theta (θ) Centauri, Menkent) and 63rd brightest star (Gamma (γ) Centauri, Muhlifain). The stars of this constellation show up in 377 asterisms of the sky cultures of the world.

The IAU constellation Centaurus (IAU abbreviation Cen) is now at a high southern latitude, but at the beginning of recorded history it was an equatorial asterism. It first appeared as a Babylonian bison-man “MUL.GUD.ALIM” (see Bison Man, below). The current name is the latinized Centaurus from the original Greek “Κένταυρος” or “Kéntavros”, named to honor Chiron, the centaur who was the tutor of the mythical hero Hercules. Another Greek name for it is “Ἱππότα Φήρ” or “Ippóta Fír” (“horseman beast”). Ptolemy (c.100 – c.170) lists it as Kentaurus in his *Almagest* (see Centaur, above). Eratosthenes (d.194 B.C.E.) named it “Χείρων” or “Cheíron”. The Mainz Globe from the eastern end of the Roman empire (c. 150 – 220 C.E.) depicts Centaurus as a centaur riding to our right.

This constellation appears in editions of the *Revised Aratus Latinus*:

- In several editions (Dresden DC 183, Paris BN 12957, Prague IX. C. 6) he is shown as a centaur walking to the right holding an animal by its heels in one hand and having another suspended from a stick over his shoulder,
- In several editions (Dresden DC 183, Paris BN 12597, St Gall 250, St Gall 902) his back is towards us,
- In the Prague IX C 6 edition he faces us.
- In the Gottweig 7 and Paris BN n.a. 1614 editions he is wearing an animal skin,
- In the Prague IX C 6 edition he wears a Phrygian cap,
- In the Vat Reg lat 1324 edition he is a hybrid centaur/satyr.

This constellation appears in the *Leiden Aratea* (816).

The 9th century Berlin 130, Madrid 3307, Monza F.9/176 and Vat lat 645 manuscripts of the *De ordine ac positione stellarum in signis* depict Centaurus holding a dead rabbit by its heels in his outstretched left hand and a spear decorated with foliage in his right hand. The Munich 210 and Vienna ÖNB 387 manuscripts of the *De ordine ac positione stellarum in signis* also depict Centaurus holding this rabbit, but in his right hand: In his left hand he is holding a thyrsus. The 12th century Vienna ÖNB Vindob 12600 manuscript of the *De ordine ac positione stellarum in signis* depicts Centaurus holding a trident.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi's son depicts Centaurus on one page as a clean-shaven centaur walking to our right. He is wearing a tunic, holding a leafy branch in his right hand, and his holding the left rear foot of Lupus in his left hand. On the other page he is riding to our left, holding the branch in his left hand, and holding Lupus with his right hand.

The 11th century *De signis caeli ("of the signs of heaven*") lists "Centaurus, ferter habere bestiam" ("A centaur, to bear a beast"). The Oxford Laud 644, Padua 27 and Venice VIII 22 manuscripts of *De signis caeli* depict Centaurus as a centaur holding Bestia or Lupus in his left hand so that its feet stick upwards. He has a plant resting on his left shoulder. The Dijon 448 manuscript of *De signis caeli ("of the signs of heaven*") depicts him with a second animal on his rump. The Paris BN 5239 manuscript shows him with a lion. The Klosterneuberg 685, Vat lat 643, and Zwettl 296 manuscripts of *De signis caeli* depict a rabbit and a sword in Centaurus' right hand and a purse hung from his left elbow and he is accompanied by a dog. The Laon 422 and Rouen 26 manuscripts of *De signis caeli* depict Centaurus with a stick over his left shoulder with a dead hare hanging from it. The Durham Hunter 100 manuscript of *De signis caeli* depicts Centaurus with a dead animal on his outstretched left arm and a flag under that arm. The Montecassino 3 manuscript of *De signis caeli* depicts him carrying a rabbit and a purse in his right hand and a stick with a dead animal tied to it rests on his left shoulder.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Centaurus as a centaur galloping to our right. He is wearing a crown and tunic. He is holding three leaves in his right hand and his left hand is holding the rear leg of Lupus.

Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) depicts Centaurus as a centaur wearing a stacked conical hat.

A Hebrew translation of the Almagest from Catalonia (c1361), Philadelphia (USA), University of Pennsylvania Libraries, Lawrence Schoenberg Collection, ms. ljs057 (old Ms.Sassoon 823), ff.56v, 57r, depicts Centaurus as a Centaur facing to our right. He is wearing a red hat and has a red garment around his "human waist" which has a cape spread out across his horse's back. He is holding some sort of bloody straight weapon in his right hand (possibly a sword) and is holding the left rear leg of Lupus in his left hand.

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Centaurus as a centaur walking to our left. He is dressed in a Medieval hat and tunic. He is holding a branch with three leaves in his left hand and holding on to the right rear leg of Lupus with his right hand.

The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.170v-171r depicts "Centaurus" as a centaur with a shield on his right arm. He is using a spear to stab Lupus in the mouth.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.72v-73r depicts Centaurus as a centaur trotting to our right. He is brandishing a spear with which he is spearing Lupus in the mouth. It is not labelled and poorly drawn. A square figure behind the centaur's right arm may represent a shield.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts only the head and shoulders of Centaurus: The rest of the constellation is off the edge of the astrolabe. It is not labelled.

The Paris manuscript of al-Sufi's *Book of Fixed Stars* (Bibliothèque nationale de France, Ms. Arabe 5036), from Ulugh Beg's library (c 1430 – 1440) depicts Centaurus as a centaur holding the rear right leg of Lupus in his left hand and holding three leaves in his right hand. Centaurus is shown wearing a tunic and a turban.

The *Germanicus Aratea* (Siciliensis, c. 1469) and the *Germanicus Aratea* with scholia Strozziana (c. 1475) depict Centaurus as a crowned centaur galloping to our right. He is wearing a lion's skin and has a rabbit perched on his right shoulder. The tip of a spear is showing over his left shoulder, and his right arm is outstretched with what appears to be a dead rabbit in his right palm.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Centaurus as a centaur galloping to our right. In his right hand he is carrying a small animal and he has a spear resting on his left shoulder which he is holding with his left hand. This spear has spitted Lupus.

Centaurus appears on the *Imagines constellationum Australium* chart of Romanian theologian Johannes Honter (1498 – 1549) as a centaur riding to our left spearing Lupus.

De Astronomica ("the astronomy"), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This is labeled "Centaurus" and "Phyllirides" and depicts a centaur with a tunic walking to our right. He has a spear slung over his left shoulder with a dead rabbit strung just below the spear tip, a canteen over his right forearm, and an upside-down goat in his right hand.

The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts "CENTAVRVS AVT CHYRON" as a centaur with long curly hair who is using a spear to attack Lupus.

The early 16th century Real Academia de Historia, manuscript D-97, f.102v – 103r depicts Centaurus as a centaur galloping to our left, holding a spear with which he is spearing Lupus. It is not labelled.

The "Nuremburg Maps", a pair of celestial hemispheres made in 1503 by Conrad Heinfogel depicts Centaurus as a bearded centaur spearing Lupus.

The *Southern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius depicts "Centaurus" as a centaur brandishing a spear on which is impaled the asterism "Fera" (see Beast, above). The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts Centaurus and Fera in the same manner as Dürer et al but labels this constellation with the abbreviated title "CENTAV".

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts "Centaurus" as a male centaur galloping to our right., wielding a spear with which he is spearing Lupus in the mouth.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts Centaurus as a centaur trotting to our right. The centaur's upper body is turned slightly away from us and he is spearing Lupus.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts "Centaurus" as a centaur galloping to our right spearing Lupus.

Dele Stelle Fisse ("Of the Fixed Stars") by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as "Del Centauro". The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

Welsh mathematician and physician Robert Recorde (1512 – 1558: inventor of the = sign) listed it as "Centaure Chiron".

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as the "Centaur".

The Southern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Centaurus as a male centaur galloping to our right, spearing Lupus.

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists Centaurus in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts "Centaurus" as a centaur spearing Lupus.

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicts "Centaurus: as a centaur trotting to our right. He is brandishing a spear on his left side and has a spiky shield on his right upper arm. Lupus does not appear in his illustration: He appears at the end of that spear in a separate illustration.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts "le Centaure" as a centaur charging to our left with a spear with what appears to be a wreath around it. He is spearing "le Loup" (Lupus).

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts "Centaurus" as a clean-shaven centaur spearing Lupus with a spear.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts "Centaurus" as a centaur walking to our right spearing Lupus.

Flemish cartographer Jodocus Hondius (1563 – 1612) included it on his globe in 1598. This constellation appears in a 10th century copy of the Leiden *Aratea* (Boulogne-sur-Mer, Bibliotèque municipal MS 188) but is missing from the 9th century edition.

Centaurus was depicted on gores of the globe of Petrus Plancius published in 1598 by Jodocus Hondius as a centaur spearing Lupus.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) depicts "Centaurus" as a bearded centaur in a tunic. He is riding to our right with a spear over his left shoulder to which is tied a rabbit he has killed. In his hands he is holding a dead goat which is lying on its back. Over his right forearm is draped a canteen.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) depicts Centaurus as a centaur spearing Lupus.

Centaurus is listed in Danish astronomer Tycho Brahe's *Astronomiae Instauratae Progymnasmata* (1602).

Centaurus is listed in Dutch navigator Frederick de Houtman's catalogue of fixed stars (1603).

Johann Bayer (1572 – 1625) depicts it in his *Uranometria* in 1603 as a bearded centaur holding a spear wound with ivy: This centaur is stabbing Lupus the wolf. Some sort of canteen is draped on a chain over the centaur's left wrist. Bayer lists these names for Centaurus: "Centaurus, Pholos, Chiron, Phillyrides, Semifer, Minotaurus, Albeze, Asmeat". NOTE: Bayer also lists "Centaurus" as an alternative name for Sagittarius.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts "Centaurus" as a young male centaur armed with a leafy spear who is spearing Lupus and gives the alternate name "Phyllirides".

Centaurus is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and labelled "Centaury" and depicted as a centaur spearing Lupus, riding to our left.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the names "Centaurus" and "Chiron" for this constellation. On a later page it is listed as "Centauro".

"Centaurus" is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a centaur riding to our left spearing Lupus.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts "Centaurus" as a centaur galloping to our right using a spear to stab Lupus.

Centaurus is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661: He is depicted as a centaur spearing Lupus, which is labelled both "Lupus" and "Fera". The label on the chart of the northern sky lists "Centaurus" followed by "Chiron".

Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) depicts Centaurus as a centaur who has speared Lupus with a lance bearing a triangular banner.

English uranographer John Seller's *A coelestiall planisphere* (1678) depicts "Centaurus" but you can only see his head above the edge of the planisphere.

Centaurus is listed by English astronomer Edmond Halley in his *Catalogus Stellarum Australium* in 1679 and depicted on his charts as a centaur spearing Lupus with a spear which is sprouting leaves.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts “Centaurus” as a centaur riding to our right, brandishing a spear which he is using to spear Lupus.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this “Κένταυρος” and “Centaurus”. There is also a French label, but this has faded and is unintelligible. It depicts Centaurus as a centaur galloping to our right. A blanket is draped over the back of his horse body. He is spearing Lupus with a spear covered in leafy branches.

Dutch uranographer Carel Allard’s *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) depicts “Centaurus Phyllirides” as a centaur spearing Lupus. Phyllirides is a name for this constellation from the *Poeticon Astronomicon*.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley’s pirated catalogue of Flamsteed’s observations of 1712, depicts Centaurus as a centaur with a shield on his left arm and a lance in his right hand with which he is spearing Lupus.

Centaurus is listed in English astronomer John Flamsteed’s *Atlas Coelestis* in 1729: He is depicted as a centaur brandishing a spear with which he is stabbing Lupus.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts “Centaurus” as a centaur riding to our left spearing a wolf (Lupus).

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts “Centaurus” as a centaur riding to the left spearing a wolf (“Lupus”).

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Centaurus as a centaur galloping to our left. He is spearing Lupus with a spear covered in leaves.

French uranographer Gabriel Phillipe de la Hire’s *Planisphere Celeste* (1760) depicts “Le Centaure” as a centaur spearing Lupus with a spear from which leaves are sprouting.

German engraver and cartographer Tobias Conrad Lotter’s *Planisphaerium Coeleste* (1750) depicts Centaurus as a centaur spearing Lupus.

English astronomer John Hill lists “Chiron” as a name for Centaurus in his *Urania* in 1754.

French astronomer Abbé Nicolas Louis de Lacaille’s *Planisphère des Étoiles Ausralea* (1756) depicts “le Centaure” as a centaur with a round shield on his left arm and a spear in his right hand who is spearing Lupus.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts “Centaurus” as a centaur riding to our right spearing a wolf (Lupus).

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts “le Centaure” as a centaur moving to our left with a shield on his left arm and brandishing a spear in his right hand with which he is spearing Lupus.

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Der Centaur" in the text and "Centaur" on the charts, depicting it as a centaur riding to our left brandishing a spear with which he is spearing Lupus.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as "Centauro" in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts "Centaurus" as a centaur galloping to our right spearing a wolf (Lupus).

"Centaurus" is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801): It is depicted as a centaur with a shield on his left arm spearing Lupus. He is riding to our left.

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts "Centaurus" as a centaur spearing Lupus: The spear has a banner on it and he is holding the spear with both hands.

American uranographer William Croswell (1760 – 1834) depicts "Centaurus the Centaur" on his *Mercator Map of the Starry Heavens* in 1810 as a Centaur spearing Lupus. Centaurus has the spear in his left hand and a shield with a spiked boss on his right arm.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Centaurus in his *Celestial Atlas* in 1822: He is depicted as a bearded centaur brandishing a spear and carrying a shield bearing the images of a branch and a two handled amphora. Centaurus is stabbing Lupus.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as "Centaur" and depicts it as a centaur armed with a spear.

American uranographer Elijah Burritt's *Southern Circumpolar Map for each Month in the Year* (1835) depicts "the Centaur" as a centaur spearing Lupus.

"Centaurus" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875): He indicates the borders of this constellation on the chart but offers no illustration of it.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts "Centaurus" as a centaur riding to our right with a shield on his right arm and a spear in his left hand with which he is spearing a wolf (Lupus).

"Centaurus" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): He is depicted as a Centaur with a spear.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this constellation on its charts as "Centaur".

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Centaurus, the Centaur" as an official constellation "recognized in the catalogue of the British Association".

German astronomer Hermann Joseph Klein (1844 – 1914) lists “Centaurus” in his *Star Atlas* (1893) and describes it as “The Centaur”.

American astronomer Winslow Upton’s *Star Atlas* (1896) lists this constellation as “Centaurus” and describes it as a “Centaur”.

R. H. Allen lists an Arabic name as “Al Kentaurus” in his *Star Names* in 1899.

The standard IAU chart depicts Centaurus this way:

- A winding line of stars starts at his “head” Theta (θ) Centauri and runs down to “shoulders” at Nu (ν) and Mu (μ) Centauri, then through a “body” of Upsilon (υ) 1, Zeta (ζ), Gamma (γ), and Sigma (σ) Centauri to Delta (δ) Centauri,
- The “back leg” runs from Delta (δ) Centauri through A Centauri to Lambda (λ) Centauri,
- The “front leg” runs from Zeta (ζ) Centauri through Epsilon (ε) Centauri and Beta (β) Centauri (Hadar) to Alpha (α) Centauri (Rigil Kentaurus),
- One “arm” runs from Nu (ν) Centauri through d Centauri to Iota (ι) Centauri, and
- One “arm” runs from Mu (μ) Centauri through Eta (η) Centauri to Kappa (κ) Centauri.

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children’s book *Curious George* (1941) redesigned the lines of Centaurus in his book *The Stars - A New Way to See Them* (1952):

- His “head” is a five sided figure running from Phi (ϕ) Centauri through Chi (χ) Centauri, HIP 70300, Psi (ψ) Centauri, Theta (θ) Centauri, to Nu (ν) Centauri,
- His “upper body is a roughly triangular shape formed by Nu (ν), Mu (μ), Zeta (ζ), Upsilon (υ) 1 and 2, and Phi (ϕ) Centauri,
- His “lower body” is the triangle of stars Zeta (ζ), Gamma (γ), and Epsilon (ε) Centauri,
- His “front legs” run from Epsilon (ε) Centauri to “feet” at Alpha (α) Centauri (Rigil Centaurus) and Beta (β) Centauri (Hadar),
- His “hind legs” start at a line from Gamma (γ) Centauri to Sigma (σ) Centauri and then split into two lines:
    - One runs through Rho (ρ) Centauri to Lambda (λ) Centauri, and
    - One runs through Delta (δ) Centauri to Pi (π) Centauri,
- His right arm runs from Phi (ϕ) Centauri through Eta (η) Centauri to an “elbow” at Kappa (κ) Centauri and then through b Centauri to c1 Centauri, and
- His left arm runs from Nu (ν) Centauri through d Centauri to an “elbow” at Iota (ι) Centauri and then to a “wrist” at I Centauri from which three lines to g, k, and h Centauri form “fingers”.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Centaurus in *their Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik*, in this manner:

- The “body” is a six-sided figure made up of the stars Epsilon (ε) Centauri, Zeta (ζ) Centauri, Eta (η) Centauri, Theta (θ) Centauri, Iota (ι) Centauri, and Gamma (γ) Centauri,
- A “front leg” runs from Epsilon (ε) Centauri through Beta (β) Centauri (Hadar) to Alpha (α) Centauri (Rigil Kentaurus), and
- A “back leg” runs from Gamma (γ) Centauri through Sigma (σ) Centauri, Delta (δ) Centauri, and Pi (π) Centauri to Lambda (λ) Centauri.

Sky and Telescope Magazine, founded in 1941, depicts Centaurus in their magazine and publications like this:

- His "head" and "upper torso" is a bent triangle of the stars Zeta (ζ), Upsilon (υ) 1, Phi (ϕ), Chi (χ), Psi (ψ), Theta (θ), Nu (ν), and Mu (μ) Centauri,
- His "horse body" is the triangle of stars Zeta (ζ), Gamma (γ), and Epsilon (ε) Centauri,
- His "front leg" is a line from Epsilon (ε) Centauri to Beta (β) Centauri (Hadar) and Alpha (α) Centauri (Rigil Kentaurus),
- His "back legs" are two lines running from Gamma (γ) and Sigma (σ) Centauri:
    - One runs through Rho (ρ) Centauri to Omicron (ο) 1 Centauri, and
    - One runs through Delta (δ) Centauri to Pi (π) Centauri,
- One arm runs from Nu (ν) Centauri through d Centauri and Iota (ι) Centauri to l Centauri, and
- One arm runs from Phi (ϕ) Centauri through Eta (η) Centauri to Kappa (κ) Centauri.

This Kaykavian asterism "Cújzeki" is their name for the IAU constellation Centaurus.

Centaurus Chain:

This **telescopic** asterism is a group of galaxies including spiral galaxy NGC 4650 and polar-ring lenticular galaxy NGC 4650A in the IAU constellation Centaurus. John Herschel listed NGC 4650 as h 3413 and later as GC 3183 in his *General Catalogue* of 1864.

Centaurus Cluster:

This **telescopic** asterism A3526 is a cluster of hundreds of galaxies in the IAU constellation Centaurus. The main subgroup contains NGC 4696. Another is centered on NGC 4709.

Center:

This Persian star "Miyan" is Alpha (α) Leonis (Regulus) in the is the IAU constellation Leo as listed in R. H. Allen's *Star Names* in 1899.

Center of the Heavens:

This Japanese star is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor. This name comes from the ceiling art in the Takamatsu Zuka Kofun tomb.

Center of the Sky:

This Desana asterism is centered on the star Epsilon (ε) Orionis (Alnilam), the middle star of the belt of Orion. It is surrounded by a hexagon of the stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini, Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor, Alpha (α) Carinae (Canopus) in the IAU constellation Carina, Alpha (α) Eridani (Achernar) in the IAU constellation Eridanus, and Alpha (α) Aurigae (Capella) in the IAU constellation Auriga.

This K'iche' star "Hurakan" is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor. Hurakan is a K'iche' God.

Center of the Universe:

This Italian asterism is the belt of Orion in the IAU constellation Orion.

Centipede:

This Mayan asterism “Ch’apat” from the *Chilam Balam* book of Kaua is the IAU constellation Scorpius.

This Rapanui star “Veri Hariu” (‘stunning worm”) is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra (Edwards and Edwards 2010, Edwards 2016).

Central Fire of Náhookǫs:

This Diné star “Náhookǫs Bikǫ’” is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Childrey 2008). It is part of their three-part asterism Náhookǫs (see below), the other parts being “Náhookǫs Bi’ką” (see Male Revolving One, below) and “Náhookǫs Bi’áád” (see Female Revolving One, below). The Female Revolving One and the Male Revolving One circle this Hearth Fire.

Central Point of Centaurus:

This **telescopic** asterism “Centrósus Centaúri” is the Seyfert galaxy IC 4329 in the IAU constellation Centaurus. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name because it is surrounded by other galaxies in the center of the Abell 3574 cluster

Central Spirit:

This Taíno star is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor. It represents the mythical figure Anacacuya, brother-in-law of the mythical hero Guahayona. It has also been translated (Flaquer 2020) as “El Lucero del Centro” (“Star of the Center”). The Taíno hero Guahayona took his brother-in-law Anacacuya by the feet and threw him into the sea, thus Ursa Minor represents Anacacuya being twirled around by Guahayona.

Cenuke:

This Selk’nam star is Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor. Cenuke was a mythical xo’on (shaman).

Cenuke’s Robe:

This Selk’nam asterism is the IAU constellation Boötes. Cenuke was a mythical xo’on (shaman) and this is his fur robe. Since in Selk’nam culture Cenuke (represented by the star Procyon) is not in the same part of the sky as Boötes, they believe that he placed his robe there to trick people into believing where he is.

Cepheus:

None of the stars of this constellation are brighter than 2nd magnitude, but they do appear in 206 of the asterisms in this handbook.

This IAU constellation (IAU abbreviation Cep) was first mentioned in Aratus’ poem *Phaenomena* (270 B.C.E.) and is listed as “Κηφεύς”(“Kepheus”) in Ptolemy’s *Almagest* (2nd century). It is named for the mythical King of Ethiopia who was married to Cassiopeia (see Kepheus, below). Variations of the name found in medieval documents and charts include the Greek term “Κηφεῦς” (“Kifefs”), latinized to “Kekeus”, “Keikaus”, “Keiphus”, and “Kikans” (these four listed by John Hill in his *Urania* in 1754), “Kikaus”, “Caicans”, “Ceichius”, “Chiphus”, “Canaus”, “Ḳifaūs”, “Ḳikaūs”, “Kankaus”, “Fikaus”, “Fifaus”, “Ficares”, “Phicares” (by John Chilmead in the 1800s and Robert Hues in the 1600s), and “Phicarus”.

The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) depicts this constellation as a standing man in a toga wearing some sort of crown or helmet with his arms raised skyward.

The globe of the 2nd century Farnese Atlas depicts this constellation as a standing man in a toga wearing some sort of crown or helmet with his arms raised skyward (Stevenson 1921).

Cepheus is depicted in the Leiden *Aratea* (816) as a white bearded male facing us with his arms outstretched. He is wearing a thigh length robe, hose, sandals, and a purple cape, and has a conical hat on his head (Katzenstein & Savage-Smith, 1988).

The 9th century Berlin 130, Madrid 3307, Monza F.9/176 and Vat lat 645 manuscripts of the *De ordine ac positione stellarum in signis* depict Cepheus in a short tunic.

This constellation appears as "Ceopheus" in editions of the 8th century *Revised Aratus Latinus*:

- Several editions (Dresden DC 183, Paris BN 12957, Prague IX. C. 6) show him standing with arms outstretched and a cape over his shoulders,
- In two editions (Gottweig 7 (146), Siena L. IV. 25) he is shown with a halo,
- In the Vat Reg lat 1324 edition he is seated on a throne.

Cepheus was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his Book of the Fixed Stars in 964 (Hafez 2010) as "Qīqāwūs" and "al-Multaheb".

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi's son depicts Cepheus as a bearded male kneeling on his left knee. He is wearing knee-length robes and a qalansowa ṭawīla (tall conical hat). His left hand is gesturing with his palm upwards, and his right arm is by his side.

The 11th century *De signis caeli ("of the signs of heaven*") lists "Cepheus", "Ceppheus", and "Zepheus".(see Sage, below). The Oxford Laud 644, Padua 27 and Venice VIII 22 manuscripts of *De signis caeli* depict Cepheus in a long tunic, wearing a sword. The Klosterneuberg 685, Paris BN 5239, Paris BN 5543, Vat lat 643, Germanicus Aberyswyth 735C, Hyginus Leiden 8° 15, and Zwettl 296 manuscripts of *De signis caeli* depict Cepheus in a mitre-like hat with fluttering ribbons. The Montecassino 3 manuscript of *De signis caeli* depicts Cepheus without this hat.

The *Liber de signis* of Scottish polyglot Michael Scot (1175 – c.1232) describes Cepheus as a crowned king with a sword in his belt.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Cepheus as a male kneeling on his left knee, turned to our left, and waving at us with his right hand. His left arm is extended behind him.

Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) depicts Cepheus as a male wearing a qalansuwa prayer cap.

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Cepheus as a male turned slightly to our right who is about to kneel on his right knee. He is dressed in calf length robes and wearing a qalansowa ṭawīla (tall conical hat). He is gesturing to his left with his left hand and his right arm is stretched out behind him.

The mid 15th century Wein, Oesterr. National Bibl., manuscript Lat 5415, ff.168v-169r depicts “Cepheus” as a male kneeling on his right knee, his body turned away from us. He is dressed in Medieval tunic, tights, and a pointy hat. His left fist is raised and his right hand is extended outwards.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.71v-72r depicts Cepheus as a figure kneeling on its right knee as viewed from behind. It is not labelled and is poorly drawn. It has a pointed hat on its head and some sort of tunic. Its left hand is gesturing skyward and its right arm is extended out to its side.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Cepheus as a figure with a pointed hat. It is not labelled and being rather small, has little detail.

The vault of the Old Sacristy of the Basilica di S. Lorenzo in Firenze, Italy (1442) depicts Cepheus as a figure in ankle length robes with his right hand holding a Sceptre. His head is no longer visible.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Cepheus as a male dressed in Medieval knee length robes, pants, shoes, and a conical cap with ear flaps. He has a long sword sheathed on his left hip. Both of his hands are raised out to his sides and beneath each hand a large fern is growing up to just below his hands.

The *Germanicus Aratea* (Siciliensis, c. 1469) depicts Cepheus as a man walking holding his arms out on either side at shoulder height. He is dressed in a tunic, pants, a cap, and boots and has a sword at his hip.

De Astronomica (“the astronomy”), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This depicts Cepheus as a man walking holding his arms out on either side at shoulder height. He is dressed in a tunic, pants, a cap, and boots and has a sword at his hip.

The Constance Celestial Globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts “Cepheus” as a crowned king wearing red and blue Medieval garments and a Toki style hat as viewed from the rear. He is holding a sceptre in his right hand and pointing at the sky with his left hand. He has a sword in his belt.

The early 16th century Real Academia de Historia, manuscript D-97, f.101v depicts Cepheus as a nude figure who appears to be seated on a throne behind Cassiopeia. The artist appears to have drawn breasts on his figure, making its gender indeterminate. The figure is unlabelled and is holding his right hand aloft. The Real Academia de Historia, manuscript D-97, f.104v – 105r depicts Cepheus as a nude figure viewed from behind, running to our left. His right hand is raised skyward. It is difficult to make out any other details as this figure is in the fold between the pages.

The “Nuremburg Maps” *(Die Karte des Nördlichen Sternenhimmels* inv.-Nr. Hz 5576), a pair of celestial hemispheres made in 1503 by Conrad Heinfogel, depicts “Cepheus” as a nude bearded male as viewed from behind. He is wearing a pointed Toki cap and has both of his hands raised to shoulder height, palms forward.

Gores for a celestial globe by German polymath Johann Schöner (1477 – 1547) from 1515 list “Cepheus”, but those from 1534 and 1535 list “CEPHEVS” (Dekker & Lippincott, 1999). Celestial globe gores (1517) of Schöner depict “Cepheus” as a male in Medieval clothing wearing what looks like a Tudor Nobles style cap. He is running to our left with his arms outstretched with empty hands. A celestial globe (1522) of Schöner depicts “Cepheus” as a nude male crouching with his back to us. He is only wearing a Toki style cap and has both of his hands raised to either side.

The *imagines coeli septentrionales cum duodecint imaginibus zodiaci* (“images of the northern sky with twelve images of the zodiac”), commonly known as the *Northern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius lists “CEPHEVS” and depicts it as a nude bearded male as viewed from behind. He is wearing a pointed Toki cap and has both of his hands raised to shoulder height, palms forward.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts “CEPHEVS: as a nude crowned male walking away from us with both his hands raised.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts CEPHEVS in the same manner as Dürer et al.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts “Cepheus” as a male facing away from us. He is wearing a thigh length tunic, pants and shoes and a hat on his head. His arms are outstretched to either side.

Dele Stelle Fisse (“Of the Fixed Stars”) by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as “Di Cefeo”. The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as “Cepheus”.

The Northern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Cepheus as a nude male with his back to us, kneeling on his right knee. He is wearing a pointed Toki hat. Both his hands are raised to his sides, palms forward.

A celestial globe atop a planetary clock modified by Oronce Fine in 1553 (the “Paris Globe”) lists “CEPHEVS” (Dekker & Lippincott, 1999).

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists “Cepheus” in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts “Cepheus” as a male in thigh length tunic and tall boots and a pointed hat. He is walking with both arms raised.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts this constellation as a male in a long robe, gesturing aloft with his right hand.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts “Cepheus” as a male in full length robes wearing a Medieval floppy hat. His arms are extended out to his sides.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts "Cepheus" as a male viewed from the rear, wearing a full-length robe and what appears to be a sort of Egyptian crown. He has partially turned to his left, pointing with his left hand at Cassiopeia. His left arm is bent out to his right, with his right hand concealed behind the body of Draco.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) depicts "Cepheus" as a crowned male in long robes holding a sceptre.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) depicts "CEPHEVS" as a bearded male wearing a pointy cap and long sleeved thigh length tunic and cape with his arms spread and looking to his right.

Cepheus is listed in Danish astronomer Tycho Brahe's *Astronomiae Instauratae Progymnasmata* (1602).

German astronomer Johann Bayer depicted it in his *Uranometria* in 1603 as a "Soldier" walking away from us wearing a helmet, and Roman style armour and a cape: His left hand is raised and his right hand is on his hip. Bayer lists the following names for this constellation: "Cepheus, Dominus Solis, Flammiger, Incensus Sonans, Iasides, Phicares, Cheichius, Cancaus, Cheguius, Ceginus".

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts "Cepheus" as a male in a long robe facing away from us with a sceptre raised in his right hand and his left hand on his left hip. Blaeu lists the alternate names "Phicares" and "Cheichius".

"Cepheus" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch, who lists the alternate names "Cheichius" and "Caucaus".

Giovanni Paolo Gallucci's *Theatrum Mundi, et Temporis* (1614) depicts "Zepheo" as a bearded male kneeling on his right knee with his back to us. He is wearing a soft conical hat and some sort of kilt.

Cepheus is listed by German astronomer Johannes Kepler (1571 – 1630) in his *Tabulae Rudolphinae*, a new edition of Brahe's catalogue, in 1627.

"Cepheus" is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a crowned male walking with his left hand on his hip and holding a wand aloft in his right hand.

Gores for a celestial globe Bibliothèque Nationale de France, Department Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts "Cepheus" as a male in full length robes, a turban, and a crown facing away from us to our left. He is holding a sceptre in his left hand

The huge *Gottorf Globe* (c1650) made for the Duke of Holstein, Frederick III, one of the world's first planetariums, depicts Cepheus as a male walking away from us in calf length robes and a cape and wearing a conical crown on his head. His left arm is extended out with his left hand holding a sceptre. His right hand is behind his back.

Cepheus is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661: He is depicted as a man with a blue and gold long cape and some sort of turban walking to our left, holding a staff in his left hand and with his right arm raised.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1665) and in his *Catalogus Stellarum Fixarum* (1690) depicts “Cepheus” as a male in a short sleeved long tunic, sandals, and a turban with a crown with a long tassel on top. He is facing away from us, holding up a corner of his drapery with his right hand and holding aloft a sceptre in his left hand.

Dutch cartographer Frederik de Wit’s *Planisphaerium Coeleste* (1670) depicts Cepheus as a man with a pointed cap, blue cloak, and gold boots striding away from us with his left hand on his hip and holding aloft a gold staff in his right hand.

The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678 by English uranographer James Clerk depicts “Cepheus” as a male in a tunic, pants, boots, and a pointy cap holding a scepter in his right hand.

English uranographer John Seller’s *A coelestiall planisphere* (1678) depicts “Cepheus” as a male in a tunic and crown viewed from behind with a scepter in his left hand and his right hand waving.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this “Cephée”, “Cepheus”, and “Κηφεύς” and depicts it as a bearded male in Roman armour with a spiky turban walking to our left. He has a sceptre cradled in his right arm and is holding up his cape in his left hand.

A celestial pocket globe created by British uranographer Herman Moll in 1719 depicts “Cepheus” as a male facing away from us, dressed in ankle length robes, his head turned to the left. He is wearing a crown, holding a wand with a trefoil tip in his left hand, and a length of cloth aloft in his right hand.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley’s pirated catalogue of Flamsteed’s observations of 1712, depicts Cepheus as a crowned male facing away from us wearing blue drapery around his waist, pointing to the left with his left hand and holding a golden wand in his right hand.

Cepheus is listed in English astronomer John Flamsteed’s *Atlas Coelestis* in 1729: He is depicted as a seated crowned king, holding a wand aloft in his left hand and some of his drapery aloft in his right hand.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts “Cepheus” as a male facing away from us, dressed in ankle length robes, holding a wand with a trefoil tip in his right hand and some sort of cloth in his left hand.

The *Atlas Coelestis* of German astronomer Johann Gabriel Doppelmayr (1742) depicts Cepheus as a male standing facing away from us, his head turned to the right. He is wearing ankle length robes, boots, and a turban with a crown on top. In his right hand he holds a scepter, and in his left hand he holds aloft what appears to be a folded flag.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Cepheus as a male striding to our right. He is wearing knee high sandals, and a knee length tunic with a cape and has a conical hat on his head. His right hand is on his hip and he is gesturing upwards with his left hand.

French uranographer Gabriel Phillipe de la Hire’s *Planisphere Celeste* (1760) depicts “Cephée” wearing a crown and robes as viewed from behind, kneeling on his left knee, with his right hand on his hip and a wand raised in his left hand.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts “Cepheus” as a male in long robes facing away from us. He has a turban and a crown on his head. In his left hand he holds a wand with a trefoil tip, and in his right hand he holds aloft a length of cloth.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts “Cephée” as a male seated facing us wearing a crown in a chart of the northern hemisphere: He is naked from the waist up and has his right arm extended out to one side and his left hand holding what appears to be a quill pen. Later in this atlas a close up chart depicts him as a crowned king holding a wand with a trefoil tip aloft in his left hand and a piece of cloth in his right hand: He is depicted this way in the 1778 edition as well.

German astronomer Johann Elert Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as “Cepheus” and depicts him as a crowned king striding to our right wearing a billowing cape and carrying a staff of office in his right hand. Bode‘s *Vorstellung Der Gestirne* (1782) lists this constellation as “Cepheus” and depicts him in the same manner.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as “Cefeo” in his *Della Specola Astronomica De’ Regj Studj Di Palermo* (1792).

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts “Cephus” as a bearded male facing away from us in tunic, pants, and boots, wearing a turban topped with a crown: He is holding some of his drapery up with his right hand and a scepter in his left hand.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts “Cepheus” as a male in ankle length robes viewed from behind. He is wearing a crown, holding aloft a trefoil tipped wand in his left hand, and holding a length of cloth in his right hand.

American uranographer William Croswell (1760 – 1834) depicts “Cepheus” on his *Mercator Map of the Starry Heavens* in 1810 as a bearded male with a turban topped with a crown holding aloft a piece of cloth in his right hand and a scepter in his left hand.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Cepheus it in his *Celestial Atlas* and his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822): He depicts him as a seated crowned king, holding a wand aloft in his left hand and some of his drapery aloft in his right hand.

American uranographer Elijah Burritt’s *The Constellations for each Month in the Year* (1835) depicts Cepheus as a seated bearded male wearing a crown and a toga, with his raised right hand holding up part of his toga and his raised left hand holding up a wand.

“Cepheus” is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) as a male in a knee length robe viewed from the front. He is looking over his left shoulder with his left hand open in front of him and his right hand raised to shoulder level.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depict “Cepheus” as a male in long robes and a crown holding aloft a trefoil want in one hand: As “Cepheus” is placed over the figure’s head, it is difficult to tell if he is facing toward us or away from us.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts "Cepheus" as a crowned king holding aloft one end of his drapery in his right hand and holding a scepter in his left hand.

Cepheus is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on Jamieson's *Celestial Atlas*. He is depicted as a crowned, bearded king holding a trefoil scepter aloft in his left hand. He is seated and wearing a toga like garment and sandals.

"Cepheus" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877). He is depicted as a bearded male in a long robe facing us, his arms spread wide, looking to his left: This looks very like a Biblical prophet.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) describes "Cepheus" as "a king in regal state, with a crown of stars on his head, while he holds in his hand a scepter which is extended toward his wife, Cassiopiea".

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Cepheus, the Monarch" as an official constellation "recognized in the catalogue of the British Association".

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation simply as "Cepheus".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Cepheus" in his *Star Atlas* (1893).

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this constellation as "Cepheus".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Cepheus" and does not describe it.

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Cepheus" as the "mythological Ethiopian monarch".

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) redesigned the in his book *The Stars - A New Way to See Them* (1952). The standard IAU chart shows Cepheus as a rectangle of Alpha (α) Cephei (Alderamin), Zeta (ζ) Cephei, Iota (ι) Cephei, and Beta (β) Cephei (Alphirk) attached to a triangle of the last two stars plus Gamma (γ) Cephei: This looks to me rather like the silhouette of an old sagging garden shed. Rey has altered the line between Alderamin and Zeta (ζ) Cephei to include Mu (μ), Epsilon (ε), and Delta (δ) Cephei and has added two more lines: One from Alderamin through Eta (η) Cephei to Theta (θ) Cephei, and one from Zeta (ζ) Cephei to Nu (ν) Cephei: This looks to me like a garden shed that has been hit by a tree. *Sky and Telescope Magazine*, founded in 1941, depicts Cepheus in the same manner in their magazine and publications.

Cepheus' Daughter:

This Latin asterism "Cepheis" is the IAU constellation Andromeda.

Cepheus in Cepheus:

This telescopic asterism is made up of the stars of the IAU constellation Cepheus. This was posted by American astronomer Fiske Miles on *Cloudy Nights* in October 2022. The corner stars are HIP 108226A, HIP 108603, HIP 108829, HIP 108364, and HD 208657.

Cerberus:

There are two "Cerberus" asterisms:

- One Greek asterism is the IAU constellation Canis Major as listed by Hesiod and Mosenkis in his *Mycenaean Oecumene* (date n/k). Cerberus was the three headed dog who guarded Hades. This is related to their asterism Orthrus (see below): Orthrus was the brother of Cerberus.
- One Polish asterism is made up of the stars of the IAU constellation Hercules and was created by the Polish astronomer Johannes Hevelius in 1687 for his *Firmamentum Sobiescianum*: In his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, it is depicted as a three headed serpent in his left hand.
- Greek myth has Cerberus the three-headed dog guarding the entrance to Hades, and Hercules capturing him as one of his twelve labors. This asterism is made up of stars of the IAU constellation Hercules surrounding Omicron (o) Herculis, including 93, 95, 96, 102 and 109 Herculis:
    - The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, depicts "Ramus Cerberus" as an apple branch with three serpents twining through it in the hand of Hercules.
    - The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts a three headed snake in the right hand of Hercules labelled "Cerberus".
    - John Hill lists Cerberus as a constellation in his *Urania* in 1754.
    - The French edition of Flamsteed's work, the *Atlas Céleste,* which was revised in 1778, lists "le Rameau et Cerbere" ("the twig and Cerberus") and depicts this as an apple branch with two serpents entwined in the branches being held by Hercules.
    - Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this asterism as "Cerberus u Zureig" and depicts it as a branch with three serpents twining through it.
    - Scottish uranographer Alexander Jamieson (1782 – 1850) lists it as "Cerberus et Ramus Pomifer" in his *Celestial Atlas* in 1822.
    - French astronomer Camille Flammarion (1842 – 1925) insists in his *Astronomie Populaire* that this constellation was on the sphere of Eudoxos.
    - The French call it "Cerbère" or combine it with the asterism Ramus Pomifer (see Apple Branch, above) as "Rameau et Cerbère" or "Cerberus et Ramus".
    - "Cerberus et Ramus" is listed in English Admiral Henry William Smyth's *Bedford Catalogue* in 1844.
    - *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) describes "Hercules" as "a warrior clad in the skin of the Nemean lion, holding a club in his right hand and the dog Cerberus in his left".

Cerberus of Hercules:

This **telescopic** asterism "Cérberus Hérculis" is the barred spiral galaxy NGC 6050 (Arp 272) in the IAU constellation Hercules. This name appears in *The Catalogue of One Thousand Named Galaxies* by

astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “this multiheaded monster could be named after Cerberus, one of the mythical creatures hunted by Hercules”. NGC 6050 is interacting with IC 1179. NOTE: IC 1179 was recorded by American astronomer Lewis Swift (1820 – 1913).

Cereal Measure Regulation:

This Korean asterism “Ggogmul Cheugjeong Gyujeong” (곡물 측정 규정) is a “dipper” of stars in the IAU constellations Hercules and Ophiuchus: Kappa (κ) and Iota (ι) Ophiuchi, and Iota (ι), 46, and 45 Herculis. Note: This asterism shares stars with the Chinese xing guan “Dipper for Solids” (see below).

Ceremonial Fish Scale:

This Wardaman star “Yagalal” is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga (Cairns and Harney 2003).

Ceremonial Headband:

This Wardaman asterism is a line of two stars in the IAU constellation Musca: Alpha (α) and Beta (β) Muscae. This is next to their asterism Two Armbands (see below).

Ceres:

This Latin asterism “Ceres” or “Ceres Splendifera Dea” (“Ceres, the bright Goddess”) is the IAU constellation Virgo. Ceres is a Goddess of agriculture, grain crops, fertility, and motherhood:

- in Johann Bayer’s *Uranometria* (1603) lists “Ceres” as an alternate name for Virgo.
- “Ceres” appears as a name for Virgo on the *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638).
- “Ceres” appears as a name for this constellation is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
- John Hill lists “Ceres” in his *Urania* in 1754.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Ceres”.
- “Ceres” is listed in R. H. Allen’s *Star Names* in 1899.

Cernunnos:

This Celtic (Gaulish) asterism is the IAU constellation Ophiuchus (Boutet 2017) as depicted on the Gundestrup Cauldron. In *The Myth of the Year*, Benigni, Carter and Ua Cuinn connect the IAU constellation Ophiuchus with this Celtic horned God of nature (2001).

Cerucion:

This “Greek” name for the IAU constellation Corona Australis is listed by John Hill in his *Urania* in 1754. Hill does not translate it or list a source.

Cervantes:

This Spanish star “Cervantes” is Mu (μ) Arae in the IAU constellation Ara. It is named for Miguel de Cervantes Saavedra, author of *El Ingenioso Hidalgo Don Quixote de la Mancha* (Don Quixote) and received this name from the IAU in 2015. This has four exoplanets named for characters in this novel: Quijote, Dulcinea, Rocinante, and Sancho.

Ceteus:

This Greek asterism is the Kneeler (see below) as described by Ptolemy (c.100 – c.170) which is the IAU constellation Hercules. Ceteus appears in Greek mythology as an Arcadian prince who was one of the 50 sons of King Lycaon. Johann Bayer's *Uranometria* (1603) lists "Cetheus". The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Ceteus" as an alternate name for Hercules. "Ceteus" is listed by John Hill in his *Urania* in 1754. Variations include Caeteus and Cetheus.

Cetus:

The brightest star in this constellation is the 2nd magnitude Beta (β) Ceti (Diphda) which is only 51st on the list of 90 brightest stars, but its stars appear in 241 of the asterisms in this handbook.

The IAU constellation Cetus (IAU abbreviation Cet) is one of the 48 original constellations Ptolemy (c.100 – c.170) listed in the *Almagest* and was associated by the ancient Greeks with the sea monster that was slain by the mythical hero Perseus. It is located in the middle of a number of constellations associated with the sea: Eridanus, Pisces, Piscis Austrinus, and Aquarius. Ptolemy (100 – 170) called it "Κῆτος" ("Kitos"- see Sea Monster, below).

The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) depicts this constellation as a whale-like creature with a dorsal fin.

The Mainz Globe from the eastern end of the Roman empire (c. 150 – 220 C.E.) depicts Cetus as a creature whose front half resembles a horned goat and whose back half is segmented with a whale's tail.

This constellation appears as "Coetus" in the *De ordine ac positione stellarum in signis* ("*On the order and position of the stars in the signs*") in the Salzburg compilation (810 – 818) of Abbot Arno of Salzburg (785 – 821). It also appears as "Coetus" in editions of the 8th century *Revised Aratus Latinus*:

- In several editions (Dresden DC 183, Paris BN 12957, Prague IX. C. 6) he is depicted as a dog-faced monster with a curled tail, facing right,
- In the Paris BN n.a. 1614 manuscript he is facing left with a curled snout and horns,
- In the Vat Reg lat 1324 and Munich 560 manuscripts Cetus appears as a fish.

Cetus appears in the Leiden *Aratea* (816) with the front half resembling a wolf and the back end a fish (Katzenstein & Savage-Smith, 1988).

The Munich 210 and Vienna ÖNB 387 manuscripts of the *De ordine ac positione stellarum in signis* depict Cetus looking back and up. The Paris BN, 12117 and Vat Reg lat 309 manuscripts of the *De ordine ac positione stellarum in signis* depict Cetus as a pointy nosed creature, possibly a crocodile.

This constellation was listed as "Qītus" by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010). The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi's son depicts Cetus as a sea monster whose front half is a bearded jackal and whose rear half is a whale's tail. He is shown in right and left profile.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi's son depicts this as a monster whose front half is a sort of bearded lion and whose rear half is a whale's tail.

The oldest known Islamic celestial glove, made between 1080 – 1085 by Ibrahim ibn Sa'id al-Wazzan and his son Mohammad, depicts Cetus as a horned sea monster swimming to our right.

The 11th century *De signis caeli ("of the signs of heaven*") lists "Cetus" and "Coetus". The Oxford Laud 644 and Venice VIII 22 manuscripts of *De signis caeli* depict Cetus with a head resembling an aardvark and long ears. The Klosterneuberg 685, Paris BN 5239, Paris BN 5543, Vat lat 643, and Zwettl 296 manuscripts of *De signis caeli* depict Cetus as a beaked, clawed sea monster with a long horn on his head. The Laon 422 and Rouen 26 manuscripts of *De signis caeli* depict Cetus with a snake's head and flippers. The Durham Hunter 100 manuscript of *De signis caeli* depicts Cetus as a fish. The Montecassino 3 manuscript of *De signis caeli* depicts Cetus with a dog's head.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Cetus as a sea monster with a dragon-like head, a collar, clawed front legs, and the tail of a whale.

Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) depicts Cetus as a reptilian sea-monster.

A Hebrew translation of the Almagest from Catalonia (c1361), Philadelphia (USA), University of Pennsylvania Libraries, Lawrence Schoenberg Collection, ms. ljs057 (old Ms.Sassoon 823), ff.56v, 57r, depicts Cetus as a monster whose rear half is whale and whose front half is a monster having a head with ears and a large mouth and front legs with claws. The artist has clothed the green monster in a red garment.

The Cusanus celestial globe of Cardinal Nicholas Cusa (1414) depicts Cetus as a sea monster with sharp teeth swimming to our right.

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Cetus as a monster with a dragon's head, clawed front legs, and the tail of a whale.

The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.170v-171r depicts "Cetus" as a whale swimming to our right.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.72v-73r depicts Cetus as a large fish with a collar swimming to our right. It is not labelled and poorly drawn.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Cetus as a creature whose front half resembles a snarling wolf and whose rear is a whale's tail. It is facing towards our right and is not labelled.

The vault of the Old Sacristy of the Basilica di S. Lorenzo in Firenze, Italy (1442) depicts only the snarling head of Cetus, the rest of the constellation being off the edge of the vault.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Cetus as a sea monster with what appears to be a lion's head, front legs with hooves, and a rear end of a serpent.

The *Germanicus Aratea* (Siciliensis, c. 1469) and the *Germanicus Aratea* with scholia Strozziana (c. 1475) depict Cetus as a winged dragon with a long curling tail facing to our right.

"Cetus" appears on the *Imagines constellationum Australium* chart of Romanian theologian Johannes Honter (1498 – 1549) as a whale like sea monster facing to our left.

The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts “Cetus Magnus aut Pistrix” as a whale.

The early 16th century Real Academia de Historia, manuscript D-97, f.101v depicts Cetus as a monster whose front half appears to be a dog and whose back half is a whale. It is not labelled and is facing to our right. The Real Academia de Historia, manuscript D-97, f.104v – 105r depicts it in a similar fashion but reversed, facing to our left.

The “Nuremburg Maps”, a pair of celestial hemispheres made in 1503 by Conrad Heinfogel depicts Cetus as a large rotund fish with teeth.

The *Southern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius lists this as “CETVS” and depicts Cetus as a large fish with a head resembling a dog’s head with ears.

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts “Cetus” as a dragon headed sea monster swimming to our right.

The *Horoscopion generale* (1533) of Petrus Apianus (1495 – 1552) depicts Cetus as a whale swimming to our left.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts “CETVS” in the same manner as Dürer et al.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts “Cetus” as a whale with teeth swimming to our right.

Dele Stelle Fisse (“Of the Fixed Stars”) by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as “Del Ceto, o ver Balena”. The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as the “Whale”.

The Southern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Cetus as a sea monster swimming to our left with a ribbon wrapped around its neck. It has a whale’s rear end. It’s head is hard to make out, but appears to be a dragon’s head with ears.

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists Cetus in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts “Cetus” as a sea monster.

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicts “Cetus” as a sea monster swimming to our right.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts “la Baleine” as a large fish swimming to our left.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts “Cetus” as a sea monster swimming to our right. Its back end is a whale’s tail and the front end looks like a bear

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) labels this constellation “Pistris” (“fish”) and depicts it as a sort of half wolf, half fish.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts “Cetus” as a sort of whale swimming to our right.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) depicts Cetus as a whale-like sea monster swimming to our right.

Cetus is listed in Danish astronomer Tycho Brahe’s *Astronomiae Instauratae Progymnasmata* (1602).

German uranographer Johann Bayer (1572 – 1625) depicts this in his *Uranometria* in 1603 as a sea dragon. Bayer lists these names for this constellation: “Cetus, Cete, Draco Leo ursus marinus, Bellua, Monstrum marinum, Balena, Pistrix, Orphus, Orphas, Elkaitos, Elketos”.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts “Cetus” as a sea monster swimming to our right with “Balena” listed as an alternate name.

“Cetus” and “Balena” are listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and depicted as a sea monster swimming to our left.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the name “Cete” for this constellation.

“Cetus” is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a whale like sea monster swimming to our left.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts “Cetus Ballena” as a whale with teeth swimming to our right.

The huge *Gottorf Globe* (c1650) made for the Duke of Holstein, Frederick III, one of the world’s first planetariums, depicts just the head of Cetus at the lower edge of the dome. It is a dragon like head.

This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as “Cetus” and “Balena”.

A Latin name listed by Edward Sherburne in his *Spheres of Marcus Manilius* in 1675 is “Cete”.

English uranographer John Seller’s *A coelestiall planisphere* (1678) depicts “Cetus” as a whale.

Dutch cartographer Frederik de Wit’s *Planisphaerium Coeleste* (1670) labels this constellation “Cetus” with the subtitle “Balena” and depicts it as a half whale half lion creature.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts “Cetus” as a sea monster with a long tongue and pointed nose facing to our right.

Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) labels this constellation "Balena Cetus Pistrix ireo Marinus" and depicts it as a whale.

English uranographer John Seller's *A coelestiall planisphere* (1678) depicts "Cetus" as a whale with teeth.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, depicts "Cetus" as a see monster with clawed front legs.

Cetus is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729: It is depicted as a sea monster with large teeth, front clawed paws, and a whale's tail.

The *Atlas Coelestis* of German astronomer Johann Gabriel Doppelmayr (1742) depicts "Cetus" as a sea monster with a curved tusk, clawed front legs, and a whale's tail.

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) labels this constellation "Cetus Balena" and depicts it with the front end of a lion and the back end of a whale.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Cetus as a sea monster with a dragon head, clawed front legs, and a whale tail, swimming to our left.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) depicts "La Baleine" as a sea monster resembling a whale.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts "Cetus" as a sea monster facing to our right.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "La Baleine" ("the whale") as a sea monster with large teeth, front clawed paws, and a whale's tail, as does the 1778 edition.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as "Wallfisch" and depicts it as a monster with the front half resembling a lion and the back half a whale. Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Der Wallfisch" and depicts it the same way.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as "Balena" in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts "Cetus Balena" as a whale with teeth.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts "Cetus" as a sea monster facing to our right.

Cetus is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801) as "Walvisch" and depicted as a sea monster.

American uranographer William Croswell (1760 – 1834) depicts "Cetus the Whale" on his *Mercator Map of the Starry Heavens* in 1810 as a whale with teeth.

"Cetus" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as a dragon headed sea monster, whose head is tilted to one side.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Cetus in his *Celestial Atlas* in 1822: It is depicted as a monster with a single horn over its nose, clawed front feet and a whale's body.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts "Cetus" as a whale like monster with clawed front fins: It is facing to our right.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts "Cetus" as a whale like monster with front flippers.

Cetus is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822. This constellation is depicted as a whale with a dog-like bearded face and clawed front legs.

"Cetus" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It its depicted as a sea monster with a lion's head.

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as "Cetus, the Whale".

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) labels this constellation "Cetus, the whale,… a huge sea monster".

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Cetus, The Sea Monster" as an official constellation "recognized in the catalogue of the British Association".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Cetus" in his *Star Atlas* (1893) and describes it as "The Whale".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Cetus" and describes it as a "Whale".

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Cetus" as "the Whale".

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) redesigned the lines of Cetus in his book *The Stars - A New Way to See Them* (1952), turning the "whale" 180 degrees:

- Its "tail" is an oval of the stars Alpha (α) Ceti (Menkar), Lambda (λ) Ceti, Mu (μ) Ceti, Xi (ξ) Ceti, and Gamma (γ) Ceti, with a line from this last star going to Delta (δ) Ceti,
- Its "body" is the bent oval of stars Delta (δ) Ceti, Omicron (ο) Ceti, Zeta (ζ) Ceti, Theta (θ) Ceti, Iota (ι) Ceti, Beta (β) Ceti (Diphda), and Upsilon (υ) Ceti.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Cetus in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik*, in this manner:

- His "head" is the oval of stars Gamma (γ) Ceti, Alpha (α) Ceti (Menkar), Lambda (λ) Ceti, Mu (μ) Ceti, Xi (ξ) 2 Ceti, and Nu (ν) Ceti,

- The “body” is a line running from Gamma (γ) Ceti through Delta (δ), 75, Omicron (ο), Zeta (ζ), and Theta (θ) Ceti to Eta (η) Ceti,
- The “tail” is the triangle of stars Eta (η) Ceti, Iota (ι) Ceti, and Beta (β) Ceti (Deneb Kaitos), and
- An “arm” runs from Zeta (ζ) Ceti through Tau (τ) Ceti to Upsilon (υ) Ceti.

Sky and Telescope Magazine, founded in 1941, depicts Cetus in their magazine and publications like this:

- Its “head” is a pentagon of the stars Alpha (α) Ceti (Menkar), Lambda (λ) Ceti, Mu (μ) Ceti, Xi (ξ) 2 Ceti, Nu (ν) Ceti, and Gamma (γ) Ceti,
- From Gamma (γ) Ceti a line runs through Delta (δ) Ceti and Omicron (ο) Ceti to Zeta (ζ) Ceti,
- Its “body” is a six-sided figure of the stars Zeta (ζ) Ceti, Theta (θ) Ceti, Eta (η) Ceti, Iota (ι) Ceti, Beta (β) Ceti (Deneb Kaitos) and Tau (τ) Ceti.

Arabic astronomers translated the Greek name to “al Ketus”, which resulted in the names “Elketos”, “Elkaitos”, and “Elkaitus”. The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Elketos”. “Elketos” is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

Cetus A:

This **telescopic** asterism is the barred spiral galaxy Messier 77 (NGC 1068) in the IAU constellation Cetus. This was discovered by French astronomer Pierre Méchain in 1780 and listed by his colleague Charles Messier. William Herschel described it as a “star cluster” and his son John Herschel did also, including it on his list as h 262. It was listed in John Herschel’s 1864 *General Catalogue* as GC 600. It is also known as the “Fiery-Spirited of Cetus” (see above) and the Squid Galaxy (see below).

Chaff:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is the star HIP 88550 in the IAU constellation Sagittarius.

This Chinese xing guan “Kāng” (糠) is the star 45 Ophiuchi in the IAU constellation Ophiuchus.

This Chinese Chenzhuo xing guan “Kang” is the star HIP 88550 in the IAU constellation Sagittarius.

Chain Link of Andromeda:

This **telescopic** asterism “Désmus Andrómedae” is the intermediate spiral galaxy IC 1525 in the IAU constellation Andromeda. It was discovered by American astronomer Lewis Swift in 1887, who recorded it in his list “IX”. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it is “located exactly on the spot where Hevelius in his Uranographia star atlas drew the chain”.

Chained Broach Nebula:

This **telescopic** asterism is the HII region NGC 2467 (SH 2-311, RCW 16, LBN 1065, Cr 164, Ced 103) in the IAU constellation Puppis, which was discovered by English astronomer William Herschel in 1784 who listed it as “IV 22” in his catalogue. It is GC 1589 in the *General Catalogue* of 1864. This is also known as the “Skull and Crossbones” (see below), the “Death’s Head Nebula” (see below), and the “Mandrill Nebula” (see below).

Chained of Grus:

This **telescopic** asterism "Catenátus Grúis" is the barred spiral galaxy IC 5201 in the IAU constellation Grus. It was discovered by Joseph Lunt in 1900. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "at its western side, this galaxy has a long and thin interspaced spiral arm, like a chain of bright luminous spots".

Chained Sea Calf:

This Latin asterism "Vitulus Marinus Catenatus" is the IAU constellation Andromeda and appears in Bayer's *Uranometria* in 1603 as a chained seal. "Vitulus Marinus" is given as an "Arabic" name for Andromeda in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch. John Hill gives it the Latin name "Phoca" or "Phoce" ("sea calf" or "seal") in his *Urania* in 1754. Hill describes this as "one of the Arabian constellations", which means it is a variation of their asterism "al-mar'ah al-musalsalah" (see Chained Woman, below).

Chained Woman:

This Arabic asterism "al-mar'ah al-musalsalah" (المرأة المسلسلة), later latinized to "Merga", "Marrha", or "El Mara al Musalsela" is the star 38 Boötis in the IAU constellation Boötes:

- "al-Mara' al-Musalsala" is listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Merga".
- Dorn (1829) lists this as "chain", explaining that this is "probably mis-written for the Chained Lady" and describes this as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283).
- John Chilmead lists the name "Alamara Almasulsala" in his *Learned Treatise on Globes* in 1889, which was a translation of early Latin works by English geographer and mathematician Robert Hues: Hues listed it in 1659 as "Almara Almasulsela".
- In his *Star Names* in 1899, R. H. Allen suggested that "Marrha" is derived from the Latin "Marra" ("hoe" or "rake") and that this name was used by the Roman Poet Decimus Junius Juvenalis (Juvenal) and Roman writer Lucius Junius Columella.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists this star as "Merga" in his *Celestial Atlas* in 1822.
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists this star as "Merga, or corn fork, of Bayer".
- The IAU approved the name Merga for 38 Boötis. Compare this to Shackled Woman, below.

This Latin asterism "Mulier Cathenata" is the IAU constellation Andromeda. This name is listed in Johann Bayer's *Uranometria* (1603). This name is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch. This name is listed in English Admiral Henry William Smyth's *Bedford Catalogue* in 1844.

Chair:

This Arabic asterism "Dal al Cursa" is the IAU constellation Cassiopeia as listed in John Hill's *Urania* in 1754. He describes it as "only a translation of the old Greek name".

The Latin name “Cathedra” is given for the IAU constellation Cassiopeia by John Hill in his *Urania* in 1754.

There are two **telescopic** “chair” asterisms:

- One is Sánta 82, listed in 2007 by Hungarian astronomer Sánta Gábor is 11 – 13th magnitude stars in the IAU constellation Orion. Gábor describes it as “nice, pretty bright, chair-like asterism.”
- One is in the IAU constellation Cassiopeia and is Corder 202 on the observing list of American astronomer Jeffrey Corder. Corder describes it as “a loose group of five 8th and 9th magnitude stars.” This includes HIP 5839 and 5696. To me, it looks like a recliner chair. Size 30’ X 20’.

Chair of Eiddionydd:

This Welsh asterism listed by Victorian folklorist Marie Trevelyan (1852 – 1922) in her *Folk-lore and Folk-stories of Wales* (1909) is currently unidentified.

Chair of Teyrnon:

This Welsh asterism listed by Victorian folklorist Marie Trevelyan (1852 – 1922) in her *Folk-lore and Folk-stories of Wales* (1909) is currently unidentified.

Ch’akana:

This Inca asterism “Ch’akana” or “Chacana” is the IAU constellation Crux (Gamarra & Gamarra 2009). It represents the principal grains in the Inca diet, with the star Alpha (α) Crucis (Acrux) called “Saramanqa” (“Pot of Maize”) and Beta (β) Crucis (Mimosa) called “Qoqamanqa” (“Pot of Qoqa”).

Chalawan:

This Thai star is 47 Ursae Majoris in the IAU constellation Ursa Major and was given this name by the IAU in 2015. Chalawan is a mythological crocodile from a Thai folktale. It has two exoplanets named Taphao Thong and Taphao Kaew.

Chaldean Fish:

This Dutch asterism with the Greek name “Χελιδόνιας ἰχθύς” (“Chelidónias ichthýs”) is the triangle of stars Phi (ϕ), Upsilon (υ), and Sigma (σ) Piscium in the IAU constellation Pisces, forming the northern “fish”. This was listed in R. H. Allen’s *Star Names* in 1899. Allen writes that “A scholiast on Aratus, commented on by Grotius, said that the Chaldeans called the northernmost fish [this name]”, this being the Dutch lawyer and astronomer Hugo Grotius (1583 – 1645).

Chalice:

This Austrian asterism is made up of stars of the IAU constellation Orion and was created by Anton Maria Schryrleus (1604 – 1660), the maker of the lenses for Kepler’s telescope. R. H. Allen lists this in his *Star Names* in 1899 but does not describe the precise stars.

Chalk Line:

This **telescopic** asterism is Renou 37 in the asterism list of French astronomer and author Alexandre Renou. This is in the IAU constellation Ophiuchus. René Merting lists it on the *Faint Fuzzies* website. The line starts at HIP 89283 and runs through a line of 8^{th} – 10^{th} magnitude stars. It is 15' long.

Cham:

This asterism is the IAU constellation Taurus as listed by John Hill in his *Urania* in 1754. Hill describes this as being the name of an Egyptian character, but Cham is actually the son of Noah in Hebrew legends.

Chamaeleon:

None of the stars of this constellation are brighter than 4^{th} magnitude and only show up in 12 asterisms in this handbook.

The IAU constellation Chamaeleon (IAU abbreviation Cha) was created by Flemish astronomer Petrus Plancius in 1597 based on the observations of the Dutch navigators Pieter Dirkszoon Keyser (1540 – 1596) and Frederick de Houtman (1571 – 1627). De Houtman called it "Het Chamel joen". Dutch historian Paulus Merula (1558 – 1607) called it "Chamaeleon", as did Flemish cartographer Jodocus Hondius (1563 – 1612), and Dutch uranographer Willem Blaeu (1571 – 1638). It was depicted on gores of the globe of Petrus Plancius published in 1598 by Jodocus Hondius as a chameleon.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) lists "Chamaeleon" and depicts it as a chameleon.

German uranographer Johannes Bayer (1572 – 1603) depicts "Chameleon" in his *Uranometria* in 1603 as a chameleon.

"Chamaeleon" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the name "Chamaeleon" for this constellation.

"Chamaeleon" is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a chameleon.

Gores for a celestial globe Bibliothèque Nationale de France, Department Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts "Chamelion" as a chameleon.

"Chameleon" is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661.

Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) labels this constellation "Cameleon" and depicts it as what looks like a worm with a rounded head.

English astronomer Edmund Halley's chart of 1678 depicts "Chamaeleon" as a chameleon.

Edward Sherburne lists it in his *Sphere of Marcus Manilius* in 1675.

The 1688 celestial globe of Italian priest and uranographer Vincenzo Maria Coronelli (1650-1718) includes this constellation (Stevenson 1921).

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts "Chamaeleon" as a chameleon walking to our left.

Hevelius' *Firmamentum Sobiescianum sive Uranographia* (1690) depicts "Chamaeleon" as a chameleon and Hevelius shows it as a line of three stars: Alpha (α), Gamma (γ), and Beta (β) Chamaeleontis.

Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) depicts "Chamaeleon" as a chameleon.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, depicts Chamaeleon as a green lizard.

Chamaeleon is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts "Chamaeleon" as a chameleon.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts "Chamæleon" as a chameleon.

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) depicts "Chamaeleon" as a lizard with a curly tail.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Chamaeleon as a lizard with a curly tail.

French astronomer Abbé Nicolas Louis de Lacaille's *Planisphère des Étoiles Ausralea* (1756) depicts "la Cameleon" as a chameleon.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) depicts "Le Cameleon" as a chameleon.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts "Camelion" as a chameleon.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "le Cameleon" as a lizard, as does the 1778 edition.

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts "Chamaleon" as a chameleon.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts "Chamelion" as a chameleon walking to our left.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Chamaeleon in his *Celestial Atlas* in 1822.

American uranographer Elijah Burritt's *Southern Circumpolar Map for each Month in the Year* (1835) depicts "The Camelian" as a chameleon.

"Chamaeleon" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875): He indicates the borders of this constellation on the chart but offers no illustration of it.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts “Chameleon” as a lizard.

English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists “Chamaeleon, the Chameleon” as an official constellation “recognized in the catalogue of the British Association”.

American astronomer Winslow Upton’s *Star Atlas* (1896) lists this constellation as “Chamaeleon” and describes it as a “Chamaeleon” and incorrectly attributes it to Bayer.

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children’s book *Curious George* (1941) redesigned the in his book *The Stars - A New Way to See Them* (1952). The IAU standard asterism is simply a line of three stars: Beta (β) Chamaeleontis, Gamma (γ) Chamaeleontis, and Alpha (α) Chamaeleontis. Rey creates a rectangle of the stars Gamma (γ), Delta (δ) 2, Beta (β), and Epsilon (ε) Chamaeleontis with a line running from Gamma (γ) Chamaeleontis to “eyes” of Alpha (α) and Theta (θ) Chamaeleontis.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Chamaeleon in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik*, as a diamond shape made up of Theta (θ), Delta (δ) 2, Beta (β), Gamma (γ), and Alpha (α) Chamaeleontis.

Sky and Telescope Magazine, founded in 1941, depicts Chamaeleon in their magazine and publications like this:

- One end is a quadrilateral of the stars Gamma (γ), Delta (δ) 2, Beta (β), and Epsilon (ε) Chamaeleontis, and
- From Gamma (γ) Chamaeleontis a line runs out to Alpha (α) Chamaeleontis.

French astronomers call it “Caméléon” and Italian astronomers “Camaleonte”.

Chamber:

This is the Japanese sei shuku or lunar station moon station “Soi Boshi”, sometimes translated as “breasts”. It is a line of four stars in the IAU constellation Scorpius: Beta (β) Scorpii (Acrab), Delta (δ) Scorpii, Eta (η) Scorpii, and Rho (ρ) Scorpii.

Chamber of Horrors:

This is an alternate name for the Ant Nebula (see Ant, below).

Chamberlain:

This Korean asterism “Sijong” (시종) is a line of two stars in the IAU constellation Lupus: Chi (χ) and Xi (ξ) 2 Lupi.

Champagne Flute and Fizz:

This Canadian **telescopic** asterism is in the IAU constellation Andromeda and was listed by Calgary Centre member Roland Deschesne. The base of the “champagne flute” is Beta (β) Andromedae (Mirach) and the “flute” is formed by the triangle of stars Mu (μ), Nu (ν), and 32 Andromedae. The “fizz” is the Andromeda Galaxy, Messier 31. Size 470’ X 140’.

Champion:

This Xhosa star “iQhawe”, “iQhawa”, or “iNgqaqhawuli” is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Slotegraaf 2013, Lock and Slotegraaf 2022). Some expand this into an asterism including the star Beta (β) Canis Majoris (Mirzam). This star and uCanzibe (see Shining Brightly, below) are seen by some as suitors, though it is not clear whose affections they are seeking.

This asterism is the IAU constellation Perseus as listed by Robert Burnham in his Burnham’s Celestial Handbook in 1978. Burnham describes this as a classical Greek name.

Chamukuy:

See Small Bird, below.

Chanal's Variable Star:

This **telescopic** star is a suspected variable star NSV 2229 (V1118) in the IAU constellation Orion.

Chandelier:

This **telescopic** asterism is the globular cluster NGC 6723 in the IAU constellation Corona Australis. It was discovered by Scottish astronomer James Dunlop in 1827. John Herschel listed it as h 3770 and later as GC 4450 in the *General Catalogue* of 1864. It is also known as the Soccer Ball (see below) and the Candelabra (see above).

Changing Room (Vassal of Tail):

This Chinese xing guan “Shéngōng” (神宫(附尾宿)) is the star Zeta (ζ) 2 Scorpii in the IAU constellation Scorpius.

Chángshā (Vassal of Chariot):

This Chinese xing guan “Chángshā” (长沙(附轸宿)) is the double star Zeta (ζ) Corvi in the IAU constellation Corvus. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

Channel:

This Persian lunar station “Khatsar” is the stars Beta (β) Aquarii (Sadalsuud), Delta (δ) Aquarii, and Kappa (κ) Aquarii in the IAU constellation Aquarius as listed by R. H. Allen in his *Star Names*.

This Sogdian lunar station “Shawshat” is the stars Beta (β) Aquarii (Sadalsuud), Delta (δ) Aquarii, and Kappa (κ) Aquarii in the IAU constellation Aquarius as listed by R. H. Allen in his *Star Names*.

This Khorasmian lunar station “Mashtawand” is the stars Beta (β) Aquarii (Sadalsuud), Delta (δ) Aquarii, and Kappa (κ) Aquarii in the IAU constellation Aquarius as listed by R. H. Allen in his *Star Names*.

Channel-billed Cuckoo:

This Kamilaroi star “Murgu” is Alpha (α) Pavonis in the IAU constellation Pavo as listed by William Ridley in 1875, who called it a “night cuckoo”.

Chaophraya:

This **telescopic** Thai star is WASP 50 in the IAU constellation Eridanus (magnitude 11.44). This name was proposed to the IAU for their NameExoWorlds campaign in 2019. It is named after the Chao Phraya River. It has an exoplanet named Maeping, which is one of the tributaries of this river.

Chaotic of Canes Venatici:

This **telescopic** asterism "Chaódes Cánum Venaticórum" is the spiral galaxy NGC 4242 in the IAU constellation Canes Venatici. It was discovered in 1788 by William Herschel who listed it as "III 725". It became GC 2830 in the *General Catalogue* of 1864.This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name because of "the disordered structure of this wild looking galaxy with its short fragmented arms".

Chaple's Arc:

This **telescopic** asterism is also known as the Fairy Ring. It was named for American astronomer and author Glenn Chaple. This asterism is in a busy field of stars: The challenge is to spot the arc of stars, all of which are doubles. Four bright double stars in the IAU constellation Cygnus form the northwest curve of the ring, including HIP 98848 and 98773A. Some fainter double stars complete the circle. This is a few degrees south of Gamma (γ) Cygni (Sadr) in Cygnus and 1.6 degrees west of NGC 6888 (the Crescent Nebula). This is listed in *Asterisms: Small Star Patterns for Telescopes and Binoculars* by Dutch astronomer Demelza Ramakers in 2011. Jeffrey Corder lists it as Corder 4040. Size 20'.

Chara:

See Joy, below.

Charcoal Lined of Virgo:

This **telescopic** asterism "Carbolineáta Vírginis" is the spiral galaxy NGC 4772 in the IAU constellation Virgo. It was discovered in 1784 by English astronomer William Herschel who listed it as "II 24". It became GC 3285 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of its "conspicuous dark belt".

Chariot:

This Chinese xiù (lunar mansion) "Zhěnxiù" (轸宿) is a quadrilateral of stars in the IAU constellation Corvus: Gamma (γ) Corvi, Delta (δ) Corvi, Beta (β) Corvi (Kraz), Alpha (α) Corvi (Alchiba), and Epsilon (ε) Corvi. In one corner you find their minor asterisms Left Linchpin (see below) and Right Linchpin (see below). In the *Han shu*, a history of the early Han dynasty that was finished in 111 C.E. this xiù "Zhen" was associated to matters concerning the Jingzhou territory. It appears in the Tang Dynasty (618 – 907 C.E.) as "Zhěn" (轸) and was compared to the Vedic nakshatra Hasta (Kotyk 2017, see Hand, below).

This Chinese Chenzhuo xing guan "Zhěnxiù" is a box of four stars in the IAU constellation Corvus: Beta (β) Corvi (Kraz), Delta (δ) Corvi, Gamma (γ) Corvi, and Epsilon (ε) Corvi. From three corners lines run out:

- From Gamma (γ) Corvi a line runs into the middle of this "box" to the star Zeta (ζ) Corvi, called "Chansha",
- From Delta (δ) Corvi a line runs out to Eta (η) Corvi, called "Zuoxia" ("Left Linchpin (Adjunct to Chariot"), and

- From Epsilon (ε) Corvi a line runs out to 3 Corvi, called "Youxia" ("Right Linchpin, Adjunct to Chariot".

This Babylonian asterism "MUL.GIS.GIGIR" from the *Astrological Reports to the Kings* is listed by Parpola in *Letters from Assyrian and Babylonian Scholars* in 1993 as an unidentified asterism. Anthony Hope lists it as "GIGIR (GISH.GIGIR)" or "narkabtu" in his *A Guide to Ancient Near Eastern Astronomy* in 1996 as an unidentified asterism. However, Herman Hunger in his *Astronomical Diaries and Related Texts from Babylonia* in 1988 lists two stars which are in the IAU constellation Taurus that are part of a chariot: "SUR GIGIR sa SI" (see Northern of the Chariot below) and "SUR GIGIR sa ULU" (see Southern of the Chariot below). I'm listing this in Taurus.

This Assyrian asterism "Narkabtu" (Parpola 1993) from the Astrological Reports to the Kings is stars in the IAU constellation Taurus.

This Sumerian asterism "mul ĝišgigir" from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is stars in the IAU constellation Taurus.

Akkadian asterism "dEn-[me-šár]-ra" from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is stars in the IAU constellation Taurus.

This Greek asterism "Σάτιλλα" ("Sátilla") is the Pleiades cluster in the IAU constellation Taurus as listed by 6th century Greek grammarian Hesychius of Alexandria and by R. H. Allen in his *Star Names* in 1899.

This Greek asterism is the Big Dipper Asterism in the IAU constellation Ursa Major (see Big Dipper, above) as listed by Greek poet Anacreon (c. 5th century B.C.E.) and as listed in R. H. Allen's *Star Names* in 1899. Anacreon called it both a chariot and a bear.

This Arabic asterism "Mercab" is the asterism Argo's Ship (see above) as listed in John Hill's *Urania* in 1754. Hill translates this name as "chariot".

There are two Latin asterisms called "Currus":

- One is the IAU constellation Delphinus. "Currus" is listed in Johann Bayer's *Uranometria* (1603). This name is attributed to the Roman statesman Marcus Tullius Cicero (106 – 43 B.C.E.) in John Hill's *Urania* in 1754.
- One is the Big Dipper asterism in the IAU constellation Ursa Major as listed by R. H. Allen in his *Star Names* in 1899.

There are two Belarussian "chariot" asterisms:

- One, "Kolesnitsa", is the Little Dipper asterism in the IAU constellation Ursa Minor (see Little Dipper below). They also call it "Pavozachka" (see Small Cart, below).
- One, "Kaliansnitsa", is the Big Dipper asterism in the IAU constellation Ursa Major (Avilin 2009).

This Seima-Turbino asterism is the IAU constellation Ursa Minor (Polyakova 2009).

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) lists the name "Chariot" for the Little Dipper asterism.

Chariot Cross Board:

This is the Japanese sei shuku or lunar station “Mitsusake Boshi”, sometimes translated as “strings of Koto”, and is made up of stars of the IAU constellation Corvus. It is a quadrilateral of stars: Beta (β) Corvi (Kraz), Delta (δ) Corvi, Epsilon (ε) Corvi, and Gamma (γ) Corvi.

Chariot of Elias:

This asterism is the Big Dipper asterism in the IAU constellation Ursa Major as listed in Edward Sherburne’s Sphere of Marcus Manilius in 1675, attributing it to German poet, jurist, and translator Georg Philipp Harsdörffer (1607 – 1658). It is later listed John Hill’s *Urania* in 1754, but Hill doesn’t identify his source. Elias is a variation of the name of the Hebrew prophet Elijah.

Chariot of Emperor:

This Korean lunar mansion “Jin” is a quadrilateral of stars in the IAU constellation Corvus: Beta (β) Corvi (Kraz), Delta (δ) Corvi, Gamma (γ) Corvi, and Epsilon (ε) Corvi. Three small asterisms, each a line of two stars, are connected to two of the corners of this asterism: “Royal” (see below), “Sand for Life” (see below), and “Lord” (see below).

Chariot of the Sea:

This Latin asterism “Currus Maris” is Ptolemy’s asterism Argo’s Ship (see above).

Chariot Yoke:

This “Euphratian” asterism “Sugi” is the stars Alpha (α) Librae (Zubenelgenubi) and Beta (β) Librae (Zubeneschamali) in the IAU constellation Libra as listed by R. H. Allen in his *Star Names* in 1899. Bartel van der Waerden lists “SHU-GI” as a Babylonian name for “Perseus and norther part of Taurus” in his *Birth of Astronomy* in 1974.

Chariots and Cavalry:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a triangle of stars in the IAU constellation Lupus: Zeta (ζ) Lupi (the determinative star), HIP 74006, and b Lupi.

This Chinese xing guan “Chēqí” (车骑) is a bent line of stars in the IAU constellation Lupus: Sigma (σ), Rho (ρ), and Zeta (ζ) Lupi. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Chēqí” is a triangle of stars in the IAU constellation Norma: Eta (η) Normae, HIP 77678, and HIP 76935.

Chariots and Cavalry General:

This Chinese xing guan “Qízhènjiāngjūn” (骑阵将军) is the star Kappa (κ) 1 Lupi in the IAU constellation Lupus.

This Chinese Chenzhuo xing guan “Qízhènjiāngjūn” is the star HIP 78323 in the IAU constellation Lupus.

Charioteer:

This Greek asterism “‘Ηνίοχος” or “Heniochus” is Ptolemy’s version of the IAU constellation Auriga which appeared in his *Almagest* (2nd century). Greek names for this constellation relating to charioteers include “Ἁρμελάτης” (“Armelátis”, “Armelates”, “Harmelates”, or “Hamiclates”), “Διφρηλάτης”

(“Difrilátis” or “Diphrelates”), “Ἱππηλάτης” (“Ippilátis” or “Ippelates”), “Pelethronius”, “Threthon”, “Hippolytus”, and “Ἐλάσιππος” (“Elásippos” or “Elasippos”):

- *Dele Stelle Fisse* (“Of the Fixed Stars”) by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as “De l’inuentor del Carro, o vero Auriga” (“the true Charioteer, Auriga”). The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.
- Jesuit German mathematician Christopher Clavius (1538 – 1612) lists this constellation as “Auriga, qui et Heniochus, sev Erichtonius” in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).
- In the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch the alternative name “Heniochus” is listed.
- Giovanni Paolo Gallucci’s *Theatrum Mundi, et Temporis* (1614) labels this constellation “Aeritonio” (“Erichthonius”), “Agitator”, “Auriga”, and “Heniochus” and depicts him as a nude bearded male viewed from behind kneeling on his left knee with a got sitting on his left shoulder.
- The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the names “Auriga”, “Heniochus”, and “Ericthonius” for this constellation.
- John Hill lists “Armelates” and “Harmelates” as names for this asterism in his *Urania* in 1754.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Heniochus”.

Ptolemy’s charioteer includes stars from the IAU constellations Auriga and Taurus:

- From the “head” at Delta (δ) Aurigae a line runs to the base of his “neck” at Omicron (ο) Aurigae,
- His “shoulders” are the stars Alpha (α) Aurigae (Capella) and Beta (β) Aurigae (Menkalinan),
- His “cloak” is anchored at the “shoulder” stars Alpha (α) and Beta (β) Aurigae and its lower corners are the stars HIP 22453 and Chi (χ) Aurigae,
- One “arm” runs from Beta (β) Aurigae to an “elbow” at Nu (ν) Aurigae to a “hand” at Theta (θ) Aurigae,
- The other “arm” runs from Alpha (α) Aurigae to an “elbow” at Epsilon (ε) Aurigae to a “hand” at the stars Eta (η) and Zeta (ζ) Aurigae, and
- The “legs” run from the “hips” at star Sigma (σ) Aurigae:
    - One goes out to Iota (ι) Aurigae, and
    - The other goes out to Beta (β) Tauri.

This Vedic asterism is the IAU constellation Auriga. They call the star Alpha (α) Aurigae (Capella) “Bramha-hrdaya”.

This Korean asterism “Chalo Naleuda” (차로 나르다) is a line of stars with a loop at the end in the IAU constellations Cygnus and Lacerta. The loop is the four stars HIP 107235 and 72, 74, and 79 Cygni. From HIP 107235 a line runs out through HIP 109102 and 2 Lacertae, ending at 5 Lacertae.

This Romanian asterism “Vizitiul” is the IAU constellation Auriga (Ottescu 2009).

Charles’ Heart:

This English star with the Latin name “Cor Caroli” is Alpha (α) Canum Venaticorum in the IAU constellation Canes Venatici. It was named in 1660 by Sir Charles Scarborough, physician to Charles II of

England, although it is unclear whether it was meant to commemorate that king or his father, Charles I, who was executed during the civil war in 1649. It is also known as "Regis Martyris", which is certainly a reference to Charles I:

- Edward Sherburne lists it as "Cor Caroli" in his *Sphere of Marcus Manilius* in 1675.
- English uranographer John Seller's *A coelestiall planisphere* (1678) depicts "Cor Caroli" as a heart topped with a crown.
- A celestial pocket globe created by British uranographer Herman Moll in 1719 depicts "Cor Car" as a heart topped with a crown.
- A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts Cor Caroli as a heart topped with a crown.
- A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts "Cor Caroli" as a heart topped with a crown.
- The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts this as a star in a heart topped with a crown on the collar of one of the two dogs of Canes Venatici and has a tiny label which reads "le Cœur de Charles".
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Das herz Carlo II".
- Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this star as "Cuor di Carlo" in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).
- American uranographer William Croswell (1760 – 1834) depicts "Cor Caroli Charles's Heart" on his *Mercator Map of the Starry Heavens* in 1810 as a heart topped with the English crown.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists "Cor Caroli" it in his *Celestial Atlas* and his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822). These depict the star inside a heart shape topped with a crown.
- English Admiral Henry William Smyth's *Prolegomena* of 1844 lists "Cor Caroli" and his *Bedford Catalogue* in 1844 writes that "Cor Caroli [was named] by Halley, at the suggestions of Sir. C. Scarborough, after a worthless man's heart. The popular story, or rather the vulgar one, runs, - how Scarborough, the court physician, gazed upon a star the very evening before the return of King Charles II to London, the which, as in duty bound, appeared more visible and refulgent than heretofore; so the said star… was thereupon extra-constellated within a sort of Valentine figure of a heart, with a royal crown upon it; and so the monarch, it would seem, buy this extraction, remained heartless".
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich lists this star as "Cor Caroli".
- *An Improved Moveable Planisphere* (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts "Cor Caroli" as a heart topped with a crown.
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as "Cor Caroli".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Cor Caroli".
- German astronomer Hermann Joseph Klein (1844 – 1914) lists "Cor Caroli" in his *Star Atlas* (1893).
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list "Cor Caroli" for this star.

- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists "Cor Caroli" for this star and claims that it is "named in honor of Charles II'.
- The IAU approved the name Cor Caroli for the star Alpha (α) 2 Canum Venaticorum Aa.
- NOTE: French astronomers listed it as "Coeur de Charles", Italian astronomers as "Cuor di Carlo", and German astronomers as "Herz Karls".

Charioteer of Libra:

This **telescopic** asterism "Auríga Líbrae" is the spiral galaxy NGC 5917 (Arp 254) in the IAU constellation Libra. It was discovered in 1835 by John Herschel who listed it as h 3602 and later as GC 4095 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "NGC 5917 and its southern companion MCG-01-39-003 bring to mind a charioteer and his horse, the long tidal bridge being the reins". See "Mare of Libra", below.

Charles' Oak:

This English asterism "Robur Carolinum" was created by the English astronomer Edmond Halley in 1679 in reference to the Royal Oak where his patron Charles II was said to have hidden from Oliver Cromwell's troops. Halley listed "Robur Carolinum" in his *Catalogus Stellarum Australium* in 1679. It was made up of stars between the IAU constellations Centaurus and Carina, extending into half of Vela. It included the stars Beta (β) Carinae (Miaplacidus) and Eta (η) Carinae, the Eta Carina Nebula (NGC 3372), and the "Southern Pleiades", open cluster IC 2602 (see Southern Pleiades, below). French astronomer Abbé Nicolas Louis de Lacaille (1713 – 1762) strongly objected to it as he felt these stars were the best stars of the constellation Argo Navis (see Ship of Argo, below).

English astronomer Edmund Halley's chart of 1678 depicts "Robur Carolinum" as an oak tree. Halley renamed Beta (β) Carinae (Miaplacidus) to "Alpha Roboris" ("alpha oak") or "Royal Oak".

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts "Robur Caroli" as and oak tree. Hevelius' *Firmamentum Sobiescianum sive Uranographia* (1690) depicts "Robur Caroli" as an oak tree. The central star is Theta (θ) Carinae with three lines running out:

- One to Beta (β) Carinae (Miaplacidus),
- One to Gamma (γ) Muscae, and
- One to Mu (μ) Velorum.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, depicts "Robur Carolinum" on his charts as a tree.

German astronomer Johann Elert Bode (1747 – 1826) restored Robur Carolinum on his charts and American uranographer Elijah Burritt (1794 – 1838) showed it on his charts.

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) depicts "Robur Carolim" as an oak tree between Centaurus and Carina.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Robur Carolinum as an oak next to Argo Navis.

English astronomer John Flamsteed listed “Robur Carolinum” in his *Atlas Coelestis* in 1729.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts “le Chéne de Charle” as an oak tree as does the 1778 edition.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts “Robur” as an oak tree.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts “Robur Caroli” as an oak tree.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts “Robur Car” as an oak tree.

Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists this constellation as “Carls Eiche” on his chart and depicts it as a oak tree.

American uranographer William Croswell (1760 – 1834) depicts “Robur Carolinum the Royal Oak” on his *Mercator Map of the Starry Heavens* in 1810 as an oak tree.

American uranographer Elijah Burritt’s *Southern Circumpolar Map for each Month in the Year* (1835) depicts “Robur Carolinum, King Charles’ Oak” as an oak tree.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depict “Robur Caroli” as an oak tree.

Charles’ Wain:

This Brythonic asterism is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper above). Its name was derived from the older Saxon “Carlswæn”, which in turn was probably derived from the Germanic “Churlswagen” and related to the Norse **“**Karlvagn” (see Men’s Wagon, below):

- English linguist John Minsheu (1560 – 1627) lists “Charles Waine”.
- English alchemist and translator Richard Eden (c. 1520 —1576) called it “Charles Wayne”.
- King James I (1566 – 1625) called it “charlewaine”.
- Elizabethan poet Sir John Davies called it ”Charles his waine”.
- In 1630 English poet John Taylor called it “Charles his cart (which we by custome call Charles his wane)”.
- Shakespeare and Tennyson both used “Charles’ Wain”.
- Variations include “Charles’s Waine”, “Carles-Wæn”, “Carleswagn”, “Cherlemaynes-wayne”, “Charlmons wayn”, “carle wen-sterre”, “Carwaynesterre”, “Charel-wayn”, “Charlewayn”, “Charle wane”, “Charles Waine”, “Carol's Wain(e)”, “Charlemagne’s Wane”, “Charlemagne’s Wain”, “Charle-waine”, and “Charl-maigne Wain”.
- American uranographer William Croswell (1760 – 1834) depicts the Big Dipper asterism on his *Mercator Map of the Starry Heavens* in 1810 and labels it “Septentrio Charles’s Wain:.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Charles’ Wain”.

- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists "Charles' Wain" as an alternate name for the Big Dipper asterism "from a fancied resemblance to a wagon drawn by three horses tandem".
- R. H. Allen dismisses any connection between "men's wagon" and "Charles' wain" in his *Star Names* in 1899 and claims that the connection between Charlemagne and this asterism "appears to arise out of the verbal association of the star-name Arcturus with Arturus or Arthur, and the legendary association of Arthur and Charlemagne; so that what was originally the wain of Arcturus or Boötes ('Boötes' golden wain,' Pope) became at length the wain of Carl or Charlemagne".

This Gaelic asterism "A' Chrainn-arain" or "An Crann-arain" is the IAU constellation Ursa Major. R. H. Allen lists the name "Crann" and "Crannarain" in his *Star Names* in 1899.

Charming of Cetus:

This **telescopic** asterism "Amoénus Céti" is the barred spiral galaxy NGC 157 in the IAU constellation Cetus. It was discovered in 1783 by English astronomer William Herschel who listed it as II 3. It is GC 78 in the General Catalogue of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010): They called it this as they thought it "would be a charming place to live in".

Charnabon:

This Greek asterism is the IAU constellation Ophiuchus. In Greek myth Charnabon was king of the Getae. Charnabon received Triptolemus as a guest, then conspired to kill him, but instead killed one of the dragons that drew his chariot. Demeter rescued Triptolemus and placed Charnabon in the sky as this constellation. John Hill lists this constellation as "Carnabos" in his *Urania* in 1754.

Charon:

This Greek star is possibly Alpha (α) Carinae (Canopus) in the IAU constellation Carina as listed by the 8th century B.C.E. poet Homer (Mosenkis, date N/K). Charon is the person who ferries the dead across the river Acheron (later the Styx) into Hades.

Chaste One of Cetus:

This **telescopic** asterism "Cásta Céti" is the edge on spiral galaxy NGC 799 in the IAU constellation Cetus. This is located beside the spiral galaxy NGC 800. These were discovered by Lewis A. Swift in 1885. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as it is smaller than NGC 800 (which they labelled "male") and as there appears to be no interaction between them.

Checkmark:

There are fifteen **telescopic** "checkmark" asterisms:

- One, Ennis 2, is in the IAU constellation Cygnus, and is on the list of Canadian astronomer Charles Ennis. The top end of the long line of the checkmark is the star HIP 104007 and the double star HIP 104103, then runs west through Gaia DR3 2163606169276981632, SAO 50434, Gaia DR3 2162852862051225856, And Gaia DR3 2162852552813578752, to Gaia DR3

2164351019694229248. From this last star a shorter line stars runs at right angles through Gaia DR3 2164354215146593280 to Gaia Dre 2164356001853851008. Nearby is another **telescopic** asterism, the Horseshoe (see below). Size 28' X 8'.

- One is Corder 4260 in the IAU constellation Vulpecula and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 60' X 20'. This includes the stars T, 32, 31, 30, and 28 Vulpeculae.
- One is in the IAU constellation Taurus and is Ennis 45 on the observing list of Canadian astronomer Charles Ennis. This runs from the double stars HIP 27218 through HIP 27191, and HD 247180 to HIP 27129, and then across to 27183. Size 50' X 15'. This is Corder 918 on Jeffrey Corder's list, which he describes as "a wide 'V'".
- One is in the IAU constellation Gemini and is Ennis 48 on the observing list of Canadian astronomer Charles Ennis. Size 35' X 20'. This runs from HIP 38231, through HD 63282, the double star HIP 38144, to HIP 38101, and across to the double star HIP 38055A. This includes stars from Corder 1429 on Jeffrey Corder's list.
- One is in the IAU constellation Ursa Major and is Ennis 50 on the observing list of Canadian astronomer Charles Ennis. Size 17' X 4'. This is four 7^{th} – 8^{th} magnitude stars starting at HIP 44925 and running through HD 77994 to HD 78448 and across to HIP 45147. Jeffrey Corder lists this as Corder 1770 and describes it as "a line of four pretty faint stars".
- One is in the IAU constellation Hydra and is Corder 2089 on the observing list of American astronomer Jeffrey Corder. Size 55' X 35'. This includes five 7^{th} – 8^{th} magnitude stars including HIP 53153, 53099, and the double star HIP 53226.
- One is in the IAU constellation Virgo and is Corder 2507 on the observing list of American astronomer Jeffrey Corder. Size 75' X 35'. This is eight 7^{th} – 8^{th} magnitude stars including HIP 66007, 66147, and 66218, and the double stars HIP 65697 and 65911A.
- One is in the IAU constellation Scorpius and is Corder 3199 on the observing list of American astronomer Jeffrey Corder. Size 45' X 20'. This is eight 7^{th} – 8^{th} magnitude stars including HIP 83498 and 83330.
- One is in the IAU constellation Pavo and is Ennis 81 on the observing list of Canadian astronomer Charles Ennis. Size 10'. This is six 7^{th} – 11^{th} magnitude stars: HD 166318, double star HIP 89416, HIP 89398, Gaia DR3 6436941394314296704, Gaia DR3 6436983832888879104, and Gaia DR3 6436983283133088256. This is Corder 3511 on Jeffrey Corder's list: Corder describes it as an "asterism of two multiple stars… a double… at the north end, and a triple star… at the southern end."
- One is in the IAU constellation Indus and is Corder 4240 on the observing list of American astronomer Jeffrey Corder. Size 35'. This is seven 9^{th} – 11^{th} magnitude stars including HIP 102550.
- One is in the IAU constellation Vulpecula and is Corder 4410 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is twelve 8^{th} – 9^{th} magnitude stars including HIP 105791. Corder describes this as an "L" or "Checkmark" shape.
- One is in the IAU constellation Pegasus and is Corder 4620 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is seven 10^{th} magnitude stars.
- One is in the IAU constellation Pegasus and is Corder 4700 on the observing list of American astronomer Jeffrey Corder. Size 75' X 25'. This is seven 6^{th} – 8^{th} magnitude stars including HIP 111108, 111233, 111296, and 111437.

- One is in the IAU constellation Phoenix and is Corder 4913 on the observing list of American astronomer Jeffrey Corder. Size 75' X 40'. This is six 8th magnitude stars including HIP 116137, 116013, and 115940.
- One, the Checkmark Nebula, the HII region Messier 17 (NGC 6618, SH 2-45, RCW 160, LBN 60, Cr 377, Ced 161) in the IAU constellation Sagittarius. It was discovered in 1745 by Swiss astronomer Philippe Loys de Chéseaux and catalogued by French astronomer Charles Messier in 1764. It is listed in John Herschel's General Catalogue of 1864 as GC 4403. It is also known as the Omega Nebula, Swan Nebula, Lobster Nebula, and Horseshoe Nebula. American astronomer Tom Lorenzin refers to it as the "Check-mark".

Cheerio Nebula:

This **telescopic** asterism the Cheerio or the Ghostly Cheerio is the planetary nebula NGC 6337 in the IAU constellation Scorpius. It was discovered by English astronomer John Herschel in 1847. It is GC 4290 in the *General Catalogue* of 1864. It is called this as it resembles the Cheerios brand of breakfast cereal that came out in 1945.

Cheeseburger Nebula:

This **telescopic** asterism is planetary nebula NGC 7026 in the IAU Cygnus. It is also known as Burnham's Nebula after the American astronomer Sherburne Wesley Burnham (1838 – 1921), who discovered it in 1894. Size 0.4' X 0.1'. This name was posted on the *Deep Sky Forum* in July 2014 by American astronomer Dragan Nikin.

Chelidonias:

John Hill lists this name for "one of the two fish" in the IAU constellation Pisces in his *Urania* in 1754, going on to describe it as "the northern fish". This would be the triangle of stars Upsilon (υ), Sigma (σ), and Phi (ϕ) Piscium.

Chematy:

This ancient Egyptian asterism is a diamond of stars in the IAU constellations Vela and Carina: Delta (δ) and Kappa (κ) Velorum and Epsilon (ε) and Iota (ι) Carinae.

Chenti Irti:

This Egyptian Dendera asterism is made up of stars in the IAU constellations Centaurus, Circinus, Lupus, and Triangulum Australe (Hoffmann 2017). The central star is Alpha (α) Centauri (Rigil Kentaurus) and three lines run off to the stars Alpha (α) Lupi, Alpha (α) Circini, and Beta (β) Trianguli Australis. Chenti Irti or Mechenti-Irti was an ancient Egyptian falcon deity of Chem or Letopolis. The meaning of "Chenti Irti" is uncertain but may be "sharp sighted one".

Cherrypickus:

This American asterism is the IAU constellation Ursa Minor and was created by Brad and Kathryn Templeton for *The Vault of Heaven* star map for the 2004 Burning Man event held in Black Rock Desert in Nevada (Kuperjanov 2006).

Chertan:

See Two Small Ribs, below.

Cheshire Cat:

See Smiley Face below.

Chest of the Old Man:

This Babylonian star "GABA.SHU.GI" is listed in Anthony Hope's *A Guide to Ancient Near Eastern Astronomy* in 1996 is possibly Delta (δ) Persei in the IAU constellation Perseus and is part of their asterism Old Man (see below).

Chevremont's Star:

This is a variable star in in the globular cluster Messier 2 in the IAU constellation Aquarius.

Chevron:

This **telescopic** asterism in the IAU constellation Canis Major is Nagler 1 on American astronomer and optics expert David Nagler's list. It is made up of 7th to 10th magnitude stars beside the galaxy NGC 2217, running from HIP 30461 at one end through HIP 30390 to the apex at HIP 30288 and then through IT Canis Majoris and HIP 30203 to HIP 30066.

Chi:

See Whip, below.

Chi of Draco:

This **telescopic** asterism "Chiástus Dracónis" is the edge-on spiral galaxy NGC 5965 in the IAU constellation Draco. It was discovered in 1788 by William Herschel who listed it as II 762". It became GC 4115 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the central region of this edge-on galaxy shows a remarkable crosslike figure, resembling the Greek letter Chi (χ)".

Chiao Yao:

This Chinese star was mentioned in the *Huai Nan Tze* (2nd century B.C.E.). It was circumpolar then and was probably the star Gamma (γ) Boötis (Seginus).

Chickadee:

This Mi'kmaq star "Jiji'kes" is Zeta (ζ) Ursae Majoris (Mizar) in the IAU constellation Ursa Major. It is part of their asterism Muin and the Seven Hunters (see below).

Chicken Head:.

This **telescopic** asterism is HII region IC 2872 in the IAU constellation Centaurus. It was discovered by American astronomer Royal Harwood Frost

Chicklet:

See Little Joe (from Kokomo) below.

Chicks:

This is the Belarussian name for the Pleiades cluster in the IAU constellation Taurus. Compare this to the asterism Hen and Her Chicks (see below).

This Ibibio asterism is the Pleiades cluster in the IAU constellation Taurus. It is part of their asterism Mother Hen and Her Chicks (see below).

This French asterism “Poussinière” is the Pleiades cluster in the IAU constellation Taurus as listed in English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 and in R. H. Allen’s *Star Names* in 1899.

This Italian asterism “Pulsiniere” or “Gallinelle” is the Pleiades cluster in the IAU constellation Taurus as listed in R. H. Allen’s *Star Names* in 1899. Italian astronomer Giovanni Battista Riccioli (1598 – 1671) listed this as “Gallinella”.

Chief Goddess of Perseus:

This **telescopic** asterism “Archidaémonis Pérsei” is the elliptical galaxy NGC 1129 in the IAU constellation Perseus. It was discovered in 1786 by William Herschel who listed it as “II 602”. It became GC 616 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They describe naming it thus: “…the first part .ρχι- (archi-) of the name, meaning chief, leader. The second part, daemonis (female of daemon) points to the fact that this galaxy is located not far from Beta Persei, the so-called Demon Star (Algol). The Greek word δα&μων (daimòn, latinized daemon) is also a name for a divine power, especially a light emitting god”.

Chief Frigate Bird:

This Hawaiian asterism “‘Iwakeli’i” or “‘Iwa Keli’I” is the “W” asterism of the IAU constellation Cassiopeia (see W below). The ‘iwa is the chief frigate bird or man of war bird which flies out to fish in the morning and returns to the islands in the evening, giving navigators a clue to nearby land.

Chief in Charge:

This Skidi (Pawnee) star is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor. It is part of their asterism Council of Stars (see below).

Chief Judge:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of three stars in the IAU constellation Draco: HIP 77277 (the determinative star), HIP 76196, and HIP 75974.

This Chinese xing guan “Dàlǐ” (大理) is the star CO Camelopardalis in the IAU constellation Camelopardalis.

This Chinese Chenzhuo xing guan “Dàlǐ” is a line of two stars in the IAU constellation Ursa Minor: HIP 69373 and HIP 68537.

Chief of Farming:

This Korean asterism “Nong-eob Chaeg-imja” (농업 책임자) in the IAU constellations Pyxis and Vela is a quadrilateral of stars with a line going off one corner. The quadrilateral is made up of the stars Alpha (α) and Zeta (ζ) Pyxidis, and e, d, and Psi (ψ) Velorum. From Alpha (α) Pyxidis a line runs out to Gamma (γ) Pyxidis.

Chief of the Southern Heavens:

This Hawaiian star Ke Ali'I Kona i ka Lewa is Alpha (α) Carinae (Canopus) in the IAU constellation Carina.

Chief of the Night:

This A:shiwi asterism stretches across most of the sky observable from Zuni Pueblo, but the stars and constellations involved have not yet been identified. Compare this to the Dene asterism Tailed Man (see below).

Chief Whose Altar is Made of Bones:

This Hawaiian star "Kalanikauleleiaiwi" is Alpha (α) Eridani (Achernar) in the IAU constellation Eridanus. This is the name of a famous ancestral Mō'iwahine.

Chief's Eyes:

This Hawaiian asterism "Makali'i'" ("chief's eyes" or "little eyes" or "little stars") is the Pleiades cluster in the IAU constellation Taurus. It got this name as Makali'i was the ho'okele ("navigator-steersman") for the famous voyageur Hawai'iloa.

This Tongan asterism" Mataliki" ("chief's eyes", "little eyes", "little stars") is the Pleiades cluster in the IAU constellation Taurus.

This Māori asterism "Matariki" ("chief's eyes", "small face" or "small eyes"), also known as "Tātai o Matariki", "Ao-Kai", "Hoko-kumara" or "Huihui o Matariki" ("the assembly of Matariki") is the Pleiades cluster in the IAU constellation Taurus. The helical rising of Matariki signaled the Māori New Year. Their names for the stars in Matariki are: Waiti, Waitā, Tupu-a-nuku, Tupu-a-rangi, and Ururangi.

This Anutan asterism "Matariki" ("small face" or "small eyes"), is the Pleiades cluster in the IAU constellation Taurus.

This Rapanui asterism "Matariki" ("small face" or "small eyes"), is the Pleiades cluster in the IAU constellation Taurus (Edwards and Edwards 2010, Edwards and Edwards 2016, Edwards et al 2018).

This Tahitian asterism "Matari'i" is the Pleiades cluster in the IAU constellation Taurus (Edwards 2015).

This Samoan asterism "Matāli'i" is the Pleiades cluster in the IAU constellation Taurus (Fitisemanu 2022). Fitisemanu translates this as "Face of Li'i" and associates it with their demigod Li'i. This is related to the legend of a Tanifā (see Sea Monster, below) pursuing a canoe paddled by Li'i. The acronychal rising of Matāli'i signaled the beginning of the new year (Vāipālolo season) and ushered in the festivities of the first fruits (Talomua) during the lunar months of Taumafamua and Toetaumafa.

This Kiribati asterism "Matiriki" or "Mætirki" is listed by Trussel and Groves (1978) as "three stars in Eagle", which would be the IAU constellation Aquila. NOTE: All the other cultures in Oceania give this name to the Pleiades cluster in the IAU constellation Taurus.

Chief's Fishline:

This Hawaiian star line **"**Manaiakalani" is also known as "Ka Makau Nui O Maui" ("The Big Fishhook of Maui") as it represents the Demigod Maui's fishhook. It starts with the three stars of what the Hawaiians call the Navigator's Triangle (which Western astronomers call the Summer Triangle, see below):

- Hawaiki: Alpha (α) Cygni (Deneb),

- Keoe: Alpha (α) Lyrae (Vega), and
- Humu: Alpha (α) Aquilae (Altair).

These three stars represent the Polynesian Triangle: Hawaiki (Hawai'i), Rapanui (Easter Island), and Aotearoa (New Zealand). The northern pointer connects Hawaiki (Deneb) and Momonapikowalu (Gamma (γ) Cygni (Sadr)). The southern pointer in the fishhook is created when you connect Mili'opu (Delta (δ) Scorpii (Dschubba)) with Kahe (Pi (π) Scorpii) at the top of the "hook".

Chieftain's Star:

There are two Vedic asterisms with the name "Tishya", "Tishia", "Tisya", "Tishiga", "Tistrija", "Tishrija", or "Tistar":

- One is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major and is listed in the Vedas (Holberg 2007). Compare this to the Persian asterism Tishtar, the Iranian asterism Tishtrya, and the Zoroastrian Tistrya (below). Ivanković translates this as "Three-star" and lists it as "Tisyà" as appearing in the *Atharveda* and "Tisyàh" as appearing in the *Taittirīya Brāhmana*. Ivanković writes that his translation indicates that "it was more probably intended to denote the characteristic 3 stars in the belt of Orion".
- One is Gamma (γ), Delta (δ), and Theta (θ) Cancri in the IAU constellation Cancer (Ivanković 2021).

Child:

This **telescopic** Kulin star "Bubup" is HIP 26380 (HD 38283) in the IAU constellation Mensa (magnitude 6.7). It was given this name in the IAU NameExoWorlds campaign. It has an exoplanet named Yanyan, which is their word for "boy".

This Greek lunar mansion is possibly the stars of the IAU constellation Scutum and is listed in the Magical Papyrus 121, preserved in the British Museum, and dated to the 3rd century C.E. (Mosenkis, date n/k).

Children Carrying Fur:

This Inuit (Igloolik) asterism is the sword of Orion in the IAU constellation Orion. This represents children carrying fur clothing to their fathers, the Runners (the belt of Orion, see Runners, below).

Child's Dreaming Face:

This **telescopic** asterism "Träumendes Kindergesicht" or "child's dreaming face" Hay-Merting 7 in the IAU constellation Vulpecula. This was discovered in 2017 by German astronomer René Merting and listed in Robert Zebahl's *Faint Fuzzies* website. Its size is 110' X 110'. Zebahl describes it as "a long, curved line of stars forms the silhouette of a child's face, and two groups of stars within glow slightly nebulous in binoculars like two closed eyes". Merting describes the arc of stars as measuring "a good 1.8° and forms the contour of the face- a short one closes northeast of the chain star arch, which could represent a lock of hair... the chin area in particular is beautifully shaped." The arc of the face includes HIP 99487, 99400, 99361, 99183, 99018, 98714, and 98699. The "lock of hair" starts at HIP 99487 and runs through HIP 99402A. The "left eye" includes HIP 99261 and the "right eye" includes HIP 99017 and 98992

Chillwiri:

The stars of this Quechua asterism are unidentified at present (Ciancia 2018).

Chimera:

This Greek lunar mansion is listed in the Magical Papyrus 121, preserved in the British Museum, and dated to the 3rd century C.E. (Mosenkis, date n/k). Mosenkis describes this as "some constellation near Perseus = Bellerophon". Bellerophon (see above) is a name given to the constellation Pegasus by the ancient Greeks.

Chimo:

This "Syrian" asterism is the Pleiades cluster in the IAU constellation Taurus as listed in John Hill's *Urania* in 1754.

Chinese Dragon Nebula:

This **telescopic** asterism is the HII region is NGC 6559 (LBN 28, Ced 154f, ESO 521-40) in the IAU constellation Sagittarius. It was discovered in 1847 by English astronomer John Herschel who listed it as h 1996 and h 3733 and later as GC 4384 in the *General Catalogue* of 1864. NOTE: Alongside this is the emission nebula IC 4685 (Ced 154c) which is also given this name.

Chinese Hat:

This **telescopic** asterism is the open cluster IC 2488 in the IAU constellation Vela. It was discovered by French astronomer Abbé Nicolas Louis de Lacaille in 1752. It ended up on the Index Catalogue after being recorded by American astronomer Solon Irving Bailey (1854 – 1931). It is located 30 arcminutes west of N Velorum, a 3rd magnitude star located near the False Cross asterism (see False Cross above). South African astronomer Magda Streicher (2011) described it as a "typical Chinese hat". It is also known as the Hoopskirt (see below), Milk Can (see below), and Strings of Pearl (see below).

Chinese Kite:

See Kite below.

Chingcharoibi:

This Meitei star "Chingcharoibi" is Gamma (γ) Geminorum (Alhena) in the IAU constellation Gemini.

Chirka:

This Arabic asterism is the IAU constellation Lyra as it appears on the Dresden globe of 1288, depicting what R. H. Allen describes in his *Star Names* in 1899 as "a circular vessel with a flat bottom and two handles".

Chiron:

This Greek asterism "Χείρων" or "Cheíron", also known as "Chiron" and "Chyron", is their asterism Centaur (see above) as listed by Eratosthenes (d.194 B.C.E.). This is the name of the centaur that was the tutor of Hercules:

- Johann Bayer's *Uranometria* (1603) lists "Chiron" as a name for this constellation.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Chiron" as a name for Centaurus.

- The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch lists "Chiron" as an alternate name for Centaurus.
- The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the names "Centaurus" and "Chiron" for this constellation.

Chiron's Daughter:

This French asterism with the Latin name "Chironis Filia" is the IAU constellation Taurus as listed by French astronomer Joseph Jérôme Lefrançois de Lalande (1732 – 1807). R. H. Allen lists it in his *Star Names* in 1899 and lists its derivation as "unintelligible". In Greek myth Chiron had three daughters, but it isn't clear which one Lalande is referring to here.

Chitralekha:

This Vedic star "Chitralekhā" is Delta (δ) Orionis (Mintaka) in the belt of Orion in the IAU constellation Orion.

Chow:

This Chinese star is Beta (β) Serpentis in the IAU constellation Serpens. It is their star "Zhōu" or "Tiānshìyòuyuán V" in their asterism Heavenly Market Right Wall (see below). R. H. Allen lists it in his *Star Names* in 1899. It is listed on Stellarium, but not approved by the IAU.

Christ Child's Manger:

This German asterism "Praesepe Infantis Christi" is the open cluster Messier 44 (NGC 2632), found in the IAU constellation Cancer (see Beehive, below). This astersim is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

Christmas Sieve:

This Estonian asterism is the side by side open clusters known as the Double Cluster (NGC 869 and 884) in the IAU constellation Perseus (Kuperjanov 2006). It is from the island of Saaremaa.

Christmas Star:

This Estonian star is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga (Kuperjanov 2006).

Christmas Stars:

This Estonian asterism is the stars Alpha (α) Aurigae (Capella), Zeta (ζ) Aurigae, Eta (η) Aurigae, and Epsilon (ε) Aurigae in the IAU constellation Auriga (Kuperjanov 2006). Compare this to the Kids (see below).

Christmas Tree:

There are thirteen telescopic "Christmas tree" asterisms:

- One, the "Christmas Tree Cluster", is the open cluster Melotte 49, which is found within the emission nebula and open cluster NGC 2264 (the Cone Nebula) in Monoceros. It was discovered by English astronomer William Herschel in 1784. It was given this name by American amateur astronomer and poet Leland S. Copeland (1886 – 1973). Inside the Christmas Tree Cluster is a smaller cluster of stars with a pinwheel shape known as the

Snowflake Cluster. This is O'Meara 35 in astronomer Stephen James O'Meara's *Hidden Treasures Catalogue* (2007), which lists the names "Cone Nebula", "Fox Fur Nebula" and "Christmas Tree Cluster". Astrophotographer Michael Clow named it the "Grinchy Christmas Tree" or simply the "Cosmic Grinch" in the 2024 December 22 article "Astro-photographer Reveals a Cosmic Grinch in a Holiday-Themed Star Cluster".

- One is Charlie Brown's Christmas Tree, the open cluster NGC 2367 in the IAU constellation Canis Major, which was discovered by English astronomer William Herschel in 1785 who listed it as "VIII 27". It is GC 1516 in the *General Catalogue* of 1864. This is a reference to the character Charlie Brown in Charles M. Schultz's comic strip *Peanuts*, which premiered in 1950.
- One is made up of seven stars including the star HIP 102042 in the IAU constellation Aquarius.
- One is Sánta 97, listed in 2007 by Hungarian astronomer Sánta Gábor. This is 9 – 15th magnitude stars in the IAU constellation Monoceros. Gábor describes it as "very nice, Christmas tree form.
- One is the "Bent Christmas Tree" in the IAU constellation Perseus which is Corder 478 on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Corder describes this as a "wedge-shaped star group that contains at least 12 faint stars surrounding a single 6th magnitude star [HIP 14264]". Size 25' X 15'.
- One is in the IAU constellation Andromeda and is Corder 349 on the observing list of American astronomer Jeffrey Corder. Size 60'. This includes HIP 10610 (as the star at the top of the tree), HIP 10544, and HIP 10519.
- One is in the IAU constellation Canis Major and is Corder 1059 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is six 6th – 9th magnitude stars and includes HIP 29854 and the double star HIP 29888A.
- One is in the IAU constellation Centaurus and is Corder 2234 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is a wedge shape of seven 9th – 11th magnitude stars. Corder simply lists it as a "tree", but I have put it in this category as it resembles the others in this category.
- One is in the IAU constellation Crux and is Corder 2357 on the observing list of American astronomer Jeffrey Corder. Size 30'. This includes HIP 60947, 60949, and 60781.
- One is emission nebula NGC 2024 (SH 2-277, LBN 953, Ced 55p) in the IAU constellation Orion. It was discovered by English astronomer William Herschel in 1786 who listed it as "V 28" in his catalogue. It is GC 1227 in the *General Catalogue* of 1864. Size 30' X 30'. It is also known as the Maple Leaf (see below), the Tank Tracks (see below), the Oak Leaf (see below) and the "Flame Nebula" (see below). This particular name is attributed to Donald J. Ware by the DOCdb database.
- One is the open cluster NGC 2516 (Caldwell 96) in the IAU constellation Carina. It was discovered by French astronomer Abbé Nicolas Louis de Lacaille in 1751 who listed it as "Lac II 3". It is GC 1619 in the *General Catalogue* of 1864. South African astronomer Carol Botha (2007) described this as "like a Xmas tree with lights on the tips of the branches". It is also known as the Diamond, the Southern Beehive, and the Sprinter.
- One is the Hyades cluster (Caldwell 41, Collinder 50, Melotte 25, see below) in the IAU constellation Taurus. South African astronomer Andre de la Porte (2012) described it as a Christmas Tree.

- One is made up of stars of the IAU constellation Monoceros: HD 47939, 47917, 47898, 47899, 47842, and Gaia DR3 3002689603180197120. It was posted by Spanish astronomer "Takuan" on *Cloudy Nights* in January 2025.

Christmas Tree Galaxy Cluster:

This **telescopic** asterism is the galaxy cluster MACS J0416.1-2403 in the IAU constellation Eridanus. This name appeared in the 2023 article *NASA's Webb, Hubble Combine to Create Most Colorful View of Universe* in November 2023.

Christ's Ass:

This asterism is the IAU constellation Pegasus as listed in R. H. Allen's *Star Names* in 1899. Allen only identifies the source as "pious people" who saw this as the ass on which Christ rode as he entered Jerusalem.

Christ's Cross:

This German asterism is the IAU constellation Triangulum Australe and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures. This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661.Edward Sherburne lists it as "Signum Tau, sive Imago crucis" ("The sign of the Tau, or the image of the cross") and attributes this to Schiller and elsewhere describes this as the IAU constellation Triangulum. "Christ's Cross" later appears as a name for Triangulum Australe in John Hill's *Urania* in 1754.

This German asterism "Christi Crux" is the IAU constellation Cygnus as listed by German astronomer Wilhelm Schickard (1592 – 1635). "Crux Christis" is an alternate name for this constellation listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch. Edward Sherburne lists this as "Cross of Christ" in his *Sphere of Marcus Manilius* in 1675. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Christi crux".

Christ's Seamless Coat:

This Austrian asterism is made up of stars of the IAU constellation Orion and was created by Anton Maria Schryrleus (1604 – 1660), the maker of the lenses for Kepler's telescope. R. H. Allen lists this in his *Star Names* in 1899 but does not describe the precise stars. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 attributes this to "padre de Rheita" which is another name for Schryrleus and describes it as Alpha (α) Orionis (Betelgeuse), Lambda (λ) Orionis, Delta (δ) Orionis, and Kappa (κ) Orionis.

Christ's Tomb:

This German asterism "Sepulchrum Christi" or "Holy Sepulchre" is the IAU constellation Andromeda and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures: Schiller depicts this as a stone sepulchre with a cloth draped over the near side and a tall pole with a cross at the top bearing a fluttering banner. This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "Sepulchrum XPI vel Andromeda". It later appears in Edward

Sherburne's Sphere of Marcus Manilius in 1675 as "Sepulchre of Christ" and later in John Hill's *Urania* in 1754 as "Sepulchre". *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists "Sepulchre" as an asterism created from the stars of Andromeda, but does not identify the source.

Christ's Two Fishes:

This German asterism "Duo Piscisuli Christi" is the IAU constellation Pisces as listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

Chrulius:

This "Coptic" star is Alpha (α) Carinae (Canopus) in the IAU constellation Carina as listed in John Hill's *Urania* in 1754.

Chrysaor:

This Greek star "Chrysaor" ("golden sword") is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes as listed by Hesiod (Mosenkis, date n/k). Chrysaor was the brother of the winged horse Pegasus. The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Chrysaor".

Chrysomallus:

This Greek asterism is the IAU constellation Aries. Chrysomallus is the name of the golden flying ram that rescued Phrixus in Greek mythology. Johann Bayer's *Uranometria* (1603) lists "Chrysomallus" for this constellation.

This Latin asterism "Chrysovellus" is the IAU constellation Aries. This is the Latin name for Chrysomallus, the golden flying ram that rescued Phrixus in Greek mythology.

Chrysophris:

This Latin asterism is the IAU constellation Dorado as listed by Edward Sherburne in his *Sphere of Marcus Manilius* in 1675. Chrysophris is a variety of snapper.

Chǔ:

This Chinese star "Chǔ" from the 3 Kingdoms and Ming Dynasty Period is the star Epsilon (ε) Ophiuchi in the IAU constellation Ophiuchus and is part of their xing guan Heavenly Market West Wall (see below).

Chumak's wagon.

This Ukrainian asterism "Viz Chumaka" (віз чумака) is the Big Dipper asterism in the IAU constellation Ursa Major. The Chumak people were a merchant class in the Ukraine.

Chun Huo:

This Chinese asterism "Chun Huo" from the *Xiuyao jing* (宿曜經）(759 and revised 764) is the IAU constellation Leo (Kotyk 2017).

Chun Shou:

This Chinese asterism “Chun Shou” from the *Xiuyao jing* (宿曜經）(759 and revised 764) is the IAU constellation Cancer (Kotyk 2017).

Chun Wei:

This Chinese asterism “Chun Wei” from the *Xiuyao jing* (宿曜經）(759 and revised 764) is the IAU constellation Virgo (Kotyk 2017).

Chungshennubi:

This Meitei asterism “Chungshennubi” is the IAU constellation Cancer.

Church:

This asterism is made up of the stars of the IAU constellation Aries by German astronomer Erhard Weigel (1625 – 99) produced his *Astrocopium Orbi Europaeo Sacrum* chart in 1661, 1681 and 1688 in which he tried to replace existing constellations a new system based upon the heraldry of the nation states and principalities of seventeenth century Europe, as well as of its principal hierarchies and social classes. Weigel depicts Aries as a lamb lying down facing to our right looking back over its right shoulder, with a tall pole topped with a cross and a two tailed red triangular banner leaning across the ram’s right shoulder.

This Lithuanian asterism “Bažnyčia” is the Great Square of Pegasus asterism in the IAU constellations Andromeda and Pegasus.

This **telescopic** asterism Kernya 58 was listed by Hungarian astronomer Gábor János Kernya in 2014 and is a group of stars in the IAU constellation Ophiuchus. Kernya describes it as a “slightly triangular church. Its main star is 10th magnitude.”

Chushee:

This “Persian” asterism is the IAU constellation Virgo as listed in John Hill’s *Urania* in 1754.

Cicada:

This Swazi star “Lweti” is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes (Slotegraaf 2013).

Cicada of Hydra:

There are two **telescopic** “Cicada of Hydra” asterisms:

- One is the asterism “Téttix Hýdrae” which is the barred spiral galaxy NGC 2713 in the IAU constellation Hydra. It was discovered by Albert Marth in 1864. This became GC 5442 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name in reference to “the three foreground stars on the face of this galaxy”.
- One is the asterism “Cicáda Hýdrae” which is the barred spiral galaxy NGC 2815 in the IAU constellation Hydra. It was discovered in 1784 by William Herschel who listed it as “III 242”. It became GC 1799 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Cicero’s Quadruped:

This Latin asterism “Quadrupes Ciceroni” is the IAU constellation Lupus.

- Johann Bayer’s *Uranometria* (1603) lists this constellation as “Ciceroni Quadrupes”.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Quadrupes Ciceroni”.

Cicero’s Yoke:

One, “Iugum Ciceroni” is the IAU constellation Libra. Johann Bayer’s *Uranometria* (1603) lists “Iugum Ciceroni”. “Iugum Ciceroni” is listed in The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638)

Cigar Galaxy:

There are three **telescopic** asterisms by this name:

- One is Messier 82 (NGC 3034), an edge-on starburst galaxy in the IAU constellation Ursa Major. It was discovered in 1774 by German astronomer Johann Elert Bode. French astronomer Pierre Méchain observed it and reported it to his supervisor, French astronomer Charles Messier, in 1779. It is listed in the *General Catalogue* of 1864 as GC 1950. William Herschel listed it as IV 79. It is also known as the “Exploding Cigar of Ursa Major” (see below).
- One is NGC 4945 (Caldwell 83), a galaxy in the IAU constellation Centaurus, which was discovered by Scottish astronomer James Dunlop in 1827. This is listed as GC 3386 in John Herschel’s *General Catalogue* of 1864. This is also known as the Tweezers (see below) and the Golden Coin (see below).
- One, “Sigárum Úrsae Majóris” (“cigar of Ursa Major”), is the lenticular galaxy NGC 5422 in the IAU constellation Ursa Major. It was discovered in 1789 by William Herschel who listed it as “I 230”. It became GC 3749 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Cillas:

This Greek asterism is the IAU constellation Auriga. Cillas was the chariot driver of Oenomaus in Greek mythology.

Cinerary Urn:

This Greek asterism “Κάλπη” (“Kálpi”) is the IAU constellation Crater.

Circinus:

None of the stars of this constellation are brighter than 3rd magnitude and only show up in 20 asterisms in this handbook.

The IAU constellation Circinus (IAU abbreviation Cir) was created by French astronomer Abbé Nicolas Louis de Lacaille in 1763. He originally called it “Le Compas” (“the compass”) and it is so labeled on his *Planisphère des Étoiles Ausralea* (1756) which depicts a drafting compass. However, de Lacaille changed the name to the current Latin name later.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts “le Compas” as a map compass.

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "See Compass".

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Circinus in his *Celestial Atlas* in 1822.

American uranographer Elijah Burritt's *Southern Circumpolar Map for each Month in the Year* (1835) depicts "Circinus the Compass" as a compass.

"Circinus" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875): He indicates the borders of this constellation on the chart but offers no illustration of it.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts "Circinus" as a compass.

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Circinus, The Compass" as an official constellation "recognized in the catalogue of the British Association".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Circinus" and describes it as a "Pair of Compasses".

The Facts of File Dictionary of Astronomy, 2nd edition, 1985, by Valerie Illingworth, ed., describes this as "Circinus (Compasses)".

The standard IAU charts depict Circinus as a narrow "V" of the stars Gamma (γ), Alpha (α), and Beta (β) Circini.

French astronomers call it "Compas", German astronomers call it "Zirkel", and Italian astronomers call it "Compasso".

Circinus Galaxy:

This **telescopic** asterism is the galaxy PGC 50779 (ESO 97-13) in the IAU constellation Circinus. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010) as ""Círcinus Círcini" {"Compasses of Circinus").

Circle Constellation:

This Celtic (Gaulish) asterism "Cantli prinnios" ("circle constellation" or "cycle setting") is the IAU constellation Libra (Boutet 2001, 2014, 2017) and appears in the Coligny Calendar.

Circle Dance:

This Quechua asterism from Sonqo, "Khaswa Coyllur", is an unidentified spiral group of stars (Urton 1981).

Circle Dances:

This Tukano asterism "Circulo de Dança" is made up of stars in the IAU constellation Orion (Cardoso 2007): The belt of Orion plus the stars Alpha (α) Orionis (Betelgeuse) and Gamma (γ) Orionis (Bellatrix). The Tukano also call it "Sioyahpu" (see Adze Handle above) or "Cabo do Enxó" (literally – "instrument to carve wood").

Circle Maker of Ursa Major:

This **telescopic** asterism "Circulans Úrsae Majóris" is the spiral galaxy NGC 3898 in the IAU constellation Ursa Major. It was discovered in 1789 by William Herschel who listed it as "I 228". It became GC 2564 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of the "multiple tightly wound spiral arms".

Circle of Arianrhod:

This Welsh asterism is the IAU constellation Corona Borealis and is also known as the Castle of the Silver Circle and Caer Arianrhod. Victorian folklorist Marie Trevelyan (1852 – 1922) listed it as the "Circle of Arianrhod" and "Caer Arianrhod" in her *Folk-lore and Folk-stories of Wales* (1909).

Circle of Don:

This Welsh asterism "Llys Don" ("circle of Don" or "court of Don") is the IAU constellation Cassiopeia as listed by Victorian folklorist Marie Trevelyan (1852 – 1922) in her *Folk-lore and Folk-stories of Wales* (1909). Lady Charlotte Guest (1812 – 1895) also lists this name in her translation of the *Mabinogion*. This name is listed in R. H. Allen's *Star Names* in 1899. Freer (2004) lists this as the "Palace of Don".

Circle of Grizhulas:

This Lithuanian asterism "Grižułas -Arctos", "Gryžulio Rats", "Gryzdo Rat(a)s", "Grįžo ratas", "Grįžulio ratas", "Grižoratas'Manege", "Gryzdas", "Grįžulas", "Gręzu", or "Grįžulys" is the IAU constellation Ursa Major.

Circled of Eridanus:

This **telescopic** asterism "Circumscriptus Erídani" is the spiral galaxy NGC 1357 in the IAU constellation Eridanus. It was discovered in 1785 by English astronomer William Herschel who listed it as "II 290". It became GC726 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as "the arms of this spiral galaxy form well-defined arcs around the nucleus".

Circlers:

There are two asterisms with the Latin name "Circitores":

- One is a group of stars in the IAU constellation Ursa Minor: Alpha (α) Ursae Minoris (Polaris), Beta (β) Ursae Minoris (Kochab), Gamma (γ) 1 and 2 Ursae Minoris, Delta (δ) Ursae Minoris, and Epsilon (ε) Ursae Minoris. This is listed in R. H. Allen's *Star Names* in 1899. It is called this as these stars circle the north celestial pole.
- One is the star Epsilon (ε) Ursae Minoris in the IAU constellation Ursa Minor. This is a name that was proposed to the IAU for this star but has not yet been approved.

Circlet:

This Western asterism "Circlet" or "Circlet of Pisces" is the circle of stars forming the western "fish" of the constellation Pisces: Gamma (γ), Kappa (κ), Lambda (λ), TX, Iota (ι), and Theta (θ) Piscium. Robert Burnham lists "Circlet of Pisces" in his *Burnham's Celestial Handbook* in 1978. The Norwegians call this the "Diademet" ("Diadem"). This is listed as Corder 4908 on Jeffrey Corder's list.

This **telescopic** asterism is in the IAU constellation Cepheus and is Corder 4660 on the observing list of American astronomer Jeffrey Corder. Size 70'. This is nine 7^{th} – 10^{th} magnitude stars including HIP 110706, 110634, and 110410.

Circlet of 'Uvea:

This Tongan asterism, "Ae e'Uvea", "Ao-o-Uvea" or "Kaukupenga" (see below), also known as "cloud of 'Uvea" (see below), is their name for the IAU constellation Corona Borealis.

Circling of Fornax:

This **telescopic** asterism "Circúitus Fornácis" is the spiral galaxy NGC 1425 in the IAU constellation Fornax. It was discovered in 1790 by William Herschel who listed it as "II 852". It became GC 764 in the General Catalogue of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Circular Celestial Granary:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty, despite the name, isn't circular, but a bending line of stars ending in a quadrilateral of stars in the IAU constellations Aries and Cetus:

- The line stars at Omicron (ο) Ceti and runs through 70, 75, 84, Delta (δ), Gamma (γ), Nu (ν), and Alpha (α) Ceti (Menkar – the determinative star), and Lambda (λ) Ceti, ending at Mu (Ceti).
- The quadrilateral of stars is Mu (μ) Ceti, Xi (ξ) 1 and 2 Ceti, and Xi (ξ) Arietis.

This Chinese xing guan "Tiānqūn" (天囷) is made up of stars in the IAU constellation Cetus. One curved line runs from Alpha (α) Ceti (Menkar) through Kappa (κ) Ceti, Lambda (λ) Ceti, Mu (μ) Ceti and HIP 11603A to a bend at Xi (ξ) 1 Ceti. Here it starts another curve running through Xi (ξ) 2, Nu (ν), Gamma (γ), Delta (δ), 75, 70, and 63 Ceti, ending at 66 Ceti.

This Chinese Chenzhuo xing guan "Tiānqūn" is a bent line of stars in the IAU constellations Aries and Cetus: Starting at Alpha (α) Ceti (Menkar) the line runs through Lambda (λ) Ceti, Mu (μ) Ceti, Xi (ξ) Arietis, Xi (ξ) 1 & 2 Ceti, Gamma (γ) Ceti, Delta (δ) Ceti, 75 Ceti, 70 Ceti, and 69 Ceti to HIP 10723.

Circular Mark:

This Arabic asterism is the stars Phi (φ) 1 and 2 Orionis in the IAU constellation Orion and is part of the "head" of their asterism Al Jawza' (see above).

Circumvallated of Columba:

This **telescopic** asterism "Circumvallátus Colúmbae" is the barred spiral galaxy NGC 1808 in the IAU constellation Columba. It was discovered by Scottish astronomer James Dunlop in 1826. John Herschel listed it as 2740 and later as GC 1021 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Circumvallated of Eridanus:

This **telescopic** asterism "Vallátus Erídani" is the barred spiral galaxy NGC 1358 in the IAU constellation Eridanus. It was discovered in 1785 by English astronomer William Herschel who listed it as "III 446". It became GC 727 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as "the arms of this spiral galaxy form well-defined arcs around the nucleus".

Circus:

This asterism “Cirhara” is the IAU constellation Lyra. This name is listed in Johann Bayer’s *Uranometria* (1603).

Cirrus Nebula:

This **telescopic** asterism is the planetary nebula NGC 6960 (C 34, LBN 191, PGC 3517;684, Ced 128a) in the IAU constellation Cygnus. It was discovered by English astronomer William Herschel in 1784 who listed it as “V 15”. It is GC 4600 in the *General Catalogue* of 1864. This is also known as the West Veil Nebula, Filamentary Nebula, Lacework Nebula, Witch’s Broom Nebula, and Pickering’s Triangular Nebula.

Citadelle

This **telescopic** Haitian star is HIP 1547 (HD 1502) in the IAU constellation Pisces (magnitude 8.35). It was given this name in the IAU NameExoWorlds campaign. It is named after Citadelle Laferrière, a mountaintop fortress and UNESCO World Heritage Site. It has an exoplanet named Indépendance, which is a reference to the Haitian Declaration of Independence on 1 January 1804, when it became the first independent black republic.

Cithara:

This Greek asterism “Κιθάρα” (“Kithára”), later latinized to “Cithara” or “Cythara” is the IAU constellation Lyra. This name is now the Greek name for guitar, but when this name was applied to this constellation it referred to a seven-string professional lyre. An older Greek name for this constellation and this instrument is “Φόρμιγξ” (“Fórminx”). English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Cythara”. Compare this to Fidicula (below).

This German asterism “Citharae” was created from the stars of the IAU constellation Lyra by German astronomer Erhard Weigel (1625 – 99) who produced his *Astrocopium Orbi Europaeo Sacrum* chart in 1661, 1681 and 1688 in which he tried to replace existing constellations a new system based upon the heraldry of the nation states and principalities of seventeenth century Europe, as well as of its principal hierarchies and social classes. On Weigel’s chart this asterism is labeled “Anglia” representing England and is depicted as a cithara, which resembles a Welsh harp.

The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch lists “Cithara” as an alternate name for Lyra.

City of Refuge:

This Hawaiian star “Pu’uhonua” is Gamma (γ) Orionis (Saiph) in the IAU constellation Orion. It is a new name for this star and is a rhyming pun as it compares the Arabic name for the star, “Saiph”, with the English word “safe”.

City State:

This Coptic lunar mansion “πολις” or “Polis” is the star Mu (μ) Sagittarii in the IAU constellation Sagittarius and was listed by W. B. Yeats in *A Vision* in 1917, which was derived from German Jesuit astronomer Athanasius Kircher’s *Lingua Aegyptiaca Restituta* in 1636, in which Kircher described it as

“Civitas”. R. H. Allen translates this as “foal” in his *Star Names* in 1899. The IAU approved the name Polis for the star Mu (μ) Sagittarii Aa in 2017.

Civil Engineer:

This Korean asterism “Tomog Gisa” (토목 기사) is a line of two stars in the IAU constellation Pisces: 64 and 47 Piscium.

Clair Obscur of Leo Minor:

This **telescopic** asterism “Clarobscúrus Leónis Minóris” is the spiral galaxy NGC 3294 in the IAU constellation Leo Minor. It was discovered in 1787 by English astronomer William Herschel who listed it as “I 164”. It became GC 2145 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They translate this due to the “bright arms and dark dust lanes.”

Clamshell Nebula:

This **telescopic** asterism is HII region Sh 2-119 in the IAU constellation Cygnus.

Claw:

This Arabic star “’az-Zubānā” (“claw”, “dart”, “sting” -الزّبانى) is Alpha (α) Cancri in the IAU constellation Cancer and later latinized to “Acubens”. Compare this to “Claws”, below.

This **telescopic** asterism NGC 247 (Caldwell 62) is an intermediate spiral galaxy in the IAU constellation Cetus, which was discovered in 1847 by English astronomer John Herschel. This is listed as GC 132 in the 1846 *General Catalogue*. It is also known as the Needle’s Eye Galaxy (see below) and the Black Bottomed Galaxy (see above).

Claw of Virgo:

This **telescopic** asterism “Ónyx Vírginis” is the barred spiral galaxy NGC 4731 in the IAU constellation Virgo. William Herschel listed this as “I 41”. John Herschel listed it as h 1452 and later as GC 3254 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Clawed of Hydra:

This **telescopic** asterism “Onychóphora Hýdrae” is the intermediate spiral galaxy NGC 3054 in the IAU constellation Hydra. It was discovered in 1859 by Christian Heinrich Friedrich Peters. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to the “many curved arms of this galaxy [having] the appearance of extending claws”.

Clawless:

This Sogdian and Khorasmian lunar station “Bighanwand” is the stars Delta (δ) Scorpii, Beta (β) Scorpii (Acrab), and Pi (π) Scorpii in the IAU constellation Scorpius and is listed in R. H. Allen’s *Star Names* in 1899.

Claws:

This Greek asterism “Χηλαί” (“Chilaí”)is the IAU constellation Libra as described in Aratus’ poem *Phaenomena* (270 B.C.E.) and later described in Ptolemy’s *Almagest* (2nd century): Latin translations of Ptolemy often call it “forficis” (“shears”). This was not a set of scales, but the claws of a scorpion. Ptolemy’s asterism consisted of two quadrilaterals:

- “βόρειος” (“vóreios” – “north” or “northern”): Theta (θ) Librae, Beta (β) Librae (Zubeneschamali), Delta (δ) Librae, and Gamma (γ) Librae.
- “νότιος” (“nótios” – “south” or “southern”): Iota (ι) 1 Librae, Alpha (α) Librae (Zubenelgenubi), Mu (μ) Librae, and Nu (ν) Librae.

This became the Latin “Chelae” and the name “Chelis” shows up in the 1551 edition of the Latin *Almagest*.

- The globe of the 2nd century Farnese Atlas depicts the claws of Scorpius holding scales.
- Eratosthenes (d.194 B.C.E.) included these stars as part of “Σκορπίος” (“Skorpíos”) but alluded to Chilaí, as did Hipparchus (190 – 120 B.C.E.).
- The *De ordine ac positione stellarum in signis* (“*On the order and position of the stars in the signs*”) in the Salzburg compilation (810 – 818) of Abbot Arno of Salzburg (785 – 821) mentions “Chelae” but never illustrates it as part of Scorpius.
- “Claws” appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus and is separate from Scorpius.
- It was depicted on gores of the globe of Petrus Plancius published in 1598 by Jodocus Hondius as scales with the title “Libra” and the subtitle “Chelae”.
- The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) labels this asterism “Chelae” and depicts it as a set of loose scales.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Chelae” as an alternate name for Libra.
- Johann Bayer’s *Uranometria* (1603) lists “Chelae” as a name for Libra.

This Greek star “Γραψαῖος” (“Grapsaíos”), later latinized to “Graffias or “Grafias” is Xi (χ) Scorpii in the IAU constellation Scorpius:

- Graffias is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852 as Xi (ξ) Librae: The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822.
- American uranographer Elijah Burritt (1794 – 1838) assigned the name Graffias to Xi (ξ) Librae in his atlas of 1835 but changed it to Beta (β) Scorpii in his 1856 edition.
- The *Century Dictionary* of 1889 lists it as “Grassias”.
- The IAU approved the name Graffias for Xi (χ) Scorpii.
- NOTE: This name earlier was applied to Beta (β) Scorpii (Hafez 2010).

There are several Arabic asterisms named “claws”:

- One is the Arabic and Bedouin manzil “Al-Zubānā” (الزبانى), or “ʾAz-Zubānā” (ٱلزُّبَانَى). This is in the IAU constellation Libra and is the stars Alpha (α) 1 and 2 Librae (Zubenelgenubi) and Beta (β) Librae (Zubeneschamali):
    - This was later latinized to “Al Zubanah” or “Al-Zubana”.
    - An Arabic variation of this is “Al Zubānatain” (“two claws”).

  - "Al-Zubānayn" is listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) as a name for Libra in his *Book of the Fixed Stars* in 964 (Hafez 2010).
  - This was later latinized to "Azubene" in the 1515 edition of the *Almagest*.
  - Dorn (1829) lists this as "Al-Zubenen" and describes it as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283).
  - German astronomer Johann Bayer (1572-1625) listed it as "Acubene" and "Azubene" in his *Uranometria* (1603).
  - English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Al zubáná, the claws or pincers, and corrupted to Zuban al bravi for Zubán al aktrab" which is Smuth confusing this with the Arabic asterism Claws of the Scorpion (see below).
  - W. Brennand lists this as "Al-Zubana" in his *Hindu Astronomy* in 1896.
- One is the Arabic and Bedouin (Najran, Saudi Arabia) asterism "al-Aẓfār" (الاظفار). This is a group of stars in the IAU constellation Gemini: Iota (ι) Geminorum, Upsilon (υ) Geminorum, Delta (δ) Geminorum, Kappa (κ) Geminorum, Zeta (ζ) Geminorum and Lambda (λ) Geminorum which are part of their asterism Lion (see above).
- One is the Arabic star "al-zubānayā", latinized to "Zubanah". This is Alpha (α) Cancri in the IAU constellation Cancer:
  - This was further "latinized" to "Açubens" or "Acubens" and appears as "Acubenae" in the 15th century *Alfonsine Tables*.
  - Johann Bayer's *Uranometria* (1603) lists "Acubene" and "Azubene" for this star.
  - The IAU approved the name Acubens for Alpha (α) Cancri Aa.

This Yemeni manzil "Zubānān" is the stars Alpha (α) 1 and 2 Librae (Zubenelgenubi) and Beta (β) Librae (Zubeneschamali) in the IAU constellation Libra (Varisco 1995). This appears in the *Kitāb al-Tabşira Fī'ilm al-Nujūm* of 13th century Rasulid ruler al-Malik al-Ashraf 'Umar ibn Yūsuf (d 1296).

Claws of the Scorpion:

This Arabic star "Zuban al-ʿAqrab" (زبانى العقرب) is Gamma (γ) Librae in the IAU constellation Libra:

- This was later latinized to "Zubenelhakrabi", "Zuben Elakrab", "Zuben Elakribi", "Zuban al Kravi", and "Zuben Acrabi".
- German astronomer Johann Bayer (1572-1625) listed it as "Zuben Hakrabi". The name Zuben Hakrabi has been used by some for the star Nu (ν) Librae.
- Italian astronomer Giovanni Batista Riccioli (1598 – 1671) lists it as "Vaznegenubi", which is a combination of the Arabic name "Wazn" (see Weight, below) and the name of this star.
- In this *Urania* in 1754, John Hill lists the name "Akatrab" for Libra, which is probably a corruption of this name and lists this under the Latin name "Chelæ Scorpionis" ("claws of a Scorpion").
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Zubenhakrabi".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Al zubáná, the claws or pincers, and corrupted to Zuban al bravi for Zubán al aktrab" which is Smyth confusing this with the Arabic asterism Claws (see above).
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists this star as "Zuben el Akrab" in his *Celestial Atlas* in 1822.
- This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Zuben el Akrab": The author is unknown, but it is based on Jamieson's *Celestial Atlas*.

- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Zuben Hakrabi."
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list this star as "Zuben el Hakrabi".
- The IAU approved the name Zubenelhakrabi for the star Gamma (γ) Librae A.
- NOTE: American uranographer Elijah Burritt (1794 – 1838) assigned the name "Zubenhakrabi" to Eta (η) Librae.

Claws of Al Jawza:

This Bedouin (Qasseem region of Saudi Arabia) asterism "Zawābin al-Ǧawzā" (زوابن الجوزا) or "al-Zibban" (الزبَّن) is made up of stars in the IAU constellation Orion: Alpha (α) Orionis (Betelgeuse), Gamma (γ) Orionis, Beta (β) Orionis (Rigel), and Kappa (κ) Orionis. See Giant, below.

Claws of the Wolf:

This Arabic asterism "aẓfār al-dhiʾb" or "Al Aṭhfār al Dhīb", later latinized to "Adfar Aldib" is the stars Omega (ω) and 27 Draconis in the IAU constellation Draco as listed by Persian astronomer Ulugh Beg Mirza (1394 – 1449):

- This is depicted on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283) as "the wolf" (Dorn 1829).
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Adhfár al dhib, the jackal's claws".

Clean and Chaste:

This Chinese star "Lianzhen" from the Three Kingdoms to the Ming Dynasty is Epsilon (ε) Ursae Majoris in the IAU constellation Ursa Major.

Cleanser of Waters:

This Vedic star "Agastya" is Alpha (α) Carinae (Canopus) in the IAU constellation Carina (Bhagwath 2019). It was associated to their sage Agastya and appeared in the *Parasaratantra* and the *Rig Veda*.

Clear Sighting:

This Wardaman star "Larawag" is Epsilon (ε) Scorpii in the IAU constellation Scorpius (Cairns and Harney 2003). The IAU approved the name Larawag for Epsilon (ε) Scorpii.

Clenched Forearm:

There are two Arabic asterisms by this name:

- One is the Arabic star "adh-Dhirāʿu l-Maqbūḍah" (الذّراع المقبوضة), translated as "clenched arm" or "folded arm". This is Zeta (ζ) Geminorum in the IAU constellation Gemini:
    - This was later Latinized to "Mekbuda".
    - English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Mekbuda, rom al makbúdah, contracted, or rather mut-a-kabbidah, a culminating star".
    - The IAU approved the name Mekbuda for the star Zeta (ζ) Geminorum Aa.

- One is the Arabic asterism “adh-dhira’a al-maqbuda” (الذراعة المقبوضة). This is Alpha (α) Canis Minoris (Procyon) and Beta (β) Canis Minoris (Gomeisa) in the IAU constellation Canis Minor. This is part of their asterism Lion (see below).

Cleonaeus:

This asterism is the IAU constellation Leo. It is named for Cleonae, the town near where Hercules killed the Nemean lion. Johann Bayer’s *Uranometria* (1603) lists “Cleonaeus” as an alternate name for Leo. The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Cleonaeus” as an alternate name for Leo. Compare this to Star of Cleonaeus (below).

Cleopatra’s Eye:

There are two **telescopic** “Cleopatra’s eye” asterisms:

- One is planetary nebula NGC 1535 in the IAU constellation Eridanus. It was discovered in 1785 by English astronomer William Herschel who listed it as “IV 26” in his catalogue. It is GC 826 in the *General Catalogue* of 1864. Astronomer Stephen James O’Meara’s *Hidden Treasures Catalogue* (2007) lists this name and makes it O’Meara 22. It is also known as the “Celestial Jellyfish” and the “Ghost of Neptune Nebula”.
- One, “Cleopatras Auge” or “Cleopatra’s Eye”, is Hay-Merting 8 in the IAU constellation Sagittarius. Christopher Hay claims this as his discovery in 2012 on *Cloudy Nights* in February 2022 and his associate Robert Zebahl lists it on his *Faint Fuzzies* webpage. Its size is 160’ X 70’. Zebahl describes it as “a curved line of 15 stars up to 9m5 wraps around the [open] cluster Messier 25 so that it looks like the eyeliner of Cleopatra’s right eye. Messier 25 forms the actual eye in it”. This arc of stars starts at HIP 91527 and runs through HIP 91276, 91143, 90950, and 90806 to 90687. René Merting notes that the “brow just fits into the 7° field of view”. Jeffrey Corder lists this as Corder 3602 and describes it as a “very large arc”.

Clepsydra:

This asterism is the IAU constellation Orion as listed in English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844. Compare this to Hourglass, below. NOTE: A clepsydra is an ancient Greek water clock.

Clepsydra Terrace:

This Chinese xing guan “Jiàntái” (渐台) is a quadrilateral of stars in the IAU constellation Lyra: Gamma (γ) Lyrae, Beta (β) Lyrae (Sheliak), Delta (δ) 1 and 2 Lyrae, and Iota (ι) Lyrae. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Jiàntái” is a “box” of four stars in the IAU constellation Lyra: Delta (δ) 1 & 2 Lyrae, Beta (β) Lyrae (Sheliak), Gamma (γ) Lyrae, and Iota (ι) Lyrae.

Climber:

This Vedic asterism is the Hyades cluster in the IAU constellation Taurus. Their name for the star Alpha (α) Tauri (Aldebaran) is Rohini (“red one”), and this is one of their Nakshatra (see Red One below).

Climbing Serpent:

This Korean asterism “Deungban Baem” (등반 뱀) is made up of stars in the IAU constellations Andromeda and Cassiopeia:

- The central star is 3 Andromedae, from which one line goes up to the serpent’s “head” through HIP 114924 and Sigma (σ), Rho (ρ), and Tau (τ) Cassiopeiae, ending at the four stars of the “head”: HIP 115990, 113561, 114622 and 1 Cassiopeiae,
- From 3 Andromedae three lines run out in the other direction:
    - One line to star HIP 113288,
    - One line to star HIP 113327, and
    - A line through the stars 7, 8, Lambda (λ), Kappa (κ), and Iota (ι) Andromedae to the “tip of the tail” at star Omicron (ο) Andromedae.

Climbing to the Heavens:

This Hawaiian star “Pi’ilani” is Gamma (γ) Pegasi in the IAU constellation Pegasus.

Clinging Star:

See Embracer, below.

Cloister of Hori:

This German asterism is the IAU constellation Gemini as listed by German astronomer Athanasius Kircher (1602 – 1680).

Close Pack:

This Celtic (Welsh) asterism “Y Tŵr Tewdws” (“close pack (of dogs)”) is the Pleiades cluster in the IAU constellation Taurus as listed by R. H. Allen in his *Star Names* in 1899.

Close to Alpha of Grus:

This **telescopic** asterism “Parálpha Grúis” is the lenticular galaxy NGC 7213 in the IAU constellation Grus. This was discovered in 1834 by John Herschel who listed it as h 3924 and later as GC 4757 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it is located only 15’ from the 1.7 magnitude star Alpha (α) Gruis.

Close to Iota Centauri:

This **telescopic** asterism “Parajóta Centaúri” is the lenticular galaxy NGC 5102 in the IAU constellation Centaurus. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “this galaxy forms a physical pair with [the spiral galaxy] NGC 5091. The elliptical galaxy seems to be gently touched or kissed by the partner”. It was discovered by English astronomer John Herschel in 1835 who listed it as h 3492. It is GC 3504 in the *General Catalogue* of 1864. It is called this as it is located next to the star Iota (ι) Centauri. It is also known as “Iota’s Ghost” (see below). This is O’Meara 70 in Stephen James O’Meara’s *Hidden Treasures Catalogue* (2007).

Close to Lambda Hydrae:

This **telescopic** asterism “Paralámbdus Hýdrae” is the barred spiral galaxy NGC 3145 in the IAU constellation Hydra. It was discovered in 1786 by William Herschel who listed it as “III 518”. It became GC 2043 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to it being close to the 3.6 magnitude star Lambda (λ) Hydrae.

Closed Wings Eagle:

This Bedouin (Hayel region) asterism “al-Nasr al-Mkattaf” (النسر المكتف) is the stars Alpha (α) Lyrae (Vega), Epsilon (ε) 1 Lyrae and Zeta (ζ) Lyrae in the IAU constellation Lyra.

Cloth (thrown over the Giant’s Arm):

This Latin asterism “Mantile” is the stars Omicron (ο) 1 and 2 Orionis, Pi (π) 1, 2, 3, 4, 5, and 6 Orionis and 6 Orionis in the IAU constellation Orion and was listed by Dutch uranographer Hugo Grotius (1583 – 1645). Compare this to Gauntlet, below.

Clotho of Draco:

This **telescopic** asterism “Clótho Dracónis” is the edge-on spiral galaxy NGC 5985 in the IAU constellation Draco. It was discovered in 1788 by William Herschel and listed as “II 766”. It became GC 4131 and GC 4133 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it is “the easternmost member… of a beautiful trio, which is reminiscent of the three Fates (Greek Moirai).” Clotho (“spinner”) was one of those three Fates. This is part of the NGC 5982 Cluster which is also known as the Dragon Slayer Group.

Cloud:

This Persian lunar station “Avra-k” is the stars Epsilon (ε), Gamma (γ), Delta (δ), Eta (η), and Theta (θ) Cancri in the IAU constellation Cancer.

Cloud and Rain:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is four stars in the IAU constellation Pisces: Kappa (κ) Piscium (the determinative star), 14 Piscium, XZ Piscium, and Lambda (λ) Piscium.

This Chinese xing guan “Yúnyǔ” (云雨) is four stars in the IAU constellation Pisces: Kappa (κ), Lambda (λ), 12, and 21 Piscium.

This Chinese Chenzhuo xing guan is a bent line of four stars in the IAU constellation Pisces: Gamma (γ) Piscium, 8 Piscium, Lambda (λ) Piscium, and 19 Piscium.

Cloud Bearing of Leo:

This **telescopic** asterism “Nephelóphorus Leónis” is the flocculent intermediate spiral galaxy NGC 3521 in the IAU constellation Leo. It was discovered by William Herschel in 1784 who listed it as “I 13” in his catalogue. It is GC 2301 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They named it this

due to its “remarkable giant halo”. It is also known as the “Bubble Galaxy” (see above). Stephen James O’Meara’s *Hidden Treasures Catalogue* (2007) lists this as O’Meara 56 without a name.

Cloud in Cancer:

This asterism is the open cluster Messier 44 (NGC 2632) in the IAU constellation Cancer as described by the Welsh explorer Thomas James (1593 - 1635)on 31 January 1632: “I could see the Cloud in Cancer full of small Starres”.

Cloud Man:

This is an alternate Upper Tanana name, “H’oh dindeh”, for their asterism “Yihdaa” (see Traveler, below (Cannon 2021)).

Cloud of Hydra:

This **telescopic** asterism “Nimbus Hýdrae” is the Magellanic spiral galaxy NGC 3109 in the IAU constellation Hydra. It was discovered in 1835 by John Herschel who listed it as h 3211 and later as GC 2003 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of its “dim amorphous appearance”.

Cloud of ‘Uvea:

This Tongan asterism, “Ae e’Uvea” also known as “Circlet of ‘Uvea” (see above), is their name for the IAU constellation Corona Borealis.

Cloud Sculpting Star Cluster:

This **telescopic** asterism is NGC 6823 (SH 2-86, LBN 135, Cr 405) in the IAU constellation Vulpecula. William Herschel listed it as “VII 18”. John Herschel listed it as h 2049 and later as GC 4512 in his *General Catalogue* of 1864. It is also known as “ET’s Finger”.

Clouds of Antlia:

This **telescopic** asterism is the nebulosity surrounding the star HD 85493 in the IAU constellation Antlia.

Cloudy:

This Greek asterism “νεφελοειδής συστροφή” (“nefeloeidís systrofí”) or “ἀμόρφωτοι” (“amórfotoi”- “amorphous”) is the IAU constellation Coma Berenices. The Latin *Almagest* of 1551 describes this as “Convolutio nubilosa quae cincinnus vocatur” (“The cloudy cloud which is called curly”)

This German asterism “Nubilum” is open cluster Messier 44 in the IAU constellation Cancer as listed by German astronomer Johann Bayer (1572-1625). Compare this to Sherburne’s “Cloudy Star” (below).

Cloudy Ones which Follow the Sting:

“Stella nebulosa quae sequitur aculeum Scorpionis” (“the cloudy ones which follow the sting”) is the open cluster Messier 6 (NGC 6405) in the IAU constellation Scorpius as listed by Persian astronomer Ulugh Beg Mirza (1394 – 1449). This was identified by a star cluster by Abbe Louis de Lacaille in 1752 who listed it as Lac III 12. It is GC 4318 in the *General Catalogue* of 1864. The 1551 edition of the Almagest calls it “Girus ille nebulosus” (“foggy nebula”).

Cloudy Star:

This asterism is open cluster Messier 44 in the IAU constellation Cancer as listed in Edward Sherburne's *Sphere of Marcus Manilius* in 1675. Compare this to Bayer's "Nubilum" (see Cloudy, above).

Clown Face Nebula:

This asterism is the planetary nebula NGC 2392 (Caldwell 39) in the IAU constellation Gemini. It was discovered by English astronomer William Herschel in 1787 who listed it as "IV 45" in his catalogue. It is listed as GC 1532 in the *General Catalogue* of 1864. Size 0.9' X 0.9'. NOTE: Western astronomers previously also called this the Eskimo Nebula, but as the term Eskimo is offensive to the Inuit, I'm not listing it here under that name. Some people are now calling it the Parka Nebula. This is now listed on the Deep Sky Forum as the "Inuit Nebula" (see below).

Club:

This Greek star "Cujam", "Caiam", "Cajam", or "Kajam" is Omega (ω) Herculis in the IAU constellation Hercules. Pliny the Elder (24 – 79) listed this "club" as a separate asterism in his *Naturalis Historia*. Variations include "Gaiam", "Gujam", and "Guyam":

- Scottish uranographer Alexander Jamieson (1782 – 1850) lists "Gujam" in his *Celestial Atlas* in 1822.
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Cajam".
- This star is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Gajam": The author is unknown, but it is based on Jamieson's *Celestial Atlas.*
- The IAU Working Group on Star Names approved Cujam as a name for Omega (ω) Herculis A in 2017.

This Latin star "Clava" is Mu (μ) Boötis in the IAU constellation Boötes.

There are two **telescopic** "Club" asterisms:

- One is open cluster NGC 7082 in the IAU constellation Cygnus. It was discovered by English astronomer William Herschel in 1788 who listed it as "VII 52". It is GC 4673 in the *General Catalogue* of 1864. It was given this name by American astronomer Wayne Schmidt, who describes it as a club 30 arcminutes long.
- One is NGC 4559 (Caldwell 36), an intermediate spiral galaxy with a weak inner ring structure in the IAU constellation Coma Berenices. This was discovered by English astronomer William Herschel in 1785 who listed it as "I 92". It is GC 3101 in the *General Catalogue* of 1864. This is also known as the Koi Fish (see below). British astronomer Rev. Thomas Webb (1807 – 1885) describes this in the 5th edition of his Celestial Objects for Common Telescopes as "according to John Herschel, club-shaped".

Club of Eaglehawk:

This Kokatha and Ngalea asterism "Jurding" or "Dhurding" is the Pointer stars in the IAU constellation Centaurus (see Pointers below) as listed by Leaman and Hamacher (2014). The two stars are:

- "Maalu": Alpha (α) Centauri (Rigil Kentaurus), and
- "Kanyala": Beta (β) Centauri (Hadar).

Club of Hercules:

This **telescopic** asterism "Fústis Hérculis" is the barred spiral galaxy NGC 6045 in the IAU constellation Hercules. It was discovered by Lewis Swift in 1886. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it appears to be plunging into NGC 6040B (PGC 56942).

Cluck Hen:

This Norse asterism is the Pleiades cluster in the IAU constellation Taurus.

Clucking Hen:

This German asterism "Gluckhenne" is the Pleiades cluster in the IAU constellation Taurus. English Admiral Henry William Smyth lists "gluck-henne" in his *Bedford Catalogue* in 1844. R. H. Allen lists it as "Gluck Henne" in his *Star Names* in 1899.

Cluster:

This Gaelic asterism "Griograran", "Grigirean", or "Grioglachan" is the Pleiades cluster in the IAU constellation Taurus. R. H. Allen lists it as "Griglean" in his *Star Names* in 1899. Allen also lists this as a name for Ursa Major, but the Gaelic name is actually "An Crann-arain".

Cluster of Flies:

This Elvish asterism "Itseloktë" is the Pleiades cluster in the IAU constellation Taurus in the Qenya language. It appears in the works of J. R. R. Tolkien (1892 – 1973).

Cluster of Makali'i:

This Hawaiian asterism "Na-Huihui-o-Makali'i", also known simply as "Makali'i'" ("chief's eyes" or "little eyes" or "little stars") is the Pleiades cluster in the IAU constellation Taurus.

Cluster of the Shield of Sobieski:

This **telescopic** asterism "Amas de l'Ecu Sobieski" ("Cluster of the Shield of Sobieski").is the open cluster Messier 11 (NGC 6705) in the IAU constellation Scutum. It was discovered by German astronomer Gottfried Kirch in 1681. It is listed in John Herschel's General Catalogue of 1864 as GC 4437. It is also known as the Wild Duck Cluster (see below), the July Salt and Pepper Cluster, and the Scutum Salt and Pepper Cluster (see Salt and Pepper, below).

Coachman:

This French asterism "Cocher" is the IAU constellation Auriga.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as "Cocchiere" ("coachman") in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).

This Romanian asterism "Surugiul" is the IAU constellation Auriga (Ottescu 2009).

Coal Car Cluster:

This **telescopic** asterism is open cluster NGC 1981 in the IAU constellation Orion. It was discovered by English astronomer John Herschel in 1827 becoming h 362 on his list and GC 1184 in the *General Catalogue* of 1864. Astronomer Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) lists "Coal

Car" as one of its names and makes it O'Meara 28. It is also known as the Crocodile Cluster (see Crocodile, below).

Coal Sack Cluster:

This *telescopic* asterism is the open cluster NGC 4609 (Caldwell 98) in the IAU constellation Crux. This was discovered by English astronomer John Herschel in 1847 who listed it as "h 3407". It is GC 3145 in the *General Catalogue* of 1864. It is also known as the Bow Tie (see above).

Coal Sack Nebula:

This dark nebula, Caldwell 99, is next to the IAU constellation Crux, the Southern Cross (see Southern Cross below) and appears in 60 of the asterisms of the world's sky cultures. It was first reported by Spanish explorer and navigator Vicente Yáñez Pinzón in 1499 and named "il Canopo fosco" ("the dark Canopus") by Italian merchant and navigator Amerigo Vespucci (1454 – 1512). Other names include "Macula Magellani" ("Magellan's Spot"), Southern Coal Sack Nebula, and "Black Magellanic Cloud". *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this as the "Coalsack (Southern Coalsack)".

Coalman Nebula:

This **telescopic** asterism is dark nebula is LDN 810 in the IAU constellation Vulpecula. This is in the catalogues of American astronomer Beverly Turner Lynds (1929 – 2024).

Coals of the Fire:

This Inca asterism "Kotu Sankha" is the Hyades cluster in the IAU constellation Taurus (Gamarra & Gamarra 2009). The star Alpha (α) Tauri (Aldebaran) is the fire and the stars around it are the coals.

Coat Button Nebula:

See Fetus Nebula, below.

Coat Hanger:

The most well-known "coat hanger" asterism is Collinder 399 in the IAU constellation Vulpecula and is known as Brocchi's Cluster (see above) and Al Sufi's Cluster (see above). The name cannot predate 1830, as this when "clothes hangers" first appeared. *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), doesn't name it, but describes this cluster as being "About half-way from Albireo to the two stars ζ and ε in Aquila" and describes it as "a curious little group, consisting of six or seven stars in a straight row, with a garland of other stars hanging from the center." This is Corder 3852 on American astronomer Jeffrey Corder's list. Its size is 100' X 40' and these are the stars involved:

- The "hanger" is a line of six stars: (7 Vulpeculae, HIP 95700, 95584, 95487, 95340 and 95291), and
- Four stars form the "hook": 4 and 5 Vulpeculae, and HIP 95582 and 95432.

NOTE: Brocchi's Cluster, the Coat Hanger, is typically listed as a telescopic asterism by Western amateur astronomers. However, it was first discovered by the Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) and so it definitely *can* be seen with the unaided eye in a dark sky.

There are two **telescopic** "coat hanger" asterisms:

- One "mini coat hanger" can be found in the IAU constellation Ursa Minor between the stars HIP 80272 and 80902. A line of five stars between magnitude 9.1 and 10.3 form the "hanger" and three stars between magnitude 10.5 and 10.8 form the "hook". Its size is 17' X 9'. This was discovered by American astronomer Tom Whiting, President of the Erie County Mobile Observer's Group. It is Harrington 22 on American astronomer and author Phil Harrington's list. Jeffrey Corder lists it as Corder 3067.
- One is Cseh 16 listed by Hungarian astronomer Viktor Cseh which is a group of six 10^{th} – 11^{th} magnitude stars in the IAU constellation Hydrus. Cseh describes this as forming "a similar shape as the Vállfa ("hanger") cluster, although a star is missing from the longitudinal axis, the similarity is striking in the DSS images."

Coatimundi:

This Kogi asterism "Uká" or "Uxa" is the Pleiades cluster in the IAU constellation Taurus.

Cobra:

This Kolam asterism "Nagun" is the IAU constellation Scorpius (Vahia 2014).

This asterism is the IAU constellation Scorpius as renamed by the Unitarian Universalist Hysterical Society in 2024 on their Facebook page.

There are two **telescopic** "cobra" asterisms:

- One is NGC 2442 and NGC 2443, a single intermediate spiral galaxy in the IAU constellation Volans. It is also known as the Meathook Galaxy (see below), an "S" (see below), or the Cobra and Mouse (see below). NGC 2442 and 2443 are two parts of the same galaxy: John Louis Emil Dreyer (1852 – 1926) assumed it was two separate objects from William Herschel's earlier observations that this was a "double nebula". It is entered in the General Catalogue of 1864 as GC 1568 and 1569. English astronomer John Herschel, William's son, confirmed that it was a single "nebula" in December 1834 and entered it in his catalogue as h 3097. It is also known as "Sigmoídes Volántis" ("S-shaped").
- One is in the IAU constellations Boötes and Corona Borealis and is Corder 2868 on the observing list of American astronomer Jeffrey Corder. Size 275' X 90'. The cobra's "head" includes Nu (ν) 1 and 2 Boötis, Phi (ϕ) Boötis, HIP 75896, 75894, 75908, and the double stars HIP 76382A and 76035. The "body" includes Mu (μ) Coronae Borealis, HIP 76366, Zeta (ζ) 1 and 2 Coronae Borealis, HIP 76006, 75928, and Mu (μ) 1 Boötis.

Cobra and Mouse:

This **telescopic** asterism is NGC 2442 and NGC 2443, a single intermediate spiral galaxy in the IAU constellation Volans. It is also known as the Meathook Galaxy (see below), the "S" (see below) or Cobra Galaxy (see above). NGC 2442 and 2443 are two parts of the same galaxy: John Louis Emil Dreyer (1852 – 1926) assumed it was two separate objects from William Herschel's earlier observations that this was a "double nebula". It is entered in the General Catalogue of 1864 as GC 1568 and 1569. English astronomer John Herschel, William's son, confirmed that it was a single "nebula" in December 1834.

Cobweb Cluster:

This **telescopic** asterism is the Coma Berenices Cluster, Melotte 111.

Cocibolca:

This **telescopic** Nicaraguan star is HIP 3479 (HD 4208) in the IAU constellation Sculptor (magnitude 7.79). This name was given to this star in the IAU NameExoWorlds campaign. It is named after a lake in Nicaragua. It has an exoplanet named Xolotlan, which is the Nahuas name of their second largest lake.

Cock:

This Greek asterism "Alector" appears in John Hill's *Urania* in 1754: Hill describes it as made up of stars of "the Ship", which would be Ptolemy's asterism Argo's Ship (see above). Hill does not identify the ethnicity of this asterism, only calling it a "constellation formed by some persons". Compare this to Gallus (see Rooster, below).

Cock of Telescopium:

There are two **telescopic** "Cock of Telescopium" asterisms:

- One, "Aléctor Telescópii", is the galaxy IC 4837 in the IAU constellation Telescopium.
- One, "Gallus Telescópii", is the galaxy IC 4839 in the IAU constellation Telescopium.

These were discovered by DeLisle Stewart in 1901. These names appear in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called them this because "the pair of galaxies IC 4837 and IC 4839 call to mind a pair of cocks in a cock fight".

Cockatoos:

This Gunditjmara asterism is the Pleiades cluster in the IAU constellation Taurus (Clarke 2009). They see these as cockatoo ancestors being chased by a male crow or raven, represented by the star Canopus.

Cock's Foot:

This French asterism "Ἀλετροπόδιον" ("Aletropódion") is the IAU constellation Orion as listed by French Jesuit theologian Denis Pétau (also known as Petavius- 1583 – 1652). This was translated by German astronomer Christian Ludwig Ideler (1776 – 1846) as "Cock's Foot", and by Robert Brown as "foot turning wanderer".

Cockscomb of Horologium:

This **telescopic** asterism "Cristátus Horológii" is the intermediate spiral galaxy NGC 1494 in the IAU constellation Horologium. It was discovered in 1834 by John Herschel who listed it as 2601 in his catalogue and later as GC 796 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): The name refers to its "the many spiral arms at the east side of this galaxy [which] give it the appearance of a…cockscomb".

Coconut Shell:

This Kiribati star "Binobino" or "ana Binobino Nei Kama" is a group of stars in the IAU constellation Centaurus (Trussel and Groves 1978).

Coconut Tree:

This Filipino (Mayayaw Ifugao) asterism “Salokah” is the IAU constellation Scorpius (Masong 2017).

This Sama asterism “Niyu Niyu” or “Saloka” (Ambrosio 2008) is the IAU constellation Scorpius (Santos et al 2019).

Cocoon:

This Latin star “Tegmine”, “Tegmen”, or “Tegmini” is Zeta (ζ) Cancri in the IAU constellation Cancer. On Wikipedia they translate this as “Shell of the Crab”. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Tegmine”. Scottish uranographer Alexander Jamieson (1782 – 1850) lists “Tegmine” it in his *Celestial Atlas* in 1822. This is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852 as “Tegmine”: The author is unknown, but it is based on Jamieson’s *Celestial Atlas*. The IAU approved the name Tegmine for the star Zeta (ζ) 1 Cancri A.

There are two **telescopic** “cocoon” asterisms:

- One is the nebula IC 5146 (Caldwell 19, SH 2-125, LBN 424, Cr 470, Ced 198) in the IAU constellation Cygnus. This was discovered by German astronomer Max Wolf at the Heidelberg Observatory in the late 19th century. This is also listed as Sh2-125. NOTE: This is next to the Caterpillar Nebula (see Caterpillar, above) and is sometimes referred to as the Cocoon Cluster.
- One is NGC 4490, a barred spiral galaxy, which is interacting with the smaller galaxy NGC 4485 in the IAU constellation Canes Venatici. It was discovered by English astronomer William Herschel in 1778 who listed it as “I 198”. It is GC 3042 in the *General Catalogue* of 1864. It is listed as the “Cocoon Galaxy” in *Burnham’s Celestial Handbook* by American astronomer Sherburne Wesley Burnham (1838 – 1921). It is also known as the Rhinoceros and its Infant (see below).

Coddington’s Nebula:

This **telescopic** asterism is the dwarf spiral galaxy IC 2574 in the IAU constellation Ursa Major. This was discovered by American astronomer Edwin Foster Coddington in 1898. It is an outlying member of the M 81 Group. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010) as “Coddingtónius Úrsae Majóris” (“Coddington’s of Ursa Major”).

Coffee:

This **telescopic** Ethiopian star “Buna” is HIP 12191 (HD 16175) in the IAU constellation Andromeda (magnitude 7.28). It was given this name in the IAU NameExoWorlds campaign. It has an exoplanet named Abol, which refers to the first of three rounds of coffee in the traditional Ethiopian coffee ceremony.

Coffee Bean Nebula:

This **telescopic** asterism is HII region is RCW 98 in the IAU constellation Norma.

Coffin:

This asterism from the Saguaro Astronomy Club asterism database is made up of stars of the IAU constellation Ophiuchus: Delta (δ) Ophiuchi, Zeta (ζ) Ophiuchi, Eta (η) Ophiuchi, Gamma (γ) Ophiuchi, Alpha (α) Ophiuchi (Rasalhague), Kappa (κ) Ophiuchi, and Lambda (λ) Ophiuchi.

Coffin Nebula:

See Crescent Nebula (below).

Coffin Star:

This Thai asterism “Dao Loong” is four stars in the IAU constellation Gemini (Nitiyanant 2015): Alpha (α) Geminorum (Castor), Beta (β) Geminorum (Pollux), Gamma (γ) Geminorum, and Mu (μ) Geminorum.

Cōha Fruit:

This Barasana asterism is unidentified stars in the area of the IAU constellation Corvus (Hugh-Jones 2006). This is the fruit of the Mauritia gracilis, a type of palm.

Coica:

This Andean star is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga and was important to shepherds. Compare this to the Quechua star Colça (below).

Coil:

This **telescopic** asterism is the open cluster Messier 50 in the IAU constellation Monoceros. It was recorded by French astronomer and mathematician Giovanni Domenico Cassini before 1711 and independently discovered by Charles Messier in 1772. It is also known as the Heart Shaped Cluster.

Coiled Thong:

This Chinese xing guan “Guànsuǒ” (贯索) is the IAU constellation Corona Borealis: the determinative star is Alpha (α) Coronae Borealis (Alphecca). This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan is an oval of stars of the IAU constellation Corona Borealis: Alpha (α) Coronae Borealis (Alphecca), Gamma (γ) Coronae Borealis, Delta (δ) Coronae Borealis, Epsilon (ε) Coronae Borealis, Iota (ι) Coronae Borealis, Rho (ρ) Coronae Borealis, Pi (π) Coronae Borealis, Theta (θ) Coronae Borealis, and Beta (β) Coronae Borealis (Nusakan).

Coin of Pavo:

This **telescopic** asterism “Númmus Pavónis” is the barred spiral galaxy IC 5092 in the IAU constellation Pavo. It was discovered by Royal Harwood Frost in 1903. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Colça:

This Quechua star “Colça” is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga. Compare this to the Andean star Coica (above).

Cold:

This Greek asterism “Ἀθαλπής” or “Athalpís” is the IAU constellation Capricornus. Italian astronomer Giovanni Battista Riccioli (1598 – 1671) listed the name “Athalpis” for this constellation.

This Latin asterism “Gelidus” is the IAU constellation Capricornus. Johann Bayer’s *Uranometria* (1603) lists the name “Gelidus” for Capricornus.

This Latin asterism “Frigidus” is the IAU constellation Aquarius and is listed in R. H. Allen’s *Star Names* in 1899. Allen attributes it to the 1st century B.C.E. Roman poet Publius Vergilius Maro (Vergil).

This Arabic star “Al Bard” is Beta (α) Virginis (Zavijava) in the IAU constellation Virgo as listed by R. H. Allen in his *Star Names* in 1899.

Cold of Autumn Settling Down on Land and Water:

This Māori asterism “Te Kohi a Autahi” is made up of stars of the obsolete asterism Argo’s Ship (Robertson et al 2016, see Argo’s Ship, above). Autahi is the star Canopus (see Autahi, above).

Collarbone:

This Latin asterism “Jugulum” is Delta (δ) Cancri (Asellus Borealis) and Gamma (γ) Cancri (Asellus Australis) in the IAU constellation Cancer.

Collarbones:

This Inuit asterism “Quturjuuk” is made up of stars of the IAU constellations Gemini and Auriga (MacDonald 1998). Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) are the pair of stars that form one end of the “collarbones” and the pair Alpha (α) Aurigae (Capella) and Beta (β) Aurigae (Menkalinan) form the other end. Its rising indicated that their asterism “Aagjuuk” (see Two Sunbeams below) would soon rise. This asterism was used by the Inuit as a navigational aid when moving across featureless terrain.

Collision of Taurus:

This **telescopic** asterism “Injéctio Taúri” is the lenticular galaxy NGC 1409 in the IAU constellation Taurus. It was discovered in 1785 by William Herschel who listed it as “III 263”. This became GC 753 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): The name refers to long dust lane between NGC 1410 (GC 754) and the Seyfert galaxy NGC 1409.

Colored Contacts Nebula:

See Spirograph Nebula, below.

Colossal Cosmic Eye:

This **telescopic** asterism NGC 1350 is a spiral galaxy in the IAU constellation Fornax, which was discovered by Scottish astronomer James Dunlop in 1828. It is GC 721 in the *General Catalogue* of 1864. It is also known as the “Cow Eye of Fornax” (see below) and the “Cosmic Eye Galaxy” (see below).

Colossus:

This “Euphratian” star “Lamash” is Beta (β) Leonis (Denebola) in the IAU constellation Leo as listed in R. H. Allen’s *Star Names* in 1899.

Columba:

None of the stars of this constellation are brighter than 3rd magnitude and show up in 51 of the asterisms in this handbook.

The IAU constellation Columba (IAU abbreviation Col) appeared as field stars under Canis Major in Ptolemy's *Almagest*. It was first depicted as a separate asterism by Flemish astronomer Petrus Plancius in 1592. Plancius called it "Columba Noachi" ("Noah's dove"). Plancius' *Orbis terrarium typus de integro multis in locis emedatus* (1594) depicts it as a dove in flight.

Plancius' contemporary, Dutch navigator Frederick de Houtman (1571 – 1627), called it "De Dyve med den Okijftack" ("the dove with the olive branch") and German astronomer Jakob Bartsch (1600 – 1633) called it "Columba Hohae".

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) depicts Columba as a dove in flight to our right with an olive branch in its beak.

Later German astronomer Johannes Bayer (1572-1625) listed it in his *Uranometria* (1603) as "Columba Noachi" and depicts Columba as a dove with a branch in its beak.

This star is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as "Columba Nohae".

"Columba" is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a dove flying to our left with an olive branch in its beak.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts "Columba" as a dove flying to our right with an olive branch in its beak.

Edward Sherburne lists this constellation in his *Sphere of Marcus Manilius* in 1675.

The 1688 celestial globe of Italian priest and uranographer Vincenzo Maria Coronelli (1650-1718) includes this constellation (Stevenson 1921).

Coma Berenices is listed by Polish astronomer Johannes Hevelius in his *Catalogus Stellarum Fixarum* in 1690 and is depicted as a dove with an olive branch in its mouth.

John Hill lists this name in his *Urania* in 1754. French architect and uranographer Augustin Royer published it in 1679 and claimed to have created it, but Plancius clearly created it first.

American uranographer William Croswell (1760 – 1834) depicts "Columba Noachi Noah's Dove" on his *Mercator Map of the Starry Heavens* in 1810 as a dove in flight with an olive branch in its mouth.

Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) labels this constellation "Columba Noe" and depicts it as a dark bird flying with a branch in its beak.

English uranographer John Seller's *A coelestiall planisphere* (1678) depicts "Columba" as a bird in flight, but the front end of this bird is concealed beyond the edge of the planisphere.

"Columba Noachi" is listed English astronomer Edmond Halley in his *Catalogus Stellarum Australium* in 1679. Halley later shortened the name to "Columba".

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts "Columba" as a flying dove with a branch in its beak.

Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) labels this constellation "Columba Nöe" and depicts it as a flying dove with a branch in its beak.

This constellation is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729: some charts list "Columba" and one "Columba Noachi".

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts "Columba" as a dove flying to our left with a branch in its beak.

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) labels this constellation "Columba Noachi" and depicts it as a bird in flight.

French astronomer Abbé Nicolas Louis de Lacaille's *Planisphère des Étoiles Ausralea* (1756) depicts "la Columbe" as a dove in flight with a leafy twig in his beak.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) depicts "La Colombe" as a dove with an olive branch in its mouth.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts "Columba Noachi" as a dove in flight with a branch in its beak.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "la Colombe" as a dove with a branch in its beak, as does the 1778 edition.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as "Colomba" in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts "Columba" as a dove with an olive branch in its beak.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts "Columba Noachi" as a dove in flight with a twig in its mouth.

Columba is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801) as "Duif" ("pigeon") and depicted as a pigeon in flight.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as "Taube" ("dove") and depicts it flying carrying a branch in its beak. Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Die Taube" in the text and "Taube" on the charts and depicts it as a dove flying with a branch in its beak .

"Columba" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as a dove flying to our left with a branch in its beak.

English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists this constellation as "Columba Noachi" and erroneously has Royer giving this name to the IAU constellation Corvus, as Corvus is also known as Noah's Rave (see above).

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depict "Columba Noachi" as a dove in flight.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts "Columba Noachi" as a dove flying to our left.

"Columba" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It is depicted as a dove flying to our left with an olive branch in its beak.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this constellation on the charts as the "Dove".

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Columba, Noah's Dove" as an official constellation "recognized in the catalogue of the British Association".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Columba" in his *Star Atlas* (1893) and describes it as "The Dove".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Columba" and describes it as a "Dove".

The 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) lists "Columba", gives its "original form" as "Columba Noachi" and describes it as "The Dove".

The Facts of File Dictionary of Astronomy, 2nd edition, 1985, by Valerie Illingworth, ed., lists this constellation as "Columba (Dove)".

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) redesigned the lines of Columba in his book *The Stars - A New Way to See Them* (1952). Standard IAU charts depict Columba nowadays as three short lines of stars emerging from the central star Beta (β) Columbae (Wazn):

- One runs through Alpha (α) Columbae (Phact) to Epsilon (ε) Columbae,
- One runs through Kappa (κ) Columbae to Delta (δ) Columbae, and
- One runs to Eta (η) Columbae.

Wazn is still the central star in Rey's version of this constellation, but one line from Wazn to a bend at double star Alpha (α) Columbae ending at Epsilon (ε) Columbae becomes the dove's "head", one triangle made up of Wazn, Eta (η) Columbae and Gamma (γ) Columbae forms the dove's "wing", and another triangle consisting of Gamma (γ) Columbae, Delta (δ) Columbae, and Kappa (κ) Columbae the dove's "tail".

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Columba in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* as three star lines radiating from the central star Beta (β) Columbae:

- One runs to Eta (η) Columbae,
- One runs through Gamma (γ) Columbae to Delta (δ) Columbae, and
- One runs through Alpha (α) Columbae (Phact) to Epsilon (ε) Columbae.

Sky and Telescope Magazine, founded in 1941, depicts Columba in their magazine and publications in the same manner as Hlad et al.

French astronomers have called it “Colombe de Noé” and German astronomers “Taube” (“dove”).

Coma Berenices:

None of the stars in this constellation are brighter than 4th magnitude, but its stars show up in 168 of the asterisms listed in this handbook.

The IAU constellation Coma Berenices (IAU abbreviation Com) is the only IAU constellation named for a historic figure. Conon of Samos, court astronomer to Egyptian King Ptolemy III Euergetes in the 3rd century B.C.E., named it for the king’s consort Berenice II. Berenice vowed to sacrifice her hair if Ptolemy III returned safely from battle during the Third Syrian War. Greek myths tell us that the Goddess Aphrodite placed Berenice’s hair in the sky. The Temple of Khnum at Esna has a Latopolitan zodiac on the ceiling of the pronaos dating to the age of Ptolemy II Euergetes (246 – 221 B.C.E.) depicts Coma Berenices as a lock of hair (Bullinger 1882, Seiss 1882).

Ptolemy only listed this asterism as “the Lock” (of hair) in Leo. Coma Berenices and Antinous (see above) were the first post-Ptolemaic constellations to appear on a globe. Eratosthenes (d.194 B.C.E.) called it “Ariadne’s Hair” and “Πλόκαμος Βερενίκης Ἑυεργέτιδος” (“Plókamos Vereníkis Evergétidos”), which later became “Βόστρυκος Βερενίκης” (“Vóstrychos Vereníkis”), “Plokamos Berenikēs” or “Bostrukhon Berenikēs”, and 1st century Roman author Gaius Julius Hyginus called it “Βερενίκης πλόκαμος” (“Vereníkis plókamos”). Edward Sherburne in his *Sphere of Marcus Manilius* in 1675 wrote that another ancient Greek name for this constellations was “Colus” (“distaff”). These Greek names became the current name when translated into Latin. Pliny the Elder (24 – 79) called it “Berenices Crinem” (“Berenice’s Hair”).

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.71v-72r does not depict Corona Berenices nor does the mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.168v-169r.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) labels this the “Lock of Hair”: This appears to have been the first graphical representation of this constellation (Dekker 2010).

In 1536 German astronomer Petrus Apianus called it “Crines Berenices” (“Berenice’s locks”).

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as “Berenice’s Hair”.

The Northern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Coma Berenices as a females long hair, viewed from behind.

Dutch uranographer and cartographer Gerardus Mercator (1512 – 1594) called it “Cincinnus”, “Caesaries”, “πλόκαμος”, “Berenicis Crinis” and “Trica” (see Tresses, below) on his globes.”

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts “Berenices Crinis” as a pile of long hair.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts "Coma Berenices" as a woman's long hair as viewed from behind.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) depicts "Coma Berenices" as a woman's long hair as viewed from behind.

Coma Berenices is listed in Danish astronomer Tycho Brahe's *Astronomiae Instauratae Progymnasmata* (1602).

German astronomer Johannes Bayer (1572-1625) called it "Coma" ("hair"), "Spiracum Manipulus seu Crines" ("Bunch of Spikes or hair") and depicted in in his *Uranometria* in 1603 as a bound sheaf of wheat.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts "Coma Berenices" as a woman's long hair as viewed from behind.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the name "Coma Berenices" for this constellation.

"Coma Berenices" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and depicted as a woman's long hair as viewed from behind.

"Coma Berenices" is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a woman's long hair as viewed from behind.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts "Coma Berenices" as a woman's long hair as viewed from behind.

The huge *Gottorf Globe* (c1650) made for the Duke of Holstein, Frederick III, one of the world's first planetariums, depicts Coma Berenices as a woman's long hair as viewed from behind.

This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "Coma Berenices and is depicted as a woman's long hair as viewed from behind the woman's head: She has a blue coronet on her head.

English astronomer John Flamsteed (1646 – 1719) gave it the plural name "Comae Berenices".

Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) depicts Coma Berenices as a woman's head with long hair viewed from behind.

The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678 by English uranographer James Clerk depicts Coma Berenices as a woman's long hair as viewed from behind: This woman is wearing a circlet.

English uranographer John Seller's *A coelestiall planisphere* (1678) depicts "Coma Berenices" as a woman's long hair as viewed from behind her head: She is wearing a circlet.

Coma Berenices is listed by Polish astronomer Johannes Hevelius in his in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum,* and is depicted as a woman's long hair as viewed from behind.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this “La Chevelure de Berenices”, “Coma Berenices”, and “OMH ΒΕΡΕΝΙΚΗΣ” and depicts it as a woman’s long hair as viewed from behind. A ribbon is wound through her hair.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley’s pirated catalogue of Flamsteed’s observations of 1712, depicts this constellation as a woman’s long hair as viewed from behind.

French uranographer Gabriel Phillipe de la Hire’s *Planisphere Celeste* (1760) depicts “La Chevelure de Berenice” as a woman’s long hair as viewed from behind.

This constellation is listed in English astronomer John Flamsteed’s *Atlas Coelestis* in 1729 as “Comae Berenices”: This is depicted as a woman’s long hair as viewed from behind the woman’s head.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts “Coma Berenices” as a woman’s long hair as viewed from behind the woman’s head.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts “Coma Berenices” as a woman’s long hair as viewed from behind.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts “La Chevelure de Bérénice” as a woman’s long hair as viewed from behind, as does the 1778 edition.

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts “Coma Berenices” as a woman’s long hair as viewed from behind the woman’s head: This woman is wearing a circlet.

German astronomer Johann Elert Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as “Berenices” and depicted it as a woman’s long hair viewed from behind her head. Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists this constellation as ”das Haupthaar der Berenice“ and depicts it as a woman’s long hair as viewed from behind.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as “Berenice” in his *Della Specola Astronomica De’ Regj Studj Di Palermo* (1792).

American uranographer William Croswell (1760 – 1834) depicts “Coma Berenices Berenice’s Hair” on his *Mercator Map of the Starry Heavens* in 1810 as a woman’s long hair as viewed from behind the woman’s head.

“Coma Berenices” is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as a woman’s long hair as viewed from behind.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts “Coma Berenices” as a woman’s long hair as viewed from behind the woman’s head.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists "Coma Berenices" in his *Celestial Atlas* and his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822). This is depicted as a woman's long hair as viewed from behind the woman's head.

Coma Berenices is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on Jamieson's *Celestial Atlas*. It is depicted as a woman's long hair as viewed from behind the woman's head.

"Coma Berenices" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): This is depicted as a woman's long hair as viewed from behind.

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Coma Berenices, Berenice's Hair" as an official constellation "recognized in the catalogue of the British Association".

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as "Berenices' Hair".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Coma Berenices" in his *Star Atlas* (1893) and describes it as "The Hair of Berenice".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Coma Berenices" and describes it as "Berenice's Hair", incorrectly attributing it to Tycho Brahe.

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Coma Berenices".

The Facts of File Dictionary of Astronomy, 2nd edition, 1985, by Valerie Illingworth, ed., lists this constellation as "Coma Berenices (Berenice's Hair)".

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) redesigned the lines of Coma Berenices in his book *The Stars - A New Way to See Them* (1952). This constellation is depicted on standard IAU charts as a right angle of three stars: Alpha (α) Comae Berenices (Diadem), Beta (β) Comae Berenices, and Gamma (γ) Comae Berenices. Rey creates what looks more like a flail, with the handle the line between Alpha (α) Comae Berenices (Diadem) and Beta (β) Comae Berenices and having multiple lines from Beta (β) Comae Berenices running to stars in the Coma Berenices Cluster.

Sky and Telescope Magazine, founded in 1941, depicts Coma Berenices in their magazine and publications in the same manner as the standard IAU charts.

Coma Pinwheel Galaxy:

This **telescopic** asterism is Messier 99 (NGC 4254), a grand design spiral galaxy in the IAU constellation Coma Berenices. French astronomer Pierre Méchain discovered it in March 1781. It is listed in the General Catalogue of 1864 as GC 2838 and in John Herschel's catalogue as h 1173. Dreyer lists it in the New General Catalogue of 1888 as "3 branched spiral". It is also known as St. Catherine's Wheel (see below) and the Virgo Cluster Pinwheel (see below).

Combination Roof:

This Danish **telescopic** asterism is made up of stars in the IAU constellation Aquarius. It was created Claus Agerskov, a Danish astronomer on *Cloudy Nights*, in May 2022. The stars are 86, 88, 89, 98, 99,

and 101 Aquarii, which Agerskov describes as “the shape of the roof of an old Pizza Hut restaurant”, which is known as a “Combination Roof”.

Comet Komorowski:

This **telescopic** asterism NGC 404 is a field galaxy in the IAU constellation Andromeda. It was discovered by English astronomer William Herschel in 1784, who recorded it as “II 221”. It is listed as GC 218 in the 1864 *General Catalogue*. It is located within 7arcminutes of Beta (β) Andromedae (Mirach), making it a difficult object to observe, which is why it is known as “Mirach’s Ghost”. Size 3.5’ XX 3.5’. This was named by Polish astronomer Artur Komorowski. It is also known as the Lost Pearl (see above) and “Mirach’s Ghost”. This was named by Polish astronomer Artur Komorowski.

Comet Like of Lupus:

This **telescopic** asterism “Cometoïdes Lúpi” is the edge-on galaxy ESO 274-1 (PGC 54392) in the IAU constellation Lupus. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “two outer spiral arms of this galaxy form a pseudoring, i.e. a ring that is not completely closed”.

Comet Nebula:

This **telescopic** asterism is planetary nebula NGC 1360 in the IAU constellation Fornax. It was discovered by American astronomer Lewis Swift (1820 – 1913) in 1857 and recorded in 1868 by the German astronomer Friedrich August Theodor Winnecke: They were both comet hunters so that’s how it got this name. It is listed in the General Catalogue of 1864 as GC 5315. It is O’Meara 16 on astronomer Stephen James O’Meara’s *Hidden Treasures Catalogue* (2007). It is also known as the Robin’s Egg Nebula (see below).

Comet of Piscis Austrinus:

This **telescopic** asterism “Cométa Píscis Austríni” is the lenticular galaxy NGC 7135 in the IAU constellation Piscis Austrinus. This was discovered in 1834 by John Herschel who listed it as h 3891 and later as GC 4704 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of “the long tidal arm extending in [the] northeastern direction make it look like a comet”.

Coming Dawn Stars:

This Ininew (Cree) asterism, “Petapu Achak” is the stars Alpha (α) Aquilae (Altair) and Gamma (γ) Aquilae in the IAU constellation Aquila (Buck 2016). Gamma Aquilae rises first, followed by Altair.

This Anishinaabe asterism “Beedabun Anung” is the stars Alpha (α) Aquilae (Altair) and Gamma (γ) Aquilae in the IAU constellation Aquila (Lee et al 2014). Gamma Aquilae rises first, followed by Altair.

For both the Ininew and the Anishinaabe, the Coming Dawn Stars are the children of the Morning Star (Venus). They rise before her, in the false dawn, and are aligned one above the other so that they point to where she will appear.

Comma of Eridanus:

This **telescopic** asterism “Sicilículus Erídani” is the irregular galaxy NGC 1427A in the IAU constellation Eridanus. It was listed as 2579 by John Herschel and became GC 766 in the General Catalogue of 1864.

NOTE: American astronomer Lewis Swift observed this galaxy in 1896 and classified it as IC 1983. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): The name refers to a square of foreground stars at the southeast side of this galaxy.

Command:

This Chinese star “Ling” from the Three Kingdoms to the Ming Dynasty is Gamma (γ) Ursae Majoris in the IAU constellation Ursa Major.

This Chinese star “Ling” is Zeta (ζ) Sagittarii in the IAU constellation Sagittarius and is part of their xiù (lunar mansion) “Dǒuxiù” (斗宿) – see Dipper, below.

This Chinese Chenzhuo xing guan “Ling” is the star Zeta (ζ) Sagittarii in the IAU constellation Sagittarius.

Commodity Market:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of two stars in the IAU constellation Ophiuchus: 20 Ophiuchi (the determinative star) and HIP 82979.

This Chinese xing guan “Chēsì” (车肆) is a line of two stars in the IAU constellation Ophiuchus: Upsilon (υ) and 20 Ophiuchi.

This Chinese Chenzhuo xing guan “Chēsì” is two stars in the IAU constellations Ophiuchus and Serpens: 30 Ophiuchi and Nu (ν) Serpentis.

Common People:

This Chinese star “Shuren” from the 3 Kingdoms and Ming Dynasty Period is Xi (ξ) Ursae Majoris in the IAU constellation Ursa Major and is part of their asterism Three Steps (see below).

Companion:

This Latin asterism “Amasius” is the IAU constellation Orion.

Companion of Dorado:

This **telescopic** asterism “Comitáta Dorádus” is the edge-on lenticular galaxy NGC 1596 in the IAU constellation Dorado. It was discovered in 1834 by English astronomer John Herschel who listed it as 2648 in his catalogue and later as GC 864 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as it is accompanied by the irregular galaxy NGC 1602 (GC 870).

Companions of Denebola:

This asterism is the stars around Beta (β) Leonis (Denebola) in the IAU constellation Leo as listed by R. H. Allen in his *Star Names* in 1899.

Company of Maidens:

This Lapita asterism “Togo nis amu” is the Pleiades cluster in the IAU constellation Taurus as listed in R. H. Allen’s *Star Names* in 1899. Allen identifies the culture involved as “Solomon Islanders”.

Compass:

This German asterism “Zirkel” is the IAU constellation Circinus.

This French asterism “Compas” is the IAU constellation Circinus.

This Italian asterism “Compasso” is the IAU constellation Circinus.

Compasses of Circinus:

This **telescopic** asterism “Círcinus Círcini” is the galaxy PGC 50779 (ESO 97-13) in the IAU constellation Circinus. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Complete Horse:

This Arabic asterism “Al Amasch” is the IAU constellation Pegasus as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986):

- The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi’s son depicts this as a complete horse in profile.
- The Doha manuscript (1125) of al-Sufi’s *Book of Fixed Stars* depicts this as a horse in profile facing Andromeda. The horse is saddled and harnessed.
- Persian cosmographer Zakariyya’ al-Qazwini (1203 – 1283) called it “Al Faras al Tamm”. This is a reference to those referring to Pegasus as a “half horse” (see Pegasus, below).
- The Paris manuscript of al-Sufi’s *Book of Fixed Stars* (Bibliothèque nationale de France, Ms. Arabe 5036), from Ulugh Beg’s library (c 1430 – 1440) depicts this as a complete horse in profile.
- The Princeton University Library manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Garrett 2259 Y (1607) depicts this as a complete horse in profile.
- R. H. Allen lists it in his *Star Names* in 1899 and describes it as the space between the eastern “wing” of the IAU constellation Cygnus, the “chest of Pegasus”, the IAU constellation Equuleus, and the “tail” of the IAU constellation Lacerta. Allen says that this appears in the *Sternnamen* of German astronomer Christian Ludwig Ideler (1776 – 1846) and that he had not found references to it elsewhere.

Comprising a Hundred Physicians:

This Vedic nakshatra (lunar mansion) “Shatabhisha” or “Satabhishak” (“comprising 100 physicians” or “100 healers”) is the star Gamma (γ) Aquarii (Sadachbia) in the IAU constellation Aquarius. It is listed as “Satabhisaj” in the *Atharvaveda* and *Taittiriya Samhita* and “Satabhisak” in the *Taittiriya Brahmana* (Ivanković 2021) . Ivanković relates it to the storm god God Indra and in the *Taittiriya Brahmana* to Varuna, their God of oceans. Ivankovic notes that some texts list the star Lambda (λ) Aquarii for this asterism. Compare to Hundred Cures (below). W. Brennand lists this as “Satabhisha” in his *Hindu Astronomy* in 1896 and translates this as “a circular jewel”. Bhagwath (2019) lists its symbols as either an empty circle, flowers, or stars.

This Myanmar nekkhat (lunar mansion) “Thattabeiksha” (သတ္တဘိသျှ) is the star Gamma (γ) Aquarii (Sadachbia) in the IAU constellation Aquarius.

Concealed Arm:

This Coptic lunar mansion “Upeurtherian” is made up of stars in the IAU constellations Aquarius and Pisces and was listed by W.B. Yeats in *A Vision* in 1917, which was derived from German Jesuit astronomer Athanasius Kircher’s *Lingua Aegyptiaca Restituta* in 1636, in which Kircher described it as “Brachium absconditum” (“hidden arm”).

Concealer of al Thurayya:

This Arabic star “Mughammid al Thurayya” or “Muliammir al Thurayya” is Alpha (α) Persei (Mirfak) in the IAU constellation Perseus as listed by R. H. Allen in his *Star Names* in 1899. Allen writes that it is “alluded to” by translator Giuseppe Simone Assemani (1687 – 1768) as being on the Borgian Globe of 1225. Al Thurayyah (see above) is the Pleiades cluster in the IAU constellation Taurus.

Concealment:

See Hair on the Tail, below.

Conceiving of Boötes:

This **telescopic** asterism “Concéptus Boótis” is the spiral galaxy NGC 5614 (Arp 178) in the IAU constellation Boötes. William Herschel listed this as “II 420”. John Herschel listed this as h 1804 and later as GC 3880 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “A small galaxy NGC 5615 [GC 3883] is seen on the rim, or even inside the larger galaxy NGC 5614. The large plume that is extending in northwestern direction is provoked by the tidal effects that are caused by the proximity of both systems. This interesting configuration is metaphorically interpreted as a process of conception.”

Conception of Perseus:

This **telescopic** asterism “Concéptio Pérsei” is the Seyfert galaxy NGC 1275 (Caldwell 24) in the IAU constellation Perseus. It was discovered by Prussian astronomer Heinrich d’Arrest and became GC 675 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it the name “Mucronátus” (“Having a sharp point”) as it “looks like an arrowhead”. It is also known as “Perseus A” (see below).

Concordant of Ursa Major:

This **telescopic** asterism “Cóncors Úrsae Majóris” is the interacting galaxy NGC 3690 (Arp 299) in the IAU constellation Ursa Major. It was discovered in 1790 by William Herschel who listed it as “I 247”. It became GC 2425 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They call it this due to it “strongly interacting with its close neighbour IC 694”. NOTE: IC 694 was discovered by English astronomer William Parsons, 3rd Earl of Rosse and also observed by American astronomer Lewis Swift.

Concordia:

This Greek asterism “Concordia” is the IAU constellation Virgo as listed in R. H. Allen’s *Star Names* in 1899. Concordia was the Greek Goddess of agreement in marriage and society.

Condor:

This Quechua (Misminay) asterism is made up of stars of the IAU constellations Canis Majoris, Hydra, Monoceros, and Pyxis (Urton 1981):

- The “head” is Delta (δ), Epsilon (ε), and Eta (η) Canis Majoris,
- One “wing” is Alpha (α) Monocerotis,
- One “wing” is Alpha (α) Pyxidis, Beta (β) Pyxidis, and Gamma (γ) Pyxidis, and
- The “tail” is Alpha (α) Hydrae (Alphard).

This Quechua asterism “Mallku” is the Coal Sack Nebula (Ciancia 2018).

This **telescopic** asterism NGC 6872 is a large barred spiral galaxy in the IAU constellation Pavo. It was discovered by English astronomer John Herschel in June 1835, listing it as h 3816. It is GC 4549 in the *General Catalogue* of 1864. It is the largest known spiral galaxy and is interacting with the lenticular galaxy IC 4970. It is also known as the “Giant of Pavo” (see below).

Condor, Vulture, and Falcon:

This Moche asterism is the belt of Orion in the IAU constellation Orion.

Cone Nebula:

This **telescopic** asterism is HII region NGC 2264 (SH 2-273, LBN 911, Cr 112, Mel 49, Ced 84b) in the IAU constellation Monoceros. It was discovered by English astronomer William Herschel in 1785, who listed it as “V 27” and “VII 5” in his catalogue. It is GC 1440 in the *General Catalogue* of 1864. This is O’Meara 35 in astronomer Stephen James O’Meara’s *Hidden Treasures Catalogue* (2007), which lists the names “Cone Nebula”, “Fox Fur Nebula” and “Christmas Tree Cluster”. It contains the Christmas Tree Cluster (see above).

Conepatus:

The stars of this Kogi asterism “Wása” are currently unidentified (Kelley & Milone 2011). A Conepatus is a high-nosed skunk.

Confederates of Seth:

This Egyptian asterism is the stars of the IAU constellation Sagittarius as listed in the 19th dynasty *Cairo Calendar* (Hardy 2003). Seth or Set is the brother of Osiris and is a God of war, chaos, storms, and pestilence.

Confused of Coma Berenices:

This **telescopic** asterism “Confúsulus Cómae Bereníces” is the barred spiral galaxy NGC 4561 in the IAU constellation Coma Berenices. This was discovered in 1784 by English astronomer William Herschel who listed it as “II 407”. It became GC 3104 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of “the small size and irregular shape of this Magellanic type galaxy”.

Conical Shell:

This Kiribati star “Baraitoa” or “B’aráitoa” is currently unidentified (Trussel and Groves 1978).

Conjoined Whales:

This **telescopic** asterism "Conjuncta Céti" is the galaxies NGC 34, NGC 17 and Mrk 938 in the IAU constellation Cetus. It was discovered by Frank Muller and Lewis Smith in 1886. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as it has these galaxies are merging.

Conjunction of a Hundred Circles:

This Welsh asterism listed by Victorian folklorist Marie Trevelyan (1852 – 1922) in her *Folk-lore and Folk-stories of Wales* (1909) is currently unidentified.

Connected of Eridanus:

This **telescopic** asterism "Sýmphytus Erídani" is the interacting galaxies NGC 1516 A and 1524 in the IAU constellation Eridanus. NGC 1516 was discovered in 1786 by William Herschel who recorded it as one object, "III 499". Ormond Stone later discovered that it was two galaxies and listed it as NGC 1524 and 1525. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): The name refers to their interaction.

Connector:

This asterism involves stars in three IAU constellations: Boötes, Leo, and Virgo. It was created by Samantha Jewett and Shannon Dales of the RASC for the 2023 General Assembly. This is a triangle of the stars Alpha (α) Boötis (Arcturus), Alpha (α) Virginis (Spica), and Beta (β) Leonis (Denebola), with Epsilon (ε) Virginis (Vindemiatrix) in the middle, all of these being double stars. The name relates to the theme of the conference: Connect.

Conqueror:

This Arabic asterism "Al Najīd" or "Al Najidh" is Gamma (γ) Orionis in the IAU constellation Orion as listed by Persian astronomer Zakariyya' al-Qazwini (1203 – 1283):

- This star was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 as "al-Nājid" and "al-Mirzam" (Hafez 2010). Sufi writes that some astronomers use this name for Beta (β) Orionis (Rigel).
- Persian astronomer Ulugh Beg Mirza (1394 – 1449) called it "Al Murzim al Najīd" ("the herald conqueror").
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Al-nájid", translating this as "subduer", and adds his version of Ulugh beg Mirza's name, "Al Mirzam al Najīd", translating this as "the conquering lion".
- R. H. Allen translates this last name as "the roaring conqueror" in his *Star Names* in 1899 and includes the stars Alpha (α) Orionis (Betelgeuse) and Beta (β) Orionis (Rigel) in this asterism.

Conspiracy of Sky:

This Korean asterism "Haneul-ui Eummo" (하늘의 음모) is four lines of stars radiating away from the star 66 Tauri in the IAU constellation Taurus:

- One line goes to HIP 19799,
- One line goes to 47 Tauri,
- One line goes to Mu (μ) Tauri, and

- One line goes to 46 Tauri.

Constant Mau:

This Hawaiian star “Hoku-Mau” (“constant Mau” or “always Mau”) is Beta (β) Ursae Minoris (Kochab). This is a new Hawaiian name, dating to the 1970s, as the old name for this star was lost. This star is also known as “Holopuni” (“to sail around” or “to circle”). It was named in honor of Mau Piailug, the Satawalese navigator that assisted the Polynesian Voyaging Society to recover their use of stellar navigation.

Constellation of the King:

This Babylonian asterism “Kakkab Sar” is the stars Alpha (α) Orionis (Betelgeuse), Gamma (γ) Orionis (Bellatrix), Eta (η) Orionis, and Lambda (λ) Orionis in the IAU constellation Orion as listed in R. H. Allen’s *Star Names* in 1899.

Constellations:

This Hebrew asterism “Məzārîm” (מזרים) may be the IAU constellations Ursa Major and Ursa Minor, or it could be a synonym for the Hebrew word “mazzalot” (“constellations”), in which case it probably refers to the planets or the constellations of the zodiac. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Mazzaroth” as a name for Alpha (α) Canis Majoris (Sirius).

Containing Five of Antlia:

This **telescopic** asterism “Quinárius Ántliae” is the spiral galaxy IC 2537 in the IAU constellation Antlia. It was discovered by Lewis Swift in 1898. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of “the five outer arms”.

Coolabah Tree:

This Euahlayi asterism “Mullyan” is the IAU constellation Crux (Clarke 2014, Fuller et al 2014) and represents the Gulabaa (Coolabah) tree. Compare to the Kamilaroi asterism “Minggah” (see Spirit Tree, below) or the Ngiyampaa or Weilwan asterism “Nguu” (see Tea Tree, below).

Coolamon:

This Aranda and Arrernte asterism is the IAU constellation Corona Australis (Kemp et al 2022). A coolamon is a multi-purpose shallow vessel used by people indigenous to Australia.

Cooling Tower:

This **telescopic** asterism is open cluster Messier 29 in the IAU constellation Cygnus. It was discovered by French astronomer Charles Messier in 1764. It is listed in John Herschel’s General Catalogue of 1864 as GC 4576. Some call it this as it has two parallel lines of three stars curving inwards towards each other, resembling the side profile of a hyperboloid natural draft cooling tower. These sort of cooling towers were first patented by Dutch engineers in 1918, so although I do not know who first gave it this name, it couldn’t be earlier than that. It is also known as the Little Sisters.

Copeland’s Eyes:

See Eyes (below).

Copeland’s Golden Worm:

This **telescopic** asterism is the open cluster NGC 2301 in the IAU constellation Monoceros. It was discovered by William Herschel in 1786 who listed it as "VI 27" in his catalogue. It is GC 1465 in the *General Catalogue* of 1864. Size 12' X 12'. This was its name in the 19th century, referring to English astronomer Ralph Copeland (1837 – 1905), and it later became known as the Great Bird Cluster (see below) and Hagrid's Dragon (see below).

Copeland's of Leo:

This **telescopic** asterism "Copelandínus Leónis" is the spiral galaxy NGC 3753 in the IAU constellation Leo. It was discovered by Ralph Copeland in 1874. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). This is the brightest galaxy in Copeland's Septet (see below).

Copeland's Septet:

This **telescopic** asterism is a group of seven galaxies in the IAU constellation Leo: NGC 3748, 3754, 3750, 3751, 3745, 3753, and 3746. It was named for the English astronomer Ralph Copeland, assistant to Lawrence Parsons at Birr Castle in 1874 discovered these within 7' in the 72" Leviathan reflector. It is also listed as Hickson 57 and Arp 320.

Copernicus:

This IAU star is Rho (ρ) 1 Cancri (55 Cancri A) in the IAU constellation Cancer, named by the IAU in honor of the German astronomer Nicolaus Copernicus. It has 5 exoplanets:

- "Galileo", named for the Italian astronomer Galileo Galilei.
- "Brahe", named for the Danish astronomer Tycho Brahe,
- "Lipperhey", after the Dutch lens maker Hans Lipperhey,
- "Janssen", after the Dutch astronomer Zacharias Janssen, and
- "Harriot", after the English astronomer Thomas Harriot.

Copiously Flowing of Sagittarius:

This **telescopic** asterism "Multíflua Sagittárii" is the spiral galaxy NGC 6902 in the IAU constellation Sagittarius. It was discovered in 1836 by John Herschel who listed it as h 3827 and later as GC 4569 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the many spiral arms and star forming HII regions in this galaxy".

Copulating of Cetus:

This **telescopic** asterism "Coítus Céti" is the spiral galaxy NGC 191 (Arp 127) in the IAU constellation Cetus. It was discovered in 1785 by English astronomer William Herschel who listed it as II 479. It is GC 95 in the General Catalogue of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name "NGC 191 and its smaller companion IC 1562 interact with each other like copulating animals".

Copulating Paramecia of Lepus:

This **telescopic** asterism "Cópulans Léporis" is the barred spiral galaxy NGC 1738 in the IAU constellation Lepus. It was discovered by American astronomer Ormond Stone in 1885. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name because of its "this pair of interacting galaxies NGC 1738 and 1739 looks like copulating paramecia".

Cor Caroli:

See Charles' Heart, above.

Coral of Hydra:

This **telescopic** asterism "Corállium Hýdrae" is the barred spiral galaxy Messier 83 (NGC 5236) in the IAU constellation Hydra. French astronomer Charles Messier added it to his catalogue in 1781, but it was first observed by French astronomer Nicolas Louis de Lacaille in February 1752 who listed it as Lac I6. It is GC 3606 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "its many bright reddish HII regions [which makes it look] like a giant spiral-shaped coral reef.". It is also known as the Thousand Ruby Galaxy, the Southern Pinwheel, and "El Molinillo Austral" ("the Southern Grinder").

Cord:

This Coptic lunar mansion "Kutôn" or "Kuton" is the star Delta (δ) Piscium ("Kuton I") and Zeta (ζ) A & B Piscium ("Kuton II and III") in the IAU constellation Pisces. R. H. Allen describes this as Upsilon (υ), Phi (ϕ), and Chi (χ) Piscium in his *Star Names* in 1899 and attributes this description to "Brown", which is probably Robert Brown in his *Researches Into the Origin of the Primitive Constellations of the Greeks, Phoenicians and Babylonians* (1899). W. B. Yeats listed it as "Kutôn" in *A Vision* in 1917, basing this on Athanasius Kircher's listing in his *Lingua Aegyptiaca Restituta* in 1636, giving the Latin names "Piscis" ("fish", as it is the triangle that forms one of the "fishes" that are part of this constellation) and "Venter Caeti, sive Piscis" ("belly of a fish").

This Khorasmian lunar station "Zidadh" is the stars Delta (δ) Piscium and Zeta (ζ) A and B Piscium in the IAU constellation Pisces and is listed in R. H. Allen's *Star Names* in 1899.

This Sogdian lunar station "Riwand" is the stars Delta (δ) Piscium and Zeta (ζ) A & B Piscium in the IAU constellation Pisces and is listed in R. H. Allen's *Star Names* in 1899.

This Persian lunar station "Kaht" is the stars Delta (δ) Piscium and Zeta (ζ) A & B Piscium in the IAU constellation Pisces and is listed in R. H. Allen's *Star Names* in 1899.

Cork Nebula:

This **telescopic** asterism is the planetary nebula Messier 76 (NGC 651), discovered by French astronomer Pierre Méchain in 1780 and included in Charles Messier's catalogue. It is in the IAU constellation Perseus and was first recognized as a planetary nebula in 1918 by American astronomer Heber Doust Curtis. It is also known as the Butterfly Nebula, the Little Dumbbell Nebula, and the Barbell Nebula.

Cork Tree:

This Lacandón asterism is the IAU constellation Crux. It represents the Ceiba tree (Ochromoa lagopus).

Corn, Beans, and Squash:

This K'iche (Yucatán) asterism is the belt of Orion in the IAU constellation Orion (Sokol 2022).

Corn Mother:

This Quechua asterism "Mamazara" or "Saramama" is the IAU constellation Crux.

Corner Star:

This Mayan star is Alpha (α) Centauri (Rigil Kentaurus) in the IAU constellation Centaurus, which they believed marked the southern corner of the night sky at the end of the dry season.

This K'iche' star is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Milbrath 1999).

Cornerstone:

This Norwegian asterism "Hjørnesteinen" ("cornerstone") or "Sluttsteinen" ("capstone") is in the IAU constellation Hercules. The four central stars in the IAU constellation Hercules form a wedge-shaped quadrilateral resembling the keystone of an arch: Epsilon (ε) Herculis, Zeta (ζ) Herculis, Eta (η) Herculis, and Pi (π) Herculis. Compare this to Keystone, below.

Cornucopia:

This **telescopic** asterism is in the IAU constellation Pisces and is Ennis 25 on the observing list of Canadian astronomer Charles Ennis. Size 70' X 32':

- The "mouth" of the cornucopia is a line of three stars: HIP 635, the eclipsing binary star HIP 664, and HIP 700.
- A curving arc of stars forms the "body" of the cornucopia, including HIP 803, the double star HIP 931A, HIP 906, HIP 1033, and HIP 1192, with the "tip" being the double star HIP 1153.

Corolla:

This asterism is the IAU constellation Corona Australis. English astronomer Richard Anthony Proctor gave the name "Corolla, The Wreath (for Corona Australis") in 1873 as he believed that shortening the name would make more room on astronomical charts. "Corolla" appears in Proctor's *A New Star Atlas* (1887) as an official constellation "recognized in the catalogue of the British Association".

Corona:

This is the IAU constellation Corona Borealis as listed in editions of the *Revised Aratus Latinus* (8th century).

This German asterism "Krona" is the IAU constellation Corona Borealis as depicted in the *Nördliche Sternhimmel* sky map of O. S. Reuters based on the work of German astronomer Johann Elert Bode (1747 – 1826).

This **telescopic** asterism is in the IAU constellation Virgo and was listed as Corder 2408 on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Corder attributes it to John Raymond. Size 60'. This is an arc of eight stars starting at 33 Virginis and including HIP 62375, 62489, and 62597.

Corona Australis:

None of the stars of this constellation are brighter than 4th magnitude, but this constellation is easy to spot, and its stars show up in 78 of the sky cultures of the world listed in this handbook.

This IAU constellation (IAU abbreviation CrA), “the southern crown”, was first recorded in Seleucid sky lore as MA.GUR (see Bark, below). Ptolemy (c.100 – c.170) listed it as “Στέφανος Νότιος” or “Stéfanos Nótios” (see Southern Crown, below) in his *Almagest*. The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) depicts this constellation as a circle.

This constellation appears in a 10th century copy of the Leiden *Aratea* (Boulogne-sur-Mer, Bibliotèque municipal MS 188) but is missing from the 9th century edition.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi’s son depicts Corona Australis as a teardrop shaped formation of stars.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Corona Australis as a curve of stars within a teardrop shape.

Shams al-Dīn Muhammad B. Mu’ayyad al-‘Urdī’s inlaid celestial globe (1288) lists Corona Australis.

A Hebrew translation of the Almagest from Catalonia (c1361), Philadelphia (USA), University of Pennsylvania Libraries, Lawrence Schoenberg Collection, ms. ljs057 (old Ms.Sassoon 823), ff.56v, 57r, depicts “Corona Meridionalis” as an open crown.

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Corona Australis as a tear drop shaped formation of stars with a rope forming a border around it.

The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.168v-169r depicts Corona Australis as a crown but does not label it, but ff.170v – 171r depicts it as a crown with the label “Corona”.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.72v-73r depicts Corona Australis as a crown with flower decorations. It is unlabelled.

This constellation appears on the *Imagines constellationum Australium* chart of Romanian theologian Johannes Honter (1498 – 1549) as a crown with the abbreviated label “Corona Merid.”

The *Germanicus Aratea* with scholia Strozziana (c. 1475) omits Corona Australis.

The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts “Corona Meridionalis vel Australe Serum” as an open crown.

The early 16th century Real Academia de Historia, manuscript D-97, f.102v – 103r depicts Corona Australis as a closed horseshoe shape which is not labelled.

The “Nuremburg Maps”, a pair of celestial hemispheres made in 1503 by Conrad Heinfogel depicts this constellation as a crown with the abbreviated title “Corona Meri”.

The *Southern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius depicts this as a crown and lists it as “Corona Meridionalis” (“southern crown”).

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts “Corona” as a crown. NOTE: Schöner uses “Corona” for both Corona Australis and Corona Borealis on these gores.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and labels this “Corona Meridionalis” and depicts in the same manner as Dürer et al.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts “Coronameridionalis” as a golden crown with fleur de lis decorations.

Dele Stelle Fisse (“Of the Fixed Stars”) by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as “De la Corona Australe”. The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as the “Southern Crown”.

The Southern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Corona Australis as a crown with fleur de lis points.

The *Globus Coelestis* chart (1584) of Swiss German artist Jost Amman (1539 – 1591) labels this with the abbreviated “Corona Meridi” and depicts it as a crown.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius labels this “Corona A” on this chart and depicts it as a crown.

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicts “Corona Austrina, quae et Rota Ixionis” as a jeweled crown.

Flemish cartographer Jodocus Hondius (Joost de Hondt 1563 – 1612) includes “Corona Aust” on his globe in 1598 on which he depicts it as a starry ring and on his *Hemelglobe* (1600) and depicts it as a crown.

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists this constellation as “Corona Austrina; Quae et Rota” (“the Eastern Crown or the Wheel”) in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts “la Corona Australe” as a crown.

German uranographer Johann Bayer (1572 – 1625) depicts this constellation as a laurel wreath in his *Uranometria* in 1603. Bayer lists these names for this constellation: “Corona Meridionalis, Corona Austrina, Corona Notia, Coelulum, Parvum Coelum, Rota Ixionis, Caduceus”.

Corona Australis is omitted from Danish astronomer Tycho Brahe’s *Astronomiae Instauratae Progymnasmata* (1602).

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Corona Meridionalis”, “Corona Notia”, and “Corona Austrina” for this constellation.

Dutch navigator Frederick de Houtman's catalogue of fixed stars (1603) lists this constellation as "De Zuyder Croon" ("southern crown").

"Corona Australis" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and depicted as a crown.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the name "Corona Australis" for this constellation.

The *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) labels this constellation with the abbreviated "Corona Aust" and depicts it as a crown.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts "Corona Austr" as a crown.

This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 with the abbreviated label "Corona Aust" and is depicted as a laurel wreath.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts "Corona Australis" as a crown.

Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) depicts Corona Australis as a golden crown.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts "Corona Australis" as a crown.

Edward Sherburne listed it as "Coronae Australis Asterismus" ("Southern Crown Asterism") and "Corona Secunda" ("second crown") in his *Sphere of Marcus Manilius* in 1675.

German astronomer Erhard Weigel (1625 – 99) produced his *Astrocopium Orbi Europaeo Sacrum* chart in 1661, 1681 and 1688 in which he tried to replace existing constellations a new system based upon the heraldry of the nation states and principalities of seventeenth century Europe, as well as of its principal hierarchies and social classes. On this chart he depicts this constellation as a golden circlet or ring of beads: The label appears to read "Buren" but is partially unintelligible.

Corona Australis is listed by English astronomer Edmond Halley in his *Catalogus Stellarum Australium* in 1679.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this "Coronne Aus", "Corona Aus" and depicts it as a wreath with ribbons.

Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) labels this "Rota Ixionis al Corona Austral" and depicts it as a laurel wreath.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, labels this constellation "Corona" and depicts it as a golden crown.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts "Corona Aust" as a crown.

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) depicts Corona Australe as a crown.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Corona Australis as an ivy wreath.

French astronomer Abbé Nicolas Louis de Lacaille's *Planisphère des Étoiles Ausralea* (1756) depicts this constellation as a laurel wreath.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) labels this constellation with the abbreviated "La Couronne Meridion" and depicts it as a laurel wreath.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts "Corona Aust" as a single triangle.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "la Couronne Australe" as a crown in its southern hemisphere chart but in a later closeup chart depicts it as a laurel wreath.

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer labels this constellation with the abbreviated label "Corona Aust." And depicts it as a crown.

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) labels this constellation "Sūdl Krone" on his chart and depicts it as a crown partially tucked behind Sagittarius.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts "Corona Aust" as a crown.

Corona Australis is depicted as a crown in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801) but is not labelled.

American uranographer William Croswell (1760 – 1834) depicts "Corona Australis the Southern Crown" on his *Mercator Map of the Starry Heavens* in 1810 as a crown.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists this constellation as "Carona Australis" in his *Celestial Atlas* in 1822: It is depicted as a laurel wreath.

This constellation is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) simply as "Corona": He indicates the borders of this constellation on the chart but offers no illustration of it.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts "Corona Aust" as a laurel wreath.

Corona Australis is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: This is influenced by Jamieson's *Celestial Atlas*. *Urania's Mirror* depicts it as a laurel wreath.

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Corona Australis" and describes it as the "Southern Crown".

This constellation briefly had its name changed by the IAU in 1932 to “Corona Austrina” (“Eastern crown”), but this was repealed in 1955.

Other adjectives attached to Corona for this constellation include “Meridiana” (“southern border”), “Meridionalis” (“southernmost”), and the Greek “Notia” (“southerly”). the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch lists “Corona Meridionalis” as an alternate name.

French astronomers call it “Couronne Australe”, German astronomers “Südliche Krone”, and Italian astronomers “Corona Australe”.

Corona Australis is depicted on standard IAU charts as a curve of stars starting at HIP 92953 and running through Zeta (ζ) Coronae Australis, Delta (δ) Coronae Australis, Beta (β) Coronae Australis, Alpha (α) Coronae Australis (Meridiana), Gamma (γ) Coronae Australis, Epsilon (ε) Coronae Australis, HIP 92866, and Lambda (λ) Coronae Australis to HIP 90887.

Sky and Telescope Magazine, founded in 1941, depicts Corona Australis in their magazine and publications as the line of stars Theta (θ) Coronae Australis, Delta (δ) Coronae Australis, Beta (β) Coronae Australis, Alpha (α) Coronae Australis (Meridiana), and Gamma (γ) Coronae Australis.

Corona Borealis:

The brightest star of this constellation is Alpha (α) Coronae Borealis (Alphecca) at magnitude 2.2, which is the 66th brightest star on the list of 90 brightest stars and its stars appear in 173 asterisms.

This small IAU constellation (IAU abbreviation CrB) was first mentioned in Aratus’ poem *Phaenomena* (270 B.C.E.) and was described by Hipparchus (190 – 120 B.C.E.) in his star catalogue (Gysembergh et al 2022). It is one of the 48 original constellations listed by Ptolemy (c.100 – c.170) in his *Almagest*, who called it “Στέφανος” (“Stéfanos “-“crown” or “wreath”)- see below. Later they added “πρῶτος” (“prótos”) or “βόρειος” (“vóreios”) to differentiate it from Corona Australis. Greek mythology describes this as a crown given by the God Dionysus to Ariadne, while Latin myths describe it as a crown worn by the God Bacchus. The Mesopotamians associated it with their Goddess Nanaya, and it has also been associated with the Goddess Aphaia in Aegina and the Cretan Goddess Britomartis.

The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) depicts this constellation as a circle.

The globe of the 2nd century Farnese Atlas depicts this constellation as a laurel wreath (Stevenson 1921).

“Corona Borealis” is depicted in the Leiden *Aratea* (816) as laurel wreath (Katzenstein & Savage-Smith, 1988).

This constellation appears in editions of the 8th century *Revised Aratus Latinus*:

- It is depicted as having a “D” shape in several editions (St Gall 250, St Gall 902, Ps Bede DSC, Montecassino 3), where it has a “D” shape,
- Two editions (Gottweig 7 (146), Siena L. IV. 25) depict it as a wreath,
- In the Munich 560 edition it is shown as a crown,
- In the Paris BN 12957 edition the crown is being held by an unidentified figure,
- In the Vat Reg lat 1324 edition it is depicted as a crowned king.

The *De ordine ac positione stellarum in signis* ("*On the order and position of the stars in the signs*") in the Salzburg compilation (810 – 818) of Abbot Arno of Salzburg (785 – 821) simply lists the name "Corona".

The 9th century Berlin 130, Madrid 3307, Monza F.9/176 and Vat lat 645 manuscripts of the *De ordine ac positione stellarum in signis* depict Corona Borealis as a wreath. The Los Angeles, Getty Ludwig XII, 5 manuscript of the *De ordine ac positione stellarum in signis* depicts a circlet with a cross.

The 11th century *De signis caeli ("of the signs of heaven*") lists "Corona vero" and "Corona". The Klosterneuberg 685, Paris BN 5239, Paris BN 5543, Vat lat 643, and Zwettl 296 manuscripts of *De signis caeli* depict a circlet with ribbons. The Vat lat 643 and Zwettl 296 manuscripts incorrectly place this constellation between Serpentarius and Scorpius. The Laon 422 manuscript of *De signis caeli* depicts what looks like a torque and the Rouen 26 manuscript of *De signis caeli* depicts what looks like a dog's collar with a ring attached. The Montecassino 3 manuscript of *De signis caeli* depicts nine ovals arranged in a "D" shape. The Freiburg im Breisgau 35 manuscript of *De signis caeli* depicts a leafy wreath.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Corona Borealis as its curve of stars within a circle.

Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) depicts Corona Borealis as a double circle.

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Corona Borealis as the curve of its stars within a decorated circular border.

The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.168v-169r depicts Corona Borealis as an upside-down crown: That is, the curving stars of this constellation are shown as jewels in the top of the crown rather that as the bottom of the crown as on most other charts. The artist has squeezed a label inside the crown, but it is illegible.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Corona Borealis as an unlabelled circle of stars.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.71v-72r omits Corona Borealis.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Corona Borealis as a perfect circle of stars with ribbons attached at the top.

The *Germanicus Aratea* (Siciliensis, c. 1469) depicts Corona Borealis as a round crown viewed from above with a wavy ribbon attached to one side, as does the *Germanicus Aratea* with scholia Strozziana (c. 1475).

De Astronomica ("the astronomy"), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This depicts "Corona" as a crown with three fleur de lis ornaments.

The Constance Celestial Globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts "Corona Borealis" as an open crown.

The early 16th century Real Academia de Historia, manuscript D-97, f.102v – 103r depicts Corona Borealis as a horseshoe shape that doesn't look much like a crown. It is not labelled.

The "Nuremburg Maps" *(Die Karte des Nördlichen Sternenhimmels* inv.-Nr. Hz 5576), a pair of celestial hemispheres made in 1503 by Conrad Heinfogel, depicts "Corona" as a crown.

The *imagines coeli septentrionales cum duodecint imaginibus zodiaci* ("images of the northern sky with twelve images of the zodiac"), commonly known as the *Northern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius, lists this constellation as "Corona" and depicts it as a crown.

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts "Corona" as a crown. NOTE: Schöner uses "Corona" for both Corona Australis and Corona Borealis on these gores.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts this constellation as a crown.

The *Horoscopion generale* (1533) of Petrus Apianus (1495 – 1552) depicts Corona Borealis as an open crown.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts "Corona" as a golden crown.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as the "Northern Crown".

The Northern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Corona Borealis as a crown.

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists this constellation as "Corona Borea" in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts "Corona" as a crown.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts this constellation as a crown with six points. There is no room for a label.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts Corona Borealis as a female's long hair as viewed from behind: The female is wearing a crown. A tear in the page makes it difficult to read the label which starts with a "C" and appears to end "… arius". This looks very similar to how charts of this period depict Coma Berenices, apart from the crown.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts "Corona Gnosia" as a crown.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) depicts “Corona” as a laurel wreath.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) depicts “Corona” as a crown.

German astronomer Johann Bayer (1572 – 1625) depicts it in his *Uranometria* in 1603 as a laurel wreath with a ribbon and lists these names: “Corona, Corona Borea, Corona Septentrionalis, Corona Vulcani, Corona Thesei, Corona Ariadnae, Minois, Acliluschemali, Malphelcarre”.

“Corona Borea” (“crown of the north”) appears in Danish astronomer Tycho Brahe’s *Astronomiae Instauratae Progymnasmata* (1602).

“Corona Borealis” is listed on the *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) and depicted as a crown.

“Corona Gnosia” and “Corona Septentrionalis” (“northern crown”) are listed as names for Corona Borealis in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and he depicts it as a laurel wreath.

Giovanni Paolo Gallucci’s *Theatrum Mundi, et Temporis* (1614) labels this constellation “Corona Boreal” and “Ariadna Constelacion (Ariadne’s Constellation)” and depicts it as a jewelled crown with eight points.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the name “Corona Borea” for this constellation.

The *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) lists “Corona Sept”, an abbreviation of “Corona Septentrionalis”, and depicts it as a laurel wreath.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts “Corona” as a crown.

The huge *Gottorf Globe* (c1650) made for the Duke of Holstein, Frederick III, one of the world’s first planetariums, depicts Corona Borealis as an open crown.

Robert Hues lists this constellation as “Corona Borea” in his *A Learned Treatise of Globes* in 1659.

This constellation is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as “Corona”.

Dutch cartographer Frederik de Wit’s *Planisphaerium Coeleste* (1670) lists this constellation with the abbreviated label “Corona Bor.” And depicts it as a crown.

This constellation appears as “Corona Septentrionalis” (“corona north”) in Edward Sherburne’s Sphere of Marcus Manilius in 1675.

The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678 by English uranographer James Clerk depicts “Corona Borealis” as a crown.

English uranographer John Seller's *A coelestiall planisphere* (1678) gives this the abbreviated label "Corona Sep" and depicts it as a crown.

Corona Borealis appears on four pages of Polish astronomer Johannes Hevelius' *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum.* In each case it is depicted as a crown with fleur de lis decorations, but one is labelled "Corona Septen", two are simply labelled "Corona" and one is labelled "Corona Borealis".

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this "Cóuronne Boreale" and depicts it as a ring decorated with leaves and ribbons.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, labels this constellation "Corona Septentrionales" and depicts it as a golden crown.

A celestial pocket globe created by British uranographer Herman Moll in 1719 depicts Corona Borealis as a crown.

This constellation is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729 as "Corona".

A celestial pocket globe by English uranographer Richard Cushee dated 1731 labels this constellation "Corona" and depicts it as a jeweled crown in the left hand of Boötes.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts "Corona Borealis" as a crown with fleur de lis decorations.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Corona Borealis as a flowery wreath.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) labels this constellation "La Couronne Septentrionale" and depicts it as a laurel wreath.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, does not label Corona Borealis, but depicts it as a crown.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "La Couronne" as a crown decorated with six fleur de lis.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as "Corona Boreale" in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer labels this constellation with the abbreviated "Corona Serpent" and depicts it as a crown.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as "Krone". Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists "die nördliche Krone" in the text and "Nordliche Krone" in the charts, which depict a crown with ten points.

American uranographer William Croswell (1760 – 1834) depicts “Corona Borealis the Northern Crown” on his *Mercator Map of the Starry Heavens* in 1810 as a crown.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts “la Courone” as a crown, as does the 1778 edition.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Corona Borealis in his *Celestial Atlas* and in his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822) which depicts this as a crown.

This constellation is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as a laurel wreath. However, Argelander has labelled it “Corona Corealis” (“royal crown”) not Corona Borealis.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts “Corona Borealis” as a crown.

Corona Borealis is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852: The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822. It is depicted as a crown with the stars as gems.

Corona Borealis is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877) simply as “Corona”: It is depicted as a laurel wreath.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) describes this constellation as “Corona Borealis… six stars arranged in a semicircular form”.

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as “the Northern Crown”.

German astronomer Hermann Joseph Klein (1844 – 1914) lists “Corona Borealis” in his *Star Atlas* (1893) and describes it as “The Northern Crown”.

American astronomer Winslow Upton’s *Star Atlas* (1896) lists this constellation as “Corona Borealis” and describes it as the “Northern Crown”.

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists “Corona Borealis”.

Standard IAU charts depict Corona Borealis as the curving line of the stars Iota (ι) Coronae Borealis, Epsilon (ε) Coronae Borealis, Delta (δ) Coronae Borealis, Gamma (γ) Coronae Borealis, Alpha (α) Coronae Borealis (Alphecca), Beta (β) Coronae Borealis, and Theta (θ) Coronae Borealis.

The French call it “Couronne Boréale” and the Italians “Corona”.

Corona Sagittarii:

See Golden Crown of Sagittarius, below.

Corona Ursa Major:

This **telescopic** asterism is made up of stars of the IAU constellation Ursa Major. It was posted on *Cloudy Nights* by "idahoeng" in June 2022. It is a curve of stars starting at 36 Ursae Majoris and running through 37, 39, 43 and 44 Ursae Majoris.

Coronet:

This Persian asterism "Aveçr" is the stars Lambda (λ) Orionis (Meissa), and Phi (ϕ) 1 and 2 Orionis in the IAU constellation Orion as listed in R. H. Allen's *Star Names* in 1899.

Coronet Cluster:

This **telescopic** asterism is the variable reflection/emission nebula NGC 6729 (Caldwell 68) in the IAU constellation Corona Australis. It was discovered by German astronomer Johann Friedrich Julius Schmidt in 1861. It is GC 5937 in the *General Catalogue* of 1864.

Corpse:

This Babylonian asterism from the MUL.APIN tablets "Pagru" ("corpse" or "dead man") is made up of the stars of the IAU constellations Equuleus, Aquila, and Delphinus. One end is a triangle of stars: Alpha (α) Equuleus (Kitalpha), Delta (δ) Equuleus, and Kappa (κ) Delphini. From Kappa Delphini a hook of stars runs through HIP 100541, 69 Aquilae and 70 Aquilae, ending at Iota (ι) Aquilae. This is listed in the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period as "mull u.us" (Koch-Westenholz 1995). This asterism appears in later Seleucid sky lore. Some suggest that the Babylonian asterism "Eagle" (see above) is carrying the corpse.

This Egyptian Dendera asterism is made up of stars of the IAU constellation Delphinus (Hoffmann 2017) but is shown on Stellarium as made up of stars of Pegasus, Vulpecula, and Equuleus. It is clearly influenced by the Babylonian asterism Pagru (see Corpse above) except that the Babylonian asterism is a dead man and this is a dead animal.

This Kolam asterism "Murda" is the IAU constellation Leo (Vahia 2014).

This Gond asterism is the IAU constellation Leo (Vahia 2014).

Corpse Bundle:

This Barasana asterism "Masa Hoti" (the body of Star Woman, killed by wasps) is the IAU constellation Delphinus (Hugh-Jones 2006). She fell to Earth, was resurrected, and married a mortal who accompanied her into the sky, only to be killed by a snake in the sky.

Corpse Stars:

This Banjar asterism is the sword of Orion in the IAU constellation Orion.

Corvus:

The four brightest stars of this constellation are 2nd and 3rd magnitude, and its stars appear in 107 of the asterisms listed in this handbook.

This IAU constellation (IAU abbreviation Crv) appeared as "Aribu" or "MUL.UGA.MUSHEN" in the Babylonian MUL.APIN tablets (see Raven below). The Greeks adopted it around 500 B.C.E. and Ptolemy (c.100 – c.170) lists it as Κόραξ (see Raven, below) in his *Almagest*. This relates to a Greek myth of a raven which is sent for a cup of water, loiters at a fig tree, then returns with a water snake (the constellation Hydra), and is punished by being placed in the sky.

Corvus appears in the 8th century *Revised Aratus Latinus*:

- Many editions place Corvus at the tail of the constellation Hydra,
- In two editions (St Gall 250, St Gall 902) the crow is pecking the snake's tail.

Corvus appears in the Leiden *Aratea* (816) as a raven standing on the tail of Hydra (Katzenstein & Savage-Smith, 1988).

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi's son depicts Corvus on one page as a raven standing with wings spread in both right and left profile.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Corvus as a raven perched on Hydra's tail.

Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) lists Corvus.

A Hebrew translation of the Almagest from Catalonia (c1361), Philadelphia (USA), University of Pennsylvania Libraries, Lawrence Schoenberg Collection, ms. ljs057 (old Ms.Sassoon 823), ff.56v, 57r, depicts Corvus as a raven standing on the back of Hydra near the serpent's tail.

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Corvus as a Raven with wings raised facing to our left. On another page it depicts Hydra with the stars of Corvus near its tail, but does not illustrate the raven.

The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.170v-171r depicts "Corvus" as a raven standing on the tail of Hydra.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.72v-73r depicts Corvus as a raven standing on the tail of Hydra. It is not labelled.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Corvus as standing on the tail of Hydra. It is not labelled.

The Paris manuscript of al-Sufi's Book of Fixed Stars (Bibliothèque nationale de France, Ms. Arabe 5036), from Ulugh Beg's library (c 1430 – 1440) depicts Corvus as a raven standing on the tail of Hydra.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Corvus as a raven standing on the tail of Hydra.

The *Germanicus Aratea* (Siciliensis, c. 1469) and the *Germanicus Aratea* with scholia Strozziana (c. 1475) depict Corvus as a raven standing on the tail of Hydra.

Corvus appears on the *Imagines constellationum Australium* chart of Romanian theologian Johannes Honter (1498 – 1549) as a raven standing on Hydra's tail facing toward Hydra's head.

The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts "CORV(VS) APPOLLINE(VS)" as a raven perched on the tail of Hydra.

The early 16th century Real Academia de Historia, manuscript D-97, f.102v – 103r depicts Corvus as a raven on Hydra's tail. It is not labelled and is partially obscured by the crease between the pages.

The “Nuremburg Maps”, a pair of celestial hemispheres made in 1503 by Conrad Heinfogel depicts Corvus as a raven pecking on Hydra’s back.

The *Southern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius depicts “Corvus” as standing pecking on the back of Hydrus, facing towards the front of Hydrus.

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts “Corvus” as a raven standing on the tail of Hydra.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts Corvus as a raven facing to our left pecking on Hydra’s tail.

The *Horoscopion generale* (1533) of Petrus Apianus (1495 – 1552) depicts Corvus as a crow on the back of Hydra (but NOT Crater).

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts Corvus in the same manner as Dürer et al.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts “Corvus” as a crow on the tail of Hydra.

Dele Stelle Fisse (“Of the Fixed Stars”) by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as “Del Corvo”. The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as the “Crow”.

The Southern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Corvus as a raven standing on the tail of Hydra and pecking the serpent.

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists Corvus in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts “Corvus” as a raven pecking at Hydra’s back near its tail.

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicts “Corvus” as a raven walking to our left.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts “Corbeau” as a raven standing on the tail of Hydra.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts “Corvus” as a raven perched on the tail of Hydra pecking on its back. It is facing towards the head of Hydra.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts “Corvus” as a raven perched on the back of Hydra near its tail, facing forward.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) “Corvus” as a raven pecking at the back of Hydra. NOTE: As with most illustrations, Corvus is shown at the tail end of Hydra, but is facing towards Hydra’s rear, where most other illustrations have it facing forward.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) depicts Corvus as a raven standing on the tail of Hydra.

Corvus is listed in Danish astronomer Tycho Brahe’s *Astronomiae Instauratae Progymnasmata* (1602).

German uranographer Johann Bayer (1572 – 1603) depicts this constellation in his *Uranometria* in 1603 as a crow walking with its wings raised. Bayer lists these names for Corvus: “Corvus, Ales Phoebi, Algorab, Gorab”.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts “Corvus” as a raven standing on the tail of Hydra.

“Corvus” is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and depicted as a raven standing on the tail of Hydra.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the name “Corvus” for this constellation.

“Corvus” is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a raven standing on Hydra’s tail.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts “Corvus” as a raven standing on the tail of Hydra, pecking on it.

This constellation is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as “Corvus Corax”: It is depicted as a raven on Hydra’s tail.

Dutch cartographer Frederik de Wit’s *Planisphaerium Coeleste* (1670) depicts Corvus as a raven pecking at Hydra’s back.

English astronomer Edmund Halley’s chart of 1678 depicts Corvus as a raven pecking at Hydra’s back.

English uranographer John Seller’s *A coelestiall planisphere* (1678) depicts “Corvus” as a raven pecking at Hydra’s back.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts “Corvus” as a raven standing on Hydra’s tail facing towards Hydra’s head with wings outstretched.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this “Κόραξ”, “Le Corbeau”, and “Corvus” and depicts it as a raven standing on the tail of Hydra.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley’s pirated catalogue of Flamsteed’s observations of 1712, depicts Corvus as a raven pecking at the back of Hydra.

Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) depicts "Corvus al Phoeba Avis"("raven or Phoebe Bird") as a raven pecking at Hydra's back.

Corvus is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729: It is depicted as a raven standing on Hydra's back, facing forward.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts Corvus standing on the tail of Hydra.

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) depicts Corvus as a raven pecking on Hydra's back.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Corvus as a raven standing on Hydra's back near the tail.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) depicts "Le Corbeau" as a raven pecking on Hydra's back.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts "Corvus" as a raven standing on the tail of Hydra.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "le Corbeau" ("the crow") as a raven standing on Hydra's back, facing forward.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as "Corvo" in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts "Corvus" as a crow flying above Hydra's tail.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as "Rabe" and depicts it as a raven standing on Hydra's back. Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Der Rabe" in the text and "Rabe" on the charts, depicting it as a raven standing on Hydra's back.

Corvus is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801) as "Raaf" ("raven"): It is depicted as a raven standing on the tail of Hydra.

American uranographer William Croswell (1760 – 1834) depicts "Corvus the Crow" on his *Mercator Map of the Starry Heavens* in 1810 as a crow pecking at Hydra's back.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Corvus it in his *Celestial Atlas* in 1822: It is depicted as a raven standing on Hydra's back, facing foward.

"Corvus" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as a raven standing on the tail of Hydra.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depict "Corvus" as a crow standing on Hydra's tail, facing to our left.

Corvus is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: It is depicted as a crow standing on Hydra's back, facing forward.

"Corvus" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It is depicted as a raven standing on Hydra's tail.

Rev. Thomas William Webb describes it in the third edition of his *Celestial Objects for Common Telescopes* in 1873 as "an appendage to Hydra".

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as "Corvus, the Crow".

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this constellation as "Corvus" on some of its charts and as the "Crow" on others.

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Corvus, The Crow" as an official constellation "recognized in the catalogue of the British Association".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Corvus" in his *Star Atlas* (1893) and describes it as "The Crow".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Corvus" and describes it as the "Crow".

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Corvus: The Raven".

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) redesigned the lines of Corvus in his book *The Stars - A New Way to See Them* (1952). The standard IAU chart shows us a quadrilateral of the stars Beta (β) Corvi (Kraz), Delta (δ) Corvi, Gamma (γ) Corvi, and Epsilon (ε) Corvi, with a line running out of this last star to Alpha (α) Corvi (Alchiba). Rey's version shrinks the quadrilateral to form a "body" of the stars Delta (δ) Corvi, Gamma (γ) Corvi, Epsilon (ε) Corvi and the double star Zeta (ζ) Corvi. A short line from Delta (δ) Corvi to Eta (η) Corvi becomes the "beak", a line from Zeta (ζ) Corvi to Beta (β) Corvi its "leg" and a line from Epsilon (ε) Corvi to Alpha (α) Corvi (Alchiba) the "tail".

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* as it is shown on IAU charts except that they omit the line from Epsilon (ε) to Alpha (α) Corvi.

Cosmic Ballet:

This **telescopic** asterism is the interacting spiral galaxies IC 2163 and NGC 2207 in the IAU constellation Canis Major. These were discovered by American astronomer Herbert Alonzo Howe (1858 – 1926). This name was posted by American astronomer Jimi Lowrey on the *Deep Sky Forum* in January 2013.

Cosmic Bat Nebula:

There are two **telescopic** Cosmic Bat asterisms:

- One is the reflection nebula NGC 1788 (vdB 33, LBN 916, Ced40) in the IAU constellation Orion. This was discovered by English astronomer William Herschel in 1786 who listed it as "V 32" in his

catalogue. It is GC 1005 in the *General Catalogue* of 1864. It is also known as the Fox Face Nebula. Size 5’ X 3’.

- One is the dark nebula LDN 43 in the IAU constellation Ophiuchus. This is in the catalogues of American astronomer Beverly Turner Lynds (1929 – 2024). This dark cloud is partially blocking light from the nearby reflection nebula LDN 7. This was listed under this name on the NASA Facebook page with a photo by Cristi Agapi.

Cosmic Brain:

This **telescopic** asterism is the emission nebula NGC 6888 (Caldwell 27) in the IAU constellation Cygnus. It was discovered by English astronomer William Herschel in 1792 and listed as “IV 72”. It is GC 4561 in the *General Catalogue* of 1864. It was given this name by American astrophotographer Clint Shimer, who posted his SHORGB image of this nebula on the ZWO Astrophotography Facebook page 5 August 2025. Size 20’ X 10’. It is also known as the “Crescent Nebula”.

Cosmic Cliffs:

This **telescopic** asterism is part of the open cluster NGC 3324 in the northwest corner of NGC 3372, the Eta Carina Nebula complex in the IAU constellation Carina. It was photographed by the James Webb Space Telescope in 2022.

Cosmic Dancer:

This Indian asterism “Nataraja” from the *Rigveda* is the IAU constellation Orion plus the Hyades cluster in the IAU constellation Taurus and some stars in the IAU constellations Lepus and Monoceros (Bhagwath 2019). This four-armed dancer, mentioned in the *Rigveda*, is described this way:

- The dancer’s “head” is the stars around Lambda (λ) Orionis,
- The dancer’s “right shoulder” is Alpha (α) Orionis (Betelgeuse) and has two “arms:
    - One runs to an “elbow” at Epsilon (ε) Monocerotis then to a “hand” at 15 and 17 Monocerotis,
    - One runs to an “elbow” Omega (ω) Orionis and a hand at 56 Orionis,
- The dancer’s “left shoulder” is Gamma (γ) Orionis (Bellatrix)and has two arms:
    - One runs out to an “elbow” at Pi (π) 5 Orionis and runs up through Pi (π) 4, 3 and 2 Orionis to a hand holding a “torch” which is the Hyades cluster,
    - One crosses in front of the dancer’s body through 32 Orionis, and Omega (ω) Orionis to a “hand” at HIP 28413,
- The belt of Orion is the dancer’s jeweled belt,
- The dancer’s “left leg” starts at a “hip” at Eta (η) Orionis and ends at a “foot” of the stars Beta (β) and Gamma (γ) Monocerotis.
- The dancer’s “right leg” runs from Zeta (ζ) Orionis (Alnitak) to a “knee” at Kappa (κ) Orionis (Saiph) to a “foot” of the stars Lambda (λ) and Kappa (κ) Leporis.

Cosmic Eye Galaxy:

This **telescopic** asterism NGC 1350 is a spiral galaxy in the IAU constellation Fornax. It was discovered by Scottish astronomer James Dunlop in 1828. It is GC 721 in the *General Catalogue* of 1864. It is also known as the “Cow Eye of Fornax” (see below) and the “Colossal Cosmic Eye” (see above).

Cosmic Fireplace:

This **telescopic** asterism is the HII region Sh2-126 in the IAU constellation Lacerta. It is also known as the Great Lacerta Nebula. It was listed by this name on Astrobin by astronomer Jon Gascoyne.

Cosmic Question Mark:

See Question Mark, below.

Cosmic Rosebud:

This **telescopic** asterism is the reflection nebula NGC 7129 (vdB 146, LBN 497, Cr 441, Ced 196) in the IAU constellation Cepheus. It was discovered in 1794 by English astronomer William Herschel who listed it as "IV 75". It is GC 4702 in the *General Catalogue* of 1864. It has two lobes, a large one resembling a "rose bud" and a smaller one beside it resembles the foliage at the base of the "bud". It is also known as the "Small Cluster Nebula" (see below) and the "Cosmic Rose".

Cosmic Sailor:

This **telescopic** asterism is the HII region SH 2-63 (LBN 86) in the IAU constellation Sagittarius. This name appeared on the *Astrophotography* page of Facebook in a photo by Polish astrophotographer *Cmk Photo* on 23 August 2025. It is also known as the "Eagle Ray" or the "Dark Dust Nebula".

Cosmic Tornado:

This **telescopic** asterism is the protostar Herbig Haro 49/50 in the IAU constellation Chamaeleon. It was first observed by NASA's Spitzer Space Telescope in 2006, and the scientists involved named it the "Cosmic Tornado". Herbig-Haro objects are outflows produced by jets launched from a nearby, forming star.

Cosmic X:

Manilius (1st century) mentions in his *Astronomica* a heavenly gate that stands at the intersections of the Milky Way and the Zodiac. Plato (427 – 348 B.C.E.) also mentions this in his *Timaeus* as a heavenly or cosmic "X". Latura (2013) has identified this from their descriptions as where the zodiacal light intersects the Milky Way.

Cosmological Temple:

This Chinese star "Mintang" is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius and is part of their asterism Heart (see below).

Cosmos Redshift 7:

This **telescopic** asterism is a high-redshift Lyman-alpha emitter galaxy in the IAU constellation Sextans. It was discovered in 2015 by a team led by Portuguese astrophysicist David Sobral using the VLT at the European Southern Observatory.

Cot:

This Kolam asterism "Mandater" or "Saptarshi" is a quadrangle of stars in the IAU constellation Ursa Major: Alpha (α) Ursae Majoris (Dubhe), Beta (β) Ursae Majoris (Mirak), Gamma (γ) Ursae Majoris, and Delta (δ) Ursae Majoris (Vahia 2014, Bhagwath 2019). Compare this to the Banjara asterism Cot of the Dead (see below) or the Gond asterism Old Woman's Cot (see below).

Costco Carportus:

This American asterism is male up of stars of the IAU constellation Cepheus and was created by Brad and Kathryn Templeton for *The Vault of Heaven* star map for the 2004 Burning Man event held in Black Rock Desert in Nevada (Kuperjanov 2006).

Cot of the Dead:

This Banjara asterism "Jamakhat" or "Saptarshi" is the Big Dipper asterism in the IAU constellation Ursa Major (Vahia et al 2014). Compare this to the Banjara asterism Cot (see above) or the Gond asterism Old Woman's Cot (see below).

Cotton Candy Nebula:

This **telescopic** asterism is protoplanetary nebula IRAS 17150-3224 is in the IAU constellation Ara. It was discovered by the IRAS satellite in 1982. It is a challenge to view as it is only 16" long and dim. Senior Astronomy editor Michael E. Bakich described it in Astronomy in May 2010 and recommended using a 16" telescope.

Cottus of Sculptor:

This **telescopic** asterism "Cóttus Sculptóris" is the intermediate spiral galaxy IC 5332 in the IAU constellation Sculptor. This was first recorded by American astronomer Lewis Swift (1820 – 1913). This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). Cottus is one of the three hekatoncheires, the hundred-armed giants from Greek cosmogony.

Cougar:

This Skidi asterism is the IAU constellation Auriga.

Couigahaegjek:

This Sami asterism is the stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini (Lundmark 1982).

Council of Chiefs:

This Skidi (Pawnee) asterism is the IAU constellation Corona Borealis and a star from the IAU constellation Ursa Minor (Krupp 1983, Kemp et al 2022). They saw this as the smoke hole over a fireplace, the fire surrounded by a meeting of chiefs, with Alpha (α) Ursae Minoris (Polaris) as the chief in charge of the meeting. The smoke from the fire carried their messages to the Gods. The central star, Theta (θ) Coronae Borealis is seen as an errand man (see below) or a servant cooking (see below).

Couple:

This Tibetan khyim (zodiac constellation) "Kh'rig" or "Trik" is the IAU constellation Gemini (Johnson-Groh 2013).

This Egyptian Dendera asterism is the IAU constellation Gemini (Hoffmann 2017). It is depicted as a man and a woman.

Court Historian:

This Chinese star from the Three Kingdoms to the Ming Dynasty "Taishi" is 15 Ursae Majoris in the IAU constellation Ursa Major and is part of their asterism "Wénchāng" (文昌) - see Administrative Centre, above.

This Chinese star “Taishi” from the Three Kingdoms to the Ming Dynasty is Kappa (κ) Geminorum in the IAU constellation Gemini and is part of their xing guan Five Feudal Kings (see below)

Court Lady:

This Korean lunar mansion “Yeo” is a quadrilateral of stars in the IAU constellation Aquarius: 3, 5, Epsilon (ε) and Mu (μ) Aquarii. Their asterism “Storage for Lady” (see below) is nearby.

Cousins:

This Inuit asterism “Qangiammaariik” is the Orion Nebula, Messier 42 (NGC 1976, SH 2-281, LBN 974, Ced 55d) in the IAU constellation Orion, one of two nebulae visible to the unaided eye in the Northern hemisphere (MacDonald 1998).

Counterpoising of Virgo:

This **telescopic** asterism “Antírrhopus Vírginis” is the barred lenticular galaxy NGC 4550 in the IAU constellation Virgo. William Herschel listed this as “I 36”. John Herschel listed it as h 1343 and later as GC 3095 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of “the remarkable fact that this system consists of two counterrotating stellar populations (Vera Rubin et. al, 1992)”.

Cover:

This Arabic asterism is a bent line of three stars in the IAU constellation Virgo: Iota (ι), Kappa (κ), and Lambda (λ) Virginis:

- Dorn (1829) lists this as “Covering or Carpet” and describes it as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya’ al-Qazwini (1203 – 1283).
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Al ghafr, the covering”: This name actually refers to another Arabic asterism, Hair on the Tail (see below).

Cover for Emperor:

This Korean asterism “Hwangjeleul Wihan Deopgae” (황제를 위한 덮개) in the IAU constellation Cepheus is a shallow “D” shaped group of stars resembling a canopy. A straight line between the stars Beta (β) Cephei and Gamma (γ) Cephei form the bottom edge of this “canopy”. Between these two stars a curve goes out through 11, 24, 31, and Eta (η) Cephei.

Cover of House:

This Korean asterism “Jib-ui Deopgae” (집의 덮개) is a line of two stars in the IAU constellation Aquarius: Theta (θ) and 31 Aquarii.

Cow:

This ancient Egyptian asterism “Kenemet” or “Kenmet” is depicted on the ceiling of the Temple of Hathor at Dendera as a cow in a boat with a star between its horns, which is believed to be Alpha (α) Canis Majoris (Sirius) is the IAU constellation Canis Major (Bomhard 2009). Kenemet (“the darkness”) is one of the forty two judges that judged the soul of the dead in the Hall of Truth (Le Vye 2022).

This Japanese sei shuku or lunar station “Inami Boshi” is a line of stars in the IAU constellation Capricornus with 6 Capricorni at one end, Beta (β) Capricorni (Dabih) in the middle, and the stars Rho (ρ) and Eta (η) Capricorni at the end. It is often depicted as a standing human figure with a horned cow head (Kotyk 2018).

Cow Eye of Fornax:

This **telescopic** asterism “Boópis Fornácis” is the elliptical galaxy NGC 1350 in the IAU constellation Fornax. It was discovered by Scottish astronomer James Dunlop in 1828. It is GC 721 in the *General Catalogue* of 1864.. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). It is also known as the Colossal Cosmic Eye (see above) and the Cosmic Eye Galaxy (see above).

Cow Herd:

The Uppsala Archaeoastronomical Project proposed the Pleiades cluster in the IAU constellation Taurus for this Minoan asterism. This asterism was passed on to me by Dana Corby of Ariadne’s Tribe in Tacoma, Washington in November 2023.

Cow Leading Man:

This Korean lunar mansion “Wuu” in the IAU constellation Capricornus rather resembles a fish: In one direction from the star Beta (β) Capricorni (Dabih) you have a shallow oval of stars: Eta (η), Omicron (ο), and Rho (ρ) Capricorni. In the other direction from Beta (β) Capricorni you have two lines of stars forming a “tail”, with the end stars being the optical double star Alpha (α) 1 and 2 Capricorni (Algedi) and Nu (ν) Capricorni.

Cowboy:

This Chinese star “Qianniuxing” from the Three Kingdoms to the Ming Dynasty is Alpha (α) Aquilae (Altair) in the IAU constellation Aquila and is part of their asterism Drum at the River (see above).

Cowboy Boot (and Flying Bootlaces):

This asterism from the asterism list of the American astronomer John Davis is made up of 4^{th} – 5^{th} magnitude stars in the IAU constellation Vulpecula:

- The “boot” is the stars 16, 17, 14, 12, and 13 Vulpeculae with the “toe” of the boot being 10 Vulpeculae.
- The “flying bootlaces” is a wavy line of stars starting at HIP 99853 and running through HIP 99951, 99824A, 19 Vulpeculae, 23 Vulpeculae and 21 Vulpeculae.

Cowboy on a Bucking Bronco:

This **telescopic** asterism is also known as the Bucking Horse or the Theta Delphinus Group in the IAU constellation Delphinus:

- The “head” of the horse is a triangle of 7^{th} magnitude stars including HIP 101967 and 101943,
- The “saddle” is Theta (θ) Delphini,
- The rear “hoof” is HIP 101816, and
- A “tail” of 9^{th} to 10^{th} magnitude stars runs out from HIP 101848.

Cowboy’s Star:

This Italian star “Este`la du Vache´” or “S˘ te´ra di Vache´e” is Alpha (α) Lyrae (Vega). This star marked the workdays of a vache´ (cowboy) in the wintertime: They got up in the morning when it rose and went to bed in the evening when it set.

Cowherd:

This German asterism “Pastor Boum” is the IAU constellation Boötes as listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

Cows:

This asterism “al Baqar” is the Magellanic Clouds as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of Fixed Stars*, explaining that his was a name used by the “inhabitants of Tihama”, which would be the coastal plain of Arabia.

Coyote:

This Yokuts star is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus.

Coyote Star:

This Diné star “Ma’ii Bizǫ” is Alpha (α) Carinae (Canopus) in the IAU constellation Carina (Childrey 2008). When Coyote flung stars across the sky, he placed a single bright one low down in the south where it would only briefly rise.

This Ininew star is Delta (δ) Ursae Minoris in the IAU constellation Ursa Minor (Buck 2016). It is part of their asterism “Atima Atchakosuk” (see Dog Stars below).

This Pawnee star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major. NOTE: Some Pawnee tribes see this as the Wolf Star (see below).

Coyote, Wolves, and Bears:

See Wolf Brothers, below.

Coyote’s Arrow:

See Arrow, above.

Coyote’s Daughters:

This Paiute asterism is the Pleiades cluster in the IAU constellation Taurus (Gillard 2021). The star Eta (η) Tauri (Alcyone) is Coyote’s most beautiful daughter, who is a guide to the spirit world.

Coyote’s Eyeball:

This Xwlemi star is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes. One day while Coyote was juggling his eyeballs, one flew too high and became this star.

Crab:

This Greek asterism “Καρκίνος” or “Karkínos” is the IAU constellation Cancer as originally described in Ptolemy’s *Almagest* (2nd century). The 15th century *Alfonsine Tables* list the name “Carcinus”. Ptolemy (c.100 – c.170) described the “crab” as follows:

- The “body” is a quadrilateral of the stars Gamma (γ) Cancri, Eta (η) Cancri, Theta (θ) Cancri, and Delta (δ) Cancri.

- From each of the corners a line goes out to the following stars to form "legs": Mu (μ) Cancri, Beta (β) Cancri (Tarf), Alpha (α) Cancri (Acubens), and Iota (ι) Cancri.

NOTE: This Greek asterism appears next to a Scarab on the *Daressy Zodiac* of the Roman Imperial Period.

This Arabic asterism "Saltieun" (سلطعون) is the IAU constellation Cancer.

This Egyptian Dendera asterism is the IAU constellation Cancer (Hoffmann 2017).

This Arabic star "al-saraṭān', later latinized to "Sertan" and "Sertain", is Alpha (α) Cancri in the IAU constellation Cancer:

- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Alsartan" and "Asartan".
- Johann Bayer's *Uranometria* (1603) lists "Alsaran" and "Asartan".
- "Alsartan vel Assartano" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as a name for this star.
- Robert Hues lists "Alsartan" as a name for the constellation Cancer in his *A Learned Treatise of Globes* in 1659.
- Cancer is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as a crayfish and is labelled "Cancer Alsartan".
- This star is listed as "Alsertan", a name for the constellation Cancer, in John Hill's *Urania* in 1754: The Arabic name for Cancer is "Saltieun", but the Hebrew name for this constellation is Sartan, so this may have influenced Hill's listing.
- German astronomer Johann Elert Bode (1747 – 1826) lists it as "Ez Zaban".
- "Sertan" appears in Giuseppe Piazzi's *Palermo Catalogue* of 1814 as a name for Alpha (α) Cancri.
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Al sertán, the crab".

This Hebrew asterism "Sartan" or "Sarton" is the IAU constellation Cancer as listed in their list of constellations of the zodiac (mazzaroth) in their Talmud and is related to their month Tammuz.

This Babylonian asterism "MULAL.LUL" (Hunger 1992), "AL.LU" (Anthony 1996), "AL.LUL" (Bartel van der Waerden 1974), or "MUL.AL.LU" from the MUL.APIN tablets. It is listed as "mul al.lul" in the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period (Koch-Westenholz 1995). Boutet (2014) lists it as "Al.Lil". It is made up of stars in the IAU constellations Cancer and Gemini:

- The "body" is a quadrilateral of four stars: Delta (δ), Gamma (γ), Eta (η), and Theta (θ) Cancri. The open cluster Messier 44 is in the middle of this quadrilateral, and
- A line goes out from each of these corner stars to form "legs", and the stars at the end of these are: Beta (β) Cancri (Tarf), 65 Cancri, 48 Cancri, and Kappa (κ) Geminorum.

This Babylonian ziqpu "mulAL.LUL" from cuneiform text AO 6478 (Schaumberger 1952) is open cluster Messier 44 (see Beehive, above) in the IAU constellation Cancer.

This Babylonian and Sumerian star "al-lul" in the star catalogue BM 78161 (Liechty 1988) is the star Epsilon (ε) Cancri in the IAU constellation Cancer. In 2019 Leitz listed the star Epsilon (ε) Cancri as the 20th ziqpu in this tablet. Some translators have this as "crayfish" rather than "crab".

The Akkadian name for this asterism from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.), is “Alluttu” (Hunger 1992, Anthony 1996).

This Seleucid asterism as “NAGAR” or “A.MES” (“waters”). from tablet SBTU II No 43 (W 22646) from the Seleucid (Hellenistic) period (275 B.C.E. – 116 C.E.) is the IAU constellation Cancer (Foxvog 1993).

The Latin name “Carcinus” for the IAU constellation Cancer is listed by John Hill in his *Urania* in 1754.

The “Syrian” name “Sartóno” for the IAU constellation Cancer is listed by Edward Sherburne in his *Sphere of Marcus Manilius* in 1675. R. H. Allen lists this as a Syrian name in his *Star Names* in 1899 and suggests that the Chaldeans also used it.

The “Persian” name “Chercjengh” for the IAU constellation Cancer is listed by Edward Sherburne in his *Sphere of Marcus Manilius* in 1675 and by R. H. Allen in his *Star Names* in 1899. Allen also gives the name “Kalakang”.

This Turkish asterism “Yengeç” is the IAU constellation Cancer. The names “Lenkutch”, “Lenkitch”, “Yenkutch”, “Yenkitch”, “Yilenkutch”, and “Yilenkitch” are listed as Turkish names for this constellation by Edward Sherburne in his *Sphere of Marcus Manilius* in 1675 and “Lenkutch” by R. H. Allen in his *Star Names* in 1899. John Hill lists “Lenkutch”, “Yenkutek”, “Yenkitek”, and “Yilenkutek” in his *Urania* in 1754.

This German asterism “Kraba” is the IAU constellation Cancer as depicted in the *Nördliche Sternhimmel* sky map of O. S. Reuters based on the work of German astronomer Johann Elert Bode (1747 – 1826).

This Kogi asterism “Huso”, “Husso”, or “Crucero” is the IAU constellation Cancer.

This German asterism “der Krebs” is the IAU constellation Cancer. German astronomer Johann Bayer (1572-1625) listed it as “die Krippe”. “Der Krebs” is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

This Italian asterism “Granchio” is the IAU constellation Cancer.

This Saxon asterism “Crabba” is the IAU constellation Cancer.

This Seri asterism “ZAAMTH” or “Jaiba” is the stars Alpha (α) Orionis (Betelgeuse), Gamma (γ) Orionis (Bellatrix), and the belt of Orion.

The stars of this Sama asterism “Mamahi Kagang” have not yet been identified (Ambrosio 2008).

This Tupi asterism “Guanham-y” is the IAU constellation Leo (De Freita Mourão 2009). This is the lagostim crab.

This Anindilyakwa (Groote Island, Australia) asterism “Unwala” is the stars Delta (δ), Epsilon (ε), Eta (η), Rho (ρ), and Sigma (σ) Hydrae in the IAU constellation Hydra (Clarke 2009). Unwala is a crab ancestor.

This Arawak asterism is the IAU constellation Corona Borealis (Kemp et al 2022).

This Kiribati star “Te Waro” or “Waro” is Alpha (α) Carinae (Canopus) in the IAU constellation Carina (Trussel and Groves 1978). NOTE: the Kiribati called a group of stars around Canopus “Banga n waro” (see above). or “Na nu ware” (see above).

This Estonian asterism "Vähk" is the IAU constellation Cancer and appears in the *Sky of Ests (Chudes)* by Aleksander Heintalu (Sass of Vigala) (Kuperjanov 2006).

This Carib asterism "Kusayuman" or "Kusa" represents the crab (Coragyps atratus). Its present location is unknown (Magaña, and Jara, 1982).

A **telescopic** crab asterism is the planetary nebula Messier 1 (NGC 1952, SH 2-244, LBN 833, Ced 53, SNR G184.6-05.8) in the IAU constellation Taurus. This was discovered by English astronomer John Bevis in 1731 and later added to French astronomer Charles Messier's catalogue. Taurus. The supernova that created this planetary nebula was recorded by Chinese astronomers in 1054. It was listed in the General Catalogue of 1864 as GC 1157. It got its name "crab nebula" from English astronomer William Parsons, 3rd Earl of Rosse, who observed it in 1842 with a 91 cm (36 inch) telescope and produced a drawing that looked like a crab. Size 8' X 4':

- English astronomer John Herschel listed this as h 357.
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this as the "Crab Nebula".
- William Denning's *Telescopic Work for Starlight Evenings* (1891) lists it as the "Crab Nebula" and as the "Great Crab Nebula".
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this as the "Crab Nebula".
- German astronomer Hermann Joseph Klein (1844 – 1914) lists this as the "Nebula in Taurus" in his *Star Atlas* (1893) but mentions Lord Rosse's describing it as a "crab (crab-nebula".
- *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists it as the "Famous Crab Nebula of Lord Rosse".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) lists this as the "Crab Nebula".

Crab, Asses, and Crib:

This Greek asterism "Καρκίνος,Ὄνοι, καί Φάτνη" or "Karkínos, Ónoi, kaí Fátni" is the IAU constellation Cancer as described by Eratosthenes (d.194 B.C.E.). A variation is "Ὀπισθοβάμων" or "Opisthovámon".

Crab Cluster:

This **telescopic** asterism is the open cluster NGC 7789 in the IAU constellation Cassiopeia. It was in 1783 by English astronomer Caroline Herschel. John Herschel listed it as ""VI 30". John Herschel listed it as h 2284 and later as GC 5031 in his *General Catalogue* of 1864. It is also known as Caroline's Rose, the White Rose, the Star Mist Cluster, Herschel's Spiral Cluster, the Ghost Cluster, and the Screaming Skull Cluster.

Crab Deity:

The Chinese translation of the Sūryagarbha-parivarta from 585 describes the IAU constellation Cancer as "Xiè shén" (蟹神) or "crab deity" (Kotyk 2017).

Crab Globular Cluster:

Another **telescopic** "crab" asterism is the globular cluster Messier 4 (NGC 6121) in the IAU constellation Scorpius. It was discovered by Swiss astronomer Philippe Loys de Chéseaux in 1745 and

included in Charles Messier's catalogue in 1764. The 1864 *General Catalogue* lists it as GC 4138. It is also known as the "Eye of the Scorpion" (see below).

Crab (Jumping Off a Rock):

This **telescopic** asterism is the open cluster Messier 52 (NGC 7654) in the IAU constellation Cassiopeia. It was discovered by French astronomer Charles Messier in 1774. It is listed in John Herschel's *General Catalogue* of 1864 as GC 4957. It was given this name by American astronomer Wayne Schmidt, who describes it as a small crab jumping off a rock. This is also known as the Cassiopeia Salt and Pepper Cluster (see above), October Salt and Pepper Cluster (see below), Flying Bird (see below), and the Scorpion (see below).

Crab of Grus:

This **telescopic** asterism "Cáncer Grúis" is the barred spiral galaxy NGC 7424 in the IAU constellation Grus. This was discovered by John Herschel in 1847. It is GC 4867 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "this galaxy resembles a giant crab". It is also known as the "Grand Design Galaxy" (see below).

Crab of Hercules:

This **telescopic** asterism "Cárcinus Hérculis" is the lenticular galaxy IC 1222 (Arp 73) in the IAU constellation Hercules. It was discovered by French astronomer Édouard Stephan in 1883. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "its two split spiral arms, looking like claws of a crab".

Crab of Ursa Major:

This **telescopic** asterism "Carcinódes Úrsae Majóris" is the spiral galaxy NGC 5585 in the IAU constellation Ursa Major. William Herschel listed this as "I 235". John Herschel listed it as h 1790 and later as GC 3856 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Crab's Claws:

This is the globular cluster Messier 53 (NGC 5024) in the IAU constellation Coma Berenices. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 writes that "Sir John Herschel, with Mr. Baily, …[observed] curved appendages of stars, like the short claws of a crab running out from the main body". It is listed in the General Catalogue of 1864 as GC 3453 and in John Herschel's catalogue as h 1558. Walter Scott Houston describes it in exactly the same words. *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) simply refers to this as a "Coma Berenices Cluster".

Crackerjack Cluster:

This **telescopic** asterism is the globular cluster Messier 22 (NGC 6656) in the IAU constellation Sagittarius. It was discovered by German amateur astronomer Abraham Ihle in 1665 and included in Charles Messier's catalogue in 1764. It is GC 4424 in the *General Catalogue* of 1864. Although I do not know who assigned this name to this globular cluster, the name could not have appeared before 1896, which was when the name for this American caramel-coated popcorn was registered.

Cradle:

This Tiwa asterism is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper above).

Crane:

This Ojibwe asterism "Ajijiaak" is the IAU constellation Cygnus (Lee et all 2014). They also call it the "Skeleton Bird" (see below).

This Chinese xing guan "Hè" (鶴) is seven lines of stars radiating out from the central star Beta (β) Gruis in the IAU constellations Grus and Tucana:

- One line goes out to Alpha (α) Gruis (Alnair),
- One goes out to Iota (ι) Gruis,
- One goes out to Theta (θ) Gruis,
- One goes out through Rho (ρ) Gruis to Nu (ν) Gruis,
- One goes out through Delta (δ) 1 and 2 Gruis to Mu (μ) 1 and 2 Gruis,
- One goes out through Epsilon (ε) Gruis to Eta (η) Gruis, and
- The last line goes out through Zeta (ζ) Gruis to Gamma (γ) Tucanae.

This Greek asterism "Gergnus" is the IAU constellation Grus as listed in John Hill's *Urania* in 1754. The modern Greek word for crane is γερανός (geranós).

This Lithuanian asterism "Kranas" is the IAU constellation Virgo.

This French asterism "la Grue" is the IAU constellation Grus.

This Germans asterism "der Kranich" is the IAU constellation Grus.

This Italian asterism "la Gru" is the IAU constellation Grus.

This English asterism is the IAU constellation Grus as described by Robert Hues in his *A Learned Treatise of Globes* in 1659.

Crane with a Snake:

This German asterism "Grus vel Ciciona cum Serpente" ("a crane (swan) or a crane with a snake") is the IAU constellations Ophiuchus and Serpens. Johann Bayer's *Uranometria* (1603) lists the name "Mauris Grus" ("Mauris Crane"). The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch lists "Grus vel Ciciona cum Serpente" and claims this to be an Arabic asterism.

Crane's Nest:

This Hungarian asterism "Darvak buqqya" appears on the celestial map of Hungarian uranographer Sandor Nagy (1915) lists this asterism depicts this as behind the three-star formation which is their asterism Leader of Cranes (see below). NOTE: Nagy's 1915 chart is beautifully illustrated, but some of the labels are hard to make out and I find it difficult to match the hand drawn stars on his chart with actual star patterns in the sky. The stars are currently unidentified.

Crank Stars:

This Estonian asterism is the "W" asterism in the IAU constellation Cassiopeia (Kuperjanov 2006).

On the Estonian island of Saarema this asterism is three stars in the IAU constellation Taurus (Kuperjanov 2006): Alpha (α) Tauri (Aldebaran), Beta (β) Tauri (Elnath), and Zeta (ζ) Tauri.

Crater:

None of the stars of this constellation are brighter than 4th magnitude but show up in 79 of the asterisms in this handbook.

This IAU constellation (IAU abbreviation Crt) was possibly incorporated with the stars of the Babylonian asterism "Aribu" or "MUL.UGA.MUSHEN" in the MUL.APIN tablets (see Raven below). Greek myths refer to a raven who brings a cup and a snake to the God Apollo. Apollo finds the cup empty and throws the raven, cup, and snake into the sky where they become stars (the IAU constellations Corvus, Crater, and Hydra). Aratus (315 – 240 B.C.E) mentions this asterism in his poem *Phaenomena* (270 B.C.E.) and Ptolemy (c.100 – c.170) describes it as "Κρατὴρ" ("Krater", a special wine mixing vessel which resembles an amphora or vase) in his *Almagest*. Roman statesman Marcus Tullius Cicero (106 – 43 B.C.E.) gives it the Latin name "Cratera", later corrupted to "Creter". Ptolemy only describes one star at the foot of the vessel, Alpha (α) Crateris, and two handles, Eta (η) and Theta (θ) Crateris.

Crater appears in the Leiden *Aratea* (816) as a two-handled cup on the back of Hydra.

Kauffmann's translation of the *De ordine ac positione stellarum in signis* ("*On the order and position of the stars in the signs*") in 1888 lists "sive Urna" ("or an urn"). NOTE: Urna is also used as a name for the asterism Water Jar (see below).

This constellation appears in editions of the 8th century *Revised Aratus Latinus*: In several editions (Dresden DC 183, Paris BN 12957, Prague IX. C. 6) Crater is on the back of the constellation Hydra.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi's son depicts Crater as a drinking cup with no handles in left and right profile on one page.

The 11th century *De signis caeli ("of the signs of heaven*") lists Hydra as "Serpens" ("snake") with Corvus and Urna on its back. The Klosterneuberg 685, Vat lat 643, and Zwettl 296 manuscripts of *De signis caeli* depict this asterism as a bucket.

The oldest known Islamic celestial glove, made between 1080 – 1085 by Ibrahim ibn Sa'id al-Wazzan and his son Mohammad, depicts the stars of Crater, but does not mark or label it.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Crater as a drinking cup with no handles on Hydra's back.

Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) depicts Crater as a cup.

A Hebrew translation of the Almagest from Catalonia (c1361), Philadelphia (USA), University of Pennsylvania Libraries, Lawrence Schoenberg Collection, ms. ljs057 (old Ms.Sassoon 823), ff.56v, 57r, depicts Crater as a cup with no handles on the back of Hydra.

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Crater as a drinking cup with no handles. On another page Hydra is shown with the stars of Crater alongside, but on this page the cup is not illustrated.

The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.170v-171r depicts Crater as a wooden bucket with two handles on the back of Hydra. The label is hard to make out but the first word might be “Vas…” which means “Vessel”.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.72v-73r depicts Crater as a wooden bucket with two handles on the back of Hydra. It is not labelled.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Crater as a drinking cup with no handles on the back of Hydra. It is not labelled.

The Paris manuscript of al-Sufi’s Book of Fixed Stars (Bibliothèque nationale de France, Ms. Arabe 5036), from Ulugh Beg’s library (c 1430 – 1440) depicts Crater as a cup with no handles on the back of Hydra.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Crater as a two-handled cup on the back of Hydra.

The *Germanicus Aratea* (Siciliensis, c. 1469) depicts Ara as a vase with handles on the back of Hydra.

The *Germanicus Aratea* with scholia Strozziana (c. 1475) depicts Crater as a vase with no handles on the back of Hydra.

Crater appears on the *Imagines constellationum Australium* chart of Romanian theologian Johannes Honter (1498 – 1549) as a two handled cup on the back of Hydra. NOTE: This has the rather unusual feature of flames rising from the top of the vase.

The Constance Celestial Globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts “VAS [VE]L CRATER” as a wooden bucket with two handles.

The early 16th century Real Academia de Historia, manuscript D-97, f.102v – 103r depicts Crater as a drinking cup with no handles on the back of Hydra. It is not labelled.

The “Nuremburg Maps”, a pair of celestial hemispheres made in 1503 by Conrad Heinfogel depicts Crater as a wooden bucket with two handles on Hydra’s back.

The *Southern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius depicts “Crater” as a one handled cup on the back of Hydrus.

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depict “Urnus” as a two handled wooden bucket.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts “Crater” as a two-handled cup on Hydra’s back.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts Crater in the same manner as Dürer et al.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts “Crater” as a sort of teapot.

Dele Stelle Fisse (“Of the Fixed Stars”) by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as “De la tazza, o ver

vaso" ("from the cup, or from the vase"). The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as the "Cup".

The Southern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Crater as a drinking cup with no handles on the back of Hydra.

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts "Crater" as a two handled cup on the back of Hydra.

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicts "Crater siue patera" ("Crater or Bowl") as a two handled vessel.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts this constellation as a two handled cup on the back of Hydra.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts "Crater" as a two handled cup on the back of Hydra.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts "Crater" as a two handled cup on the back of Hydra.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) depicts "Crater" as a two handled vessel on Hydra's back.

"Crater" is depicted on the *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) as a two-handled cup on Hydra's back.

Crater is listed in Danish astronomer Tycho Brahe's *Astronomiae Instauratae Progymnasmata* (1602).

German uranographer Johann Bayer (1572 – 1625) depicts this in his *Uranometria* in 1603 as a squat amphora with two handles. Bayer lists these names for this constellation: "Crater, Cratera, Urna, Patera, Calix, Poculum, Elkis".

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts "Crater" as a two handled vessel on the back of Hydra. It also lists the name "Urna".

"Crater" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and depicted as a vase on the back of Hydra.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the name "Crater" for this constellation.

"Crater" is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a two-handled vessel on Hydra's back.

Gores for a celestial globe Bibliothèque Nationale de France, Département Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts "Crater Vas" as a two handled cup on the back of Hydra.

This constellation is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as “Crater” and “Vas” (“vessel”): It is depicted as a cup on Hydra’s back.

Dutch cartographer Frederik de Wit’s *Planisphaerium Coeleste* (1670) depicts Crater as a two-handled cup on Hydra’s back.

English astronomer Edmund Halley’s chart of 1678 depicts Crater as a two-handled cup.

English uranographer John Seller’s *A coelestiall planisphere* (1678) depicts “Crater” as a two-handled cup.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts “Crater” as a two handled cup on Hydra’s back.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this “La Coupe”, “Crater” and “Κρατὴρ” and depicts it as a vase with two dragon handles.

Dutch uranographer Carel Allard’s *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) depicts “Crater vel Vas” (“a bowl or vessel”) as a two handled vessel, the handles resembling birds and the base a pair of human figures having the cup on their shoulders.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley’s pirated catalogue of Flamsteed’s observations of 1712, depicts Crater as a two-handled vase on the back of Hydra.

Crater is listed in English astronomer John Flamsteed’s *Atlas Coelestis* in 1729: It is depicted as a two handled crater on Hydra’s back.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts “Crater” as a two handled cup on the back of Hydra.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts “Crater” as a two handled vase.

German engraver and cartographer Tobias Conrad Lotter’s *Planisphaerium Coeleste* (1750) depicts Crater as a bowl with two handles on Hydra’s back.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Crater as a two handled vase on the back of Hydra.

John Hill lists “Calpe” as a name for this constellation in his *Urania* in 1754. Dorn (1829) lists the Arabic name “Flaggon”.

French uranographer Gabriel Phillipe de la Hire’s *Planisphere Celeste* (1760) depicts “La Coupe” as a wine cup with no handles.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts “Crater” as a two handled cup on the back of Hydra.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts “la Coupe” as a vase with two handles on Hydra’s back, as does the 1778 edition.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as "Idra e Coppa" ("Hydra and cup") in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts "Crater" as a two handled cup on Hydra's back.

Crater is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801) as "Beeker" ("beaker"): It is depicted as a two-handled vessel on the back of Hydra.

American uranographer William Croswell (1760 – 1834) depicts "Crater the Cup" on his *Mercator Map of the Starry Heavens* in 1810 as a two-handled cup.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Crater in his *Celestial Atlas* in 1822: It is depicted as a vase with two handles on Hydra's back.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as "Becher" and depicts it as a two handled cup. Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Der Becher" in the text and "Becher" on the charts and depicts it as a two handled cup.

"Crater" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as a two-handled vessel.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts "Crater" as a wine cup.

Crater is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: It is depicted as a two handled crater on Hydra's back.

"Crater" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It is depicted as a two-handled vessel on Hydra's back.

Rev. Thomas William Webb describes it in the third edition of his *Celestial Objects for Common Telescopes* in 1873 as "an appendage to Hydra".

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this constellation as "Crater" on some of its charts and "Cup" on others.

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Crater, the Cup" as an official constellation "recognized in the catalogue of the British Association".

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as "Crateris, the Cup".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Crater" in his *Star Atlas* (1893) and describes it as "The Cup".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Crater" and describes it as a "Cup".

Standard IAU charts depict Crater as a "cup" shape with two interconnected parts:

- The “base” is a quadrilateral of the stars Delta (δ) Crateris, Alpha (α) Crateris (Alkes), Beta (β) Crateris (Al Sharasif), and Gamma (γ) Crateris, and Delta (δ) Crateris.
- The “cup” is a pentagonal shape of the stars Gamma (γ), Zeta (ζ), Eta (η), Theta (θ), Epsilon (ε), and Delta (δ) Crateris.

Sky and Telescope Magazine, founded in 1941, depicts Crater in their magazine and as does the IAU except that they do not connect the stars Eta (η) and Theta (θ) Crateris.

Alternate names that show up in medieval manuscripts include “Cratera” and “Calpe”.

Craver:

This French asterism is the IAU constellation Dorado as listed by French astronomer Camille Flammarion (1842 – 1925) in his *Astronomie Populaire*. Compare this to Golden Fish, below.

Crawler:

This Latin asterism “Repertrix” is the IAU constellation Cygnus as listed in Edward Sherburne’s *Sphere of Marcus Manilius* in 1675.

Crayfish:

This Greek lunar mansion is stars in the IAU constellation Cancer and is listed in the *Magical Papyrus 121*, preserved in the British Museum, and dated to the 3rd century C.E. (Mosenkis, date n/k).

This French asterism “l'Écrevisse” is the IAU constellation Cancer.

The 12th century Vienna ÖNB Vindob 12600 manuscript of the *De ordine ac positione stellarum in signis* depicts the IAU constellation Cancer as a crayfish.

This Arabic asterism is the IAU constellation Cancer as described by Persian astronomer Abu Ma’shar (Albumasar- 787 – 886).

This Romanian asterism “Rac de Râu” or “Racul” is the IAU constellation Cancer (Ottescu 2009, Lite, Lodina, and Ignat 2018).

This German asterism “Flusskrebs” is the IAU constellation Cancer.

This Wardaman star “Galin” or “Jalin” is Epsilon (ε) Tauri in the IAU constellation Taurus (Cairns and Harney 2003) and one of the stars in their asterism “Little Fishes” (see below).

This Barasana asterism “Rasikamu” is the IAU constellation Leo. Hugh-Jones (2006) describes it as “part of Leo”.

This asterism is the IAU constellation Cancer as depicted in the *Introductio in Astronomiam* (1489) a translation by Erhard Ratdolt of an earlier work by Persian astronomer Abu Ma’shar (Albumasar- 787 – 886).

Creation Dog:

This Wardaman asterism “Mudborongo” is the IAU constellation Leo (Cairns 1999).

Creation of Fire:

This Palawa star “Pumpermehowlle” is Alpha (α) Geminorum (Castor) in the IAU constellation Gemini (Gantevoort et al 2016).

This Paredarerme star “Puckarnepenner” is Alpha (α) Geminorum (Castor) in the IAU constellation Gemini (Gantevoort 2015).

This Nuenone star “Pyelebay” is Alpha (α) Geminorum (Castor) in the IAU constellation Gemini (Gantevoort 2015).

Creation of the Sky:

This Micronesian asterism from the Marshall Islands is made up of the stars of the IAU constellations Auriga, Scorpius, and Taurus. The star Alpha (α) Scorpii (Antares) represents Dümur, the oldest son of the mother of the stars, Ligedaner, who is the star Alpha (α) Aurigae (Capella). Her youngest son is the Pleiades cluster in the IAU constellation Taurus. Her youngest son won a canoe race against Dümur and became King of the Stars (see below).

Creepers:

This Latin asterism “Ramphestes” is the IAU constellation Tucana as listed by Edward Sherburne in his *Sphere of Marcus Manilius* in 1675.

Crescent Nebula:

There are two **telescopic** “Crescent Nebula” asterisms:

- One is the emission nebula NGC 6888 (Caldwell 27) in the IAU constellation Cygnus. It was discovered by English astronomer William Herschel in 1792 and listed as “IV 72”. It is GC 4561 in the *General Catalogue* of 1864. Size 20’ X 10’. It is also known as the “Cosmic Brain”.
- One is planetary nebula NGC 6445 in the IAU constellation Sagittarius, discovered by William Herschel in 1784 who listed it as “II 586”. It is GC 4333 in the *General Catalogue* of 1864. It is also known as the Box Nebula (see above), the Coffin Nebula, or the Little Gem Nebula (see below).

Crest of a Helmet of Ursa Major:

This **telescopic** asterism “Crísta Úrsae Majóris” is the barred spiral galaxy NGC 3359 in the IAU constellation Ursa Major. It was discovered in 1793 by William Herschel who listed it as “V 52”. It became GC 2189 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as “It brings to mind a Roman helmet with a… plume”

Crested of Dorado:

This **telescopic** asterism “Lophéphora Dorádus” is the barred spiral galaxy NGC 1672 in the IAU constellation Dorado. It was discovered by Scottish astronomer James Dunlop in 1826. John Herschel listed this as 2665 and later as GC 912 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as to them the northern arm of the galaxy appeared to be a crest.

Crested of Libra:

This **telescopic** asterism “Eúlophus Líbrae” is the intermediate spiral galaxy NGC 5861 in the IAU constellation Libra. William Herschel listed this as “II 192”. It became GC 4055 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard

Bodifee and Michel Berger (2010): They called it this because of the "expanded, tangled aspect of the spiral arm at the northern side of this galaxy".

Crested Parrot:

This Kamilaroi star "Gurie" is Alpha (α) Virginis (Spica) in the IAU constellation Virgo (William Ridley 1875).

Cretan Crown:

This Latin asterism "Corona Creta" is the IAU constellation Corona Borealis.

Crinoid:

This **telescopic** asterism in the IAU constellation Auriga is Corder 886 on the observing list of American astronomer Jeffrey Corder. Size 55'. Corder describes this as "7 stars in a 'crinoid' or 'lambda' shape" of 6^{th} – 9^{th} magnitude including HIP 26417, 26315, 26267, and 26075. I'm listing this under "crinoid" as I believe this is a better description. NOTE: A crinoid is a fossil of a marine animal which appeared in the Middle Cambrian having an array of branching arms attached to a globe-shaped, cup like body.

Criss Cross Nebula:

This telescopic asterism is in the IAU constellation Eridanus. It was described in *The "Criss-Cross" Nebula": and interaction of the Orion-Eridanus Bubble with a small interstellar cloud*, Astronomy and Physics, 324, 1165-1169, (C. Zanin and R. Weinberger, 1997). American astronomer Victor van Wulfen describes it in the *Deep Sky Forum* as "11 minutes of arc west-southwest of the GO mag. 7.5 star SAO 131003".

Crocodile:

This ancient Egyptian asterism "Saq" is made up of stars of the IAU constellations Hercules, Lyra, and Serpens and is depicted on the ceiling of the tomb of Seti I and the Ramesside tombs (Krupp 1983). The body is a long, irregular quadrilateral with four stars at the corners: 103 Herculis, Kappa (κ) Lyrae, and Kappa (κ) Serpentis and 21 Serpentis. It is depicted as being on the back of their asterism "Reret" (see Hippopotamus, below).

Another ancient Egyptian "crocodile" asterism "Sek" or "Hetep Redwy" ("lying on his feet") is an epithet of the Egyptian God Sobek who manifests as a crocodile or a man with a crocodile head. It is made up of the stars of the IAU constellations Hydra, Cancer, and Crateris:

- One side of this irregular figure runs from Xi (ξ) Hydrae through three stars to Alpha (α) Hydrae (Alphard) and then through another star to end at Beta (β) Cancri (Tarf),
- From Beta (β) Cancri it runs back through a bent line of stars to Delta (δ) Crateris, and
- The final side runs from Delta (δ) Crateris through Gamma (γ) Crateris to end back at Xi (ξ) Hydrae.

It has also been suggested that this Egyptian asterism is the IAU constellation Ursa Major (Berio 2014). It has been pointed out that the Big Dipper does have a long "tail" like a crocodile. This would be an elongated oval of stars, starting at one end with Omicron (ο) Ursae Majoris and running through Upsilon (υ) Ursae Majoris, Beta (β) Ursae Majoris (Merak), Gamma (γ) Ursae Majoris, Eta (η) Ursae Majoris, Zeta (ζ) Ursae Majoris, Epsilon (ε) Ursae Majoris, Delta (δ) Ursae Majoris, Alpha (α) Ursae Majoris (Dubhe), and 23 Ursae Majoris. The 6^{th} nome (district) of Upper Egypt "iḳr", whose emblem

was the crocodile, celebrated the Birth of Sobek ("sbk") the crocodile God when Eta (η) Ursae Majoris (Alkaid) was at its lowest culmination. The heliacal rising of the star Omicron (o) Ursae Majoris (Muscida, Latin for "muzzle") is related to their "Day of the cutting out of the tongue of Sobek".

There is also an Egyptian asterism by this name which is one of the paranatellonta of the decans of Pisces as listed in *the Sphaera Barbarica* described by Teucros (Mosenkis, date n/k) and is described by Mosenkis as "may be Cetus or less Telescopium". As Telescopium is in a different part of the sky and as Cetus rises with Pisces, it is probably the stars of Cetus.

The Temple of Khnum at Esna has a Latopolitan zodiac on the ceiling of the pronaos dating to the age of Ptolemy II Euergetes (246 – 221 B.C.E.) depicts a figure consisting of the front halves of two crocodiles connected to each other at the waist (Bullinger 1882, Seiss 1882).

This Hebrew asterism "Tannīm" is the IAU constellation Draco.

This Aramaic asterism "Tannīn" is the IAU constellation Draco.

This Egyptian asterism "Tanem" is the IAU constellation Draco. R. H. Allen lists this in his *Star Names* in 1899.

This Celtic (Gaulish) asterism "Riuri Prinnios" is the IAU constellation Capricornus and appears in the Coligny Calendar (Boutet 2014).

There are two Vedic crocodile asterisms:

- One is the IAU constellation Capricornus.
- One, "Sisumara", is 14 stars in the IAU constellations Draco and Ursa Minor with the star Dhruva (Alpha (α) Ursae Minoris (Polaris), see Immovable, above) as the tip of the tail as listed in the *Taittiriya Aranyaka* (Leitz 2019).

This Lacandón asterism "El Lagarto" is the Little Dipper asterism in the IAU constellation Ursa Minor (Milbrath 1999).

There are two **telescopic** "crocodile" asterisms:

- One is the open cluster NGC 6231 (Caldwell 76) in the IAU constellation Scorpius, also known as the False Comet, the Northern Jewel Box, and The Table of Scorpius. It is located a half a degree north of Zeta (ζ) Scorpii. It was discovered by Giovanni Battista Hodierna before 1654, who called it Luminosae (Italian for "bright"). It is listed in the *General Catalogue* of 1864 as GC 4245 and in John Herschel's catalogue as h 3652. The cluster forms the "head" of the "crocodile", with stars running north from Zeta (ζ) Scorpii and NGC 6231 to a point roughly halfway to Mu (μ) Scorpii. The "tail" is formed by two clusters: Collinder 316 and Trumpler 24. It was Magda Streicher who came up with the name "Crocodile Cluster" for this asterism. NOTE: Streicher also noted that this cluster "resembles the body of a fly".
- One is open cluster NGC 1981 in the IAU constellation Orion. It was discovered by English astronomer John Herschel in 1827 becoming h 362 on his list and GC 1184 in the *General Catalogue* of 1864. Its eastern star is the "nose" and western star the "tail" and the two groups of three stars in the middle its "legs". Astronomer Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) states "some people say it looks like an alligator" and makes it O'Meara 28.

Crocodile in the Sky:

This Wardaman asterism “Wariga” is the dark nebulosity located near the Coal Sack Nebula (Cairns 1999). This “Black Spaces Crocodile” is there to catch those who do not obey the laws. The Black Spaces are the dust clouds in the Milky Way. Compare this to Crocodiles in the Sky (see below).

Crocodiles in the Sky:

This Kamilaroi/Euahlayi asterism “Garriya” is dark nebulosity located under the belly of their asterism “Gawarrgay” (see Emu, below) in the Milky Way (Fuller et al 2014): It forms two “crocodiles” looking away from the Emu. NOTE: crocodiles are only found in northern Australia. In southern Australia this asterism is described as the Kangaroo (see below). Compare this to Crocodile in the Sky (above).

Croc’s Eye:

This **telescopic** asterism, Messier 94 (NGC 4736) is a spiral galaxy in the IAU constellation Canes Venatici. It was discovered by French astronomer Pierre Méchain in 1781. It is listed in the 1864 General Catalogue as GC 3258 and in John Herschel’s catalogue as h 1456. It is also known as the Cat’s Eye Galaxy.

Crom Cruach:

This Celtic (Irish) asterism may be the IAU constellation Hercules (Mosenkis, N/K date). Crom Cruach, whose name “Crom” (“bent, crooked, stooped’) Cruach (“pile, heap, mound, stack”) was likely a fertility God. He is also depicted as a gold figure surrounded by twelve stone figures, which suggests a solar connection. Later Christian writers depict him as a bloody God of sacrifice defeated by St. Patrick.

Crook:

This Mesopotamian asterism “Gam” (Bartel van der Waerden 1974), “GÀM” (Anthony 1996), or “Gamlu” (Anthony 1996) is made up of stars in the IAU constellations Auriga and Taurus: Alpha (α) Aurigae (Capella), Beta (β) Aurigae (Menkalinan), Theta (θ) Aurigae (Mahasim), Beta (β) Tauri (Elnath) and Alpha (α) Tauri (Aldebaran). It has also been interpreted as “Scimitar” and “Throwing Stick”. R. H. Allen lists this as “Gam the Scimitar” from the “Tablet of the Thirty Stars” in his *Star Names* in 1899 and cites “Brown” who wrote that it “stretches from Okda of the Fishes to Hamal of Aries”. This is probably Robert Brown in his *Researches Into the Origin of the Primitive Constellations of the Greeks, Phoenicians and Babylonians* (1899). Boutet (2014) lists it as “Gamlu” and translates this as “sickle, sword, or harpé”.

This Babylonian ziqpu “mulGAM” or “Gamli” from cuneiform text AO 6478 (Schaumberger 1952) is Alpha (α) Aurigae (Cappella) in the IAU constellation Auriga.

This Babylonian asterism from the MUL.APIN tablets, “MU.ZUBI”, “MUL.GAM”, “GAM”, or “d GAM” (Hunger 1992) listed in the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) as “dGAM” and in the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period as “mul gam” (Koch-Westenholz 1995) is a triangle of stars in the IAU constellation Auriga: Alpha (α) Aurigae (Capella), Beta (β) Aurigae (Menkalinan), and Theta (θ) Aurigae (Bartel van der Waerden 1974). This appears in later Seleucid sky lore.

This Akkadian asterism from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) “Gamlu” (Hunger 1992) is a triangle of stars in the IAU constellation Auriga: Alpha (α) Aurigae (Capella), Beta (β) Aurigae (Menkalinan), and Theta (θ) Aurigae.

This Persian asterism “Gumlu” from the list of Masu stars from the lists K 250 and VAT 9418 from the Persian (Achaemenid) Period (539 – 331 B.C.E.) is a triangle of stars in the IAU constellation Auriga: Alpha (α) Aurigae (Capella), Beta (β) Aurigae (Menkalinan), and Theta (θ) Aurigae (Boll 1918). Ernst Weidner lists it as “gam” in his *Fixsterne* in 1971.

This Seleucid asterism is a triangle of stars in the IAU constellation Auriga: Alpha (α) Aurigae (Capella), Beta (β) Aurigae (Menkalinan), and Theta (θ) Aurigae.

This proposed Egyptian asterism “ḥḳ꜀-ʿnḏw” from the Old Kingdom (3100 B.C.E.) is related to their nome (district) of that name and is made up of stars of the IAU constellation Centaurus (Berio 2014).

Crook of the Goat:

This Seleucid star is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra.

Crook of Uz:

This Babylonian and Sumerian ziqpu from the star catalogue BM 78161 (5^{th} – 7^{th} century B.C.E.) is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra and is the 7^{th} ziqpu on that list (Liechty 1988, Leitz 2019).

Crooked Big Cart:

This Latvian asterism “Lielie Greizie Rati” is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper above).

Crooked Billet:

This asterism is listed by Australian astronomer Francis Abbott (1799 – 1883) as a vacant space of irregular shape amongst the stars of what would be the Eta Carinae Nebula (NGC 3372) and is listed in R. H. Allen’s *Star Names* in 1899.

Crooked Cart:

This Italian (Piedmont and Ligurian Alps) asterism “u Car Gars” or “u Mantenay” is the IAU constellation Ursa Major.

Crooked Clawed:

This Coptic asterism “Khambalia” is the stars Iota (ι), Kappa (κ), and Lambda (λ) Virginis in the IAU constellation Virgo as listed by R. H. Allen in his *Star Names* in 1899.

Crooked Running Water:

This Chinese xing guan “Shuǐweǐ” (水委) is a triangle of stars in the IAU constellation Phoenix: Alpha (α) Phoenicis (Ankaa), Zeta (ζ) Phoenicis, and Eta (η) Phoenicis.

Crooked Serpent:

This Latin asterism “Coluber Tortuosus” is the IAU constellation Draco as listed in John Hill’s *Urania* in 1754.

This Hebrew asterism “Nabash Barih” is the IAU constellation Draco as listed by John Hill in his *Urania* in 1754.

Crookedness of Talons:

This Coptic star “Khambaliya” or “Kambalia” is Lambda (λ) Virginis in the IAU constellation Virgo. It is part of a Coptic lunar station “χαμβαλια” (“Khambalia”). In *Star Names* in 1899, R.H Allen gives the derivation as being from the Greek word “γαμψωλή” or “gampsôlê”, which Liddell and Scott identify as a variant of “γαμψότης” or “gampsotês”. The IAU approved the name Khambalia for the star Lambda (λ) Virginis A in 2017.

Cross:

This Chinese xing guan “Shízìjià” (十字架) is the IAU constellation Crux.

The French edition of John Flamsteed’s work, the *Atlas Céleste,* which was revised in 1778, lists “Croisade” as a name for Crux.

This Northern Andean asterism “Antonio Quinatoa” is a cross of stars in the IAU constellations Canis Major, Canis Minor, and Orion (Quinatoa 2018). These are the first stars to appear at dusk: Alpha (α) Canis Majoris (Sirius), Alpha (α) Canis Minoris (Procyon), Beta (β) Orionis (Rigel), and Alpha (α) Orionis (Betelgeuse).

This Macedonian asterism “Krst” is a cross laying in “the Priest’s Straw” (“Popova Slama” or “Popovʌ Slʌmʌ” - their name for the Milky Way). It is also known as the Small Cross or Priest’s Small Cross. This is a cross formed by four stars in the IAU constellation Delphinus: Alpha (α) Delphini (Sualocin), Beta (β) Delphini (Rotanev), Delta (δ) Delphini, and Gamma (γ) Delphini (Cenev 2004 & 2104).

This Italian (Piedmont and Ligurian Alps) asterism “Crusiero” is the Northern Cross asterism in the IAU constellation Cygnus.

There are two Belarussian asterism “Крыж” (“Kryž” or “Kryzhe”):

- One is the Northern Cross asterism in the IAU constellation Cygnus.
- One, Kryzhe”, is the constellation Orion (Avilin 2009). It is also known as “Kigachi ragachy” (see Shaft of a Plough, below), “Kosy” (see Scythes, below), “Matawila” (see Wheel, below), “Traiko” (see Three Times, below), “Karomyselko” (see Small Yoke, below), “Grabli” (see Rake, below), “Kastsy” (see Mowers, below), “Try Karali” (see Three Kings, below), “Kasar” (see Mower, below), “Kreselca Pana Jezusa” (see Lord Jesus’ Chair, below), “Tri Siostry” (see Three Sisters, below), “Prahi” or “Prapradki” (see Yarn Spinners, below), “Asilki” (see above), “Lisa” (see Fox, below), and “Trohkutnaia” (see With Three Corners, below).

This Sotho and Tswana asterism “Sefapano” is the IAU constellation Crux. This seems to be a relatively modern name.

R.H. Allen in his *Star-Names* in 1899 describes a cross made up of the stars of the IAU constellation Andromeda, although it more closely resembles an “L” shape as described:

- The upright is the stars Beta (β) Andromedae (Mirach), Gamma (γ) Andromedae, and Delta (δ) Andromedae, and
- The transverse is the stars Alpha (α) Andromedae (Alpheratz) and Kappa (κ) Andromedae.

This Lithuanian asterism “Kryžius” is the IAU constellation Cygnus.

There are six **telescopic** “cross” asterisms:

- One is Sánta 51 from the list of Hungarian astronomer Gabor Sánta, which is a cross of six 8 – 10th magnitude stars in the IAU constellation Pegasus including HIP 184, 185, and 190A. Its size is 14'.
- One is Sánta 78, listed in 2007 by Hungarian astronomer Sánta Gábor, which is a group of 8th – 13th magnitude stars in the IAU constellation Eridanus. Gábor describes it as "cross-like, round".
- One is the "Cross of Draco" in the IAU constellation Draco and is on John Raymond's list of asterisms. Jeffrey Corder lists it as Corder 3536 and calls it the "Sword" (see below). The cross is made up of 8th – 9th magnitude stars and includes HIP 89943 and 89981.
- One is in the IAU constellation Centaurus and is Corder 2744 on the observing list of American astronomer Jeffrey Corder. Size 40'. This is six 7th – 9th magnitude stars including HIP 73145, 73082, 73123, and the doubles star HIP 73195A.
- One is in the IAU constellation Cygnus and is Corder 4076 on the observing list of American astronomer Jeffrey Corder. Size 120' X 70'. This is eight 6th – 8th magnitude stars including HIP 99818, 99955, 99662, 99294, and the double stars HIP 100097A and 98946.
- One is in the IAU constellation Pegasus and is Corder 4846 on the observing list of American astronomer Jeffrey Corder. Size 50'. This is eight 8th – 9th magnitude stars including HIP 114764 and 114723.

Cross Bar of the Well:

This Arabic asterism "Al ʻArḳuwah" is the stars Beta (β) Pegasi (Scheat) and Alpha (α) Pegasi (Markab) in the IAU constellation Pegasus as listed by Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283):

- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Al kereb, the joining of the two cross bars of wood placed diagonally over the well, to which the bucket rope is fastened".
- R. H. Allen in his *Star Names* in 1899 lists "Al ʻArkuwah".

Cross in a Cross:

This **telescopic** asterism is the open cluster NGC 6830, found in the IAU constellation Vulpecula. This was discovered by English astronomer William Herschel in 1785 who listed it as "VII 9". It is GC 4516 in the *General Catalogue* of 1864. It is also known as the Poodle (see below). Dutch astronomer Michael Geldorp (1999) describes it as "a cross in a cross". South African astronomer Magda Streicher describes it both as a "distinctive cross shape" and in 2006 as a "letter 'X'".

Cross-Like:

This Kaykavian asterism "Krížeki" is the Northern Cross asterism in the IAU constellation Cygnus.

This Chakavian asterism "Križevâli" is the Northern Cross asterism in the IAU constellation Cygnus.

Cross of Fire:

This Palawan asterism "Urapane Lopatin" is the IAU constellation Crux. This is related to their asterisms "Stingray" (see below) and "Two Men and Two Women" (see below).

Cross of God the Father:

This Quechua asterism “Papa Dios Cruz” is made up of stars in the IAU constellation Scorpius: Alpha (α) Scorpii (Antares), Beta (β) Scorpii (Acrab), Delta (δ) Scorpii, Pi (π) Scorpii, and Sigma (σ) Scorpii (Urton 1981).

Cross of Jesus:

This Melkite and Nestorian asterism is the IAU constellation Delphinus as listed by R. H. Allen in his *Star Names* in 1899.

Cross of May:

This Ch’orti’ asterism is the IAU constellation Crux (Milbrath 1999).

This Inca asterism “Laja Haykuna” is the False Cross asterism made up of stars of the IAU constellations Carina and Vela (Gamarra & Gamarra 2009): Delta (δ) Velorum (Alsephina), Kappa (κ) Velorum (Markab), Epsilon (ε) Carinae (Avior) and Iota (ι) Carinae (Aspidiske).

Cross of St. Constantine:

This Sardinian asterism “issa rugs de Santu Antinu” (“Cross of St. Constantine) is the Northern Cross asterism in the IAU constellation Cygnus (Putzolu 2019). This represents the cross that appeared in a dream to the emperor Constantine before the battle of the Milvian Bridge, fought against Maxentius in 312 C.E.

Cross of St. Helena:

This German asterism “Crux cum S. Helena” is the IAU constellation Cygnus and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the “pagan” names of constellations with Biblical and early Christian figures. This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as “S. Crux XPI cum S. Helena Al Cygnus”. It later appears in Edward Sherburne’s Sphere of Marcus Manilius and later in John Hill’s *Urania* in 1754.

Cross of the Devil:

This Ikoots asterism “Krus Nimeeč” is the False Cross asterism (see below) of stars of the IAU constellations Vela and Carina: Delta (δ) Velorum (Alsephina), Kappa (κ) Velorum (Markeb), Epsilon (ε) Carinae (Avior), and Iota (ι) Carinae (Aspidiske).

Cross of the Passion:

The stars of this Quechua asterism from Lucre are unidentified at present (Urton 1981).

Cross of the Swan:

This French asterism “la Croix du Cigne” is the Northern Cross asterism (see below) in the IAU constellation Cygnus. This appears in the French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719).

Cross One Another:

This Zulu asterism “iMpambano” or “ImPhambano” (“a group of things together”) or “iNgulube” is the belt of Orion in the IAU constellation Orion (Holbrook and Baleisis 2007).

Cross Star:

This Tzeltal asterism is the IAU constellation Orion (Milbrath 1999).

This Yucatec (of Quintana Roo) asterism “Cruz Ek” is the IAU constellation Crux (Milbrath 1999). They also call it the “cross rising over Jerusalem” or the “cross which tops the tower over Jerusalem”.

This Hungarian asterism is the IAU constellation Cygnus.

Cross Stars:

This Ikoots asterism “Krus Okas” is the Southern Cross asterism in the IAU constellation Crux.

This Tzotzil (of Zinacantán) asterism “Krus K’anal” is the IAU constellation Crux (Milbrath 1999). They identify two star crosses on either side of this as “Thieves’ Crosses” (see below).

This Spanish asterism “Cruzero Estrellas” is the IAU constellation Crux (Urton 1980).

Cross Stars of the North:

This Ikoots asterism “Krus Okas am Kalïy” is the Little Dipper asterism of the IAU constellation Ursa Minor (see Little Dipper below).

Crossbeam for Heo:

This Korean asterism “Heoleul Wihan Daedeulbo” (허를 위한 대들보) is a line of four stars in the IAU constellation Aquarius: 38 and Rho (ρ) Aquarii and HIP 110009 and 110532.

Crossbow:

This asterism is made up of stars of the IAU constellation Cepheus. Delta (δ) Cephei is the “shoulder stock”, Epsilon (ε) Cephei, Zeta (ζ) Cephei, and Lambda (λ) Cephei form the “bow arms” and 14 Cephei the “bolt tip”. Size 240’. This is Lorenzin 6 on Tom Lorenzin’s list. Bruno Alessi lists it on his BDCC 7.6 list and Jeffrey Corder lists it as Corder 4619. It is in the Saguaro Astronomy Club asterism database.

Crossing:

This Zulu asterism “Impanbana” is the belt of Orion in the IAU constellation Orion (Holt and Slotegraaf 2022). It’s rising marked the beginning of cultivation. It is also seen as dogs or wild hogs.

Crossing Shi’ra:

See Southern Shi’ra, below.

Crosswise of Centaurus:

This **telescopic** asterism “Cársia Centaúri” is the lenticular galaxy NGC 5124 in the IAU constellation Centaurus. It was discovered in 1834 by John Herschel who listed it as h 3499 and later as GC 3521 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this “refers to the half right angle between the long axes of this galaxy and its companion NGC 5126”.

Crotus:

This Greek asterism is the IAU constellation Sagittarius and is listed in John Hill’s *Urania* in 1754. Krotos or Crotus was the son of Pan in Greek mythology.

Crow:

This French asterism “Corbeau” is the IAU constellation Corvus.

This Italian asterism “Corvo” is the IAU constellation Corvus.

This asterism is the IAU constellation Corvus as listed in John Hill’s *Urania* in 1754. Hill clearly identifies it as Ptolemy’s asterism “Κόραξ” (see Raven, below). Later he gives it the name “Gorab” and “Algorab” (both Arabic names for Raven, see below), describing these names as applying to the entire constellation and not just Delta (δ) Corvi.

This Boorong asterism “War” is in the IAU constellation Carina (Stanbridge 1857, Morieson 1999, and Hamacher and Frew 2010). This is a male crow (Australian raven, Corvus coronoides). The middle of the curve of stars that form the “wings’ is the star Alpha (α) Carinae (Canopus). One wing is the stars N Carinae and HIP 32402. The other wing is HIP 29990 and 30104. War was the first to bring down fire from space (tyrille) and give it to the Boorong.

This Wotjobaluk asterism “War” is Alpha (α) Carinae (Canopus) in the IAU constellation Carina (Hamacher 2011).

This Koori and Pirt-Kopan-noot star “Waa” is Alpha (α) Carinae (Canopus) in the IAU constellation Carina (Dawson 1900, Matthews 1904, Clarke 2009, Hamacher 2011).

This Gunditjmara star is Alpha (α) Carinae (Canopus) in the IAU constellation Carina (Clarke 2009). They see it as chasing seven young women who are cockatoo ancestors (see Cockatoos, above).

Crow Children:

This Kokatha and Ngalea asterism “Nyumbu” or “Mamu” is the IAU constellation Delphinus (Leaman, Hamacher, and Carter 2016).

Crow Mother:

This Kokatha and Ngalea star “Kangga Ngoonji” is Alpha (α) Aquilae (Altair) in the IAU constellation Aquila (Leaman and Hamacher 2014, Leaman, Hamacher, and Carter 2016).

Crow Star:

This Thai asterism “Dao Ka” is made up of stars in the IAU constellation Gemini (Nitiyanant 2015): Delta (δ) Geminorum, Zeta (ζ) Geminorum, Lambda (λ) Geminorum, and Epsilon (ε) Geminorum.

Crowbar Galaxy:

This **telescopic** asterism is NGC 4656 and 4657 in the IAU constellation Canes Venatici. This was discovered in 1787 by English astronomer William Herschel: He listed them as “I 176” and “I 177”. The became GC 3189 and GC 3190 in the *General Catalogue* of 1864. It is also known as the Hockey Stick Galaxies (see below), the Hook (see below), the Fishhook (see below), the letter “S” (see below), and the Hummingbird (see below). NOTE: It was originally thought that these were two galaxies merging. However, it is now believed that this is one tidally distorted galaxy interacting (in radio wavelengths) with NGC 4631. Stephen James O’Meara’s *Hidden Treasures Catalogue* (2007) lists the names “Crowbar Galaxy”, “Fish Hook Galaxy”, and “Hockey Stick Galaxy”.

Crowd of Young Women:

This Bangala asterism “lingondo nsamba” is the Pleiades Cluster in the IAU constellation Taurus (Holbrook 2020).

Crowded of Centaurus:

This **telescopic** asterism “Stipátus Centaúri” is the elliptical galaxy IC 4296 in the IAU constellation Centaurus. It was discovered by American astronomer Lewis Swift in 1897. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name because it is surrounded by other galaxies in the center of the Abell 3565 cluster

Crown:

This Greek asterism “Στέφανος” (“Stéfanos”) is the IAU constellation Corona Borealis as it was described by Ptolemy (c.100 – c.170) in his *Almagest*. It is also listed as a Greek lunar mansion in the *Magical Papyrus 121*, preserved in the British Museum, and dated to the 3rd century C.E. (Mosenkis, date n/k). Mosenkis describes this as “Corona Borealis or Australis”.

This Arabic asterism “’iiklil” or “Iklil”, latinized to “Iclil” or “Al Iclil”, is the IAU constellation Corona Borealis:

- Corona Borealis was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his Book of the Fixed Stars in 964 (Hafez 2010) as “al-Iklīl al-Shamālī” and “al-Fakka”.
- Persian astronomer Ulugh Beg Mirza (1394 – 1449) listed this constellation as “’iiklil” or “Iklil”.
- An anonymous Hebrew star list from 1392 (Goldstein 1985) lists the Arabic name “Iklil shamāli” and the Hebrew name “nezer sefoni” for Alpha (α) Coronae Borealis (Alphecca).
- Johann Bayer’s *Uranometria* (1603) lists “Acliluschemali” and attributes it to Albumasar.
- “Iclil” and “Al Iclil” are listed in John Hill’s *Urania* in 1754.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Iklil al Jebhah, the crown of the brow”.
- R. H. Allen writes in his *Star Names* in 1899 that the earlier Arabic name was “Al Iklil al Shamāliyyah”, which got latinized to “Acliluschemali” and “Aclushemali”.
- W. Brennand lists this as “Au-Iclil, the Northern Crown” in his *Hindu Astronomy* in 1896.
- Compare this to their manzil Crown of the Forehead (below).

This asterism “Comis” was made up of the stars of the IAU constellations Lupus and Centaurus by German astronomer Erhard Weigel (1625 – 99) who produced his *Astrocopium Orbi Europaeo Sacrum* chart in 1661, 1681 and 1688 in which he tried to replace existing constellations a new system based upon the heraldry of the nation states and principalities of seventeenth century Europe, as well as of its principal hierarchies and social classes. It depicts a jeweled crown.

There are two Belarussian asterisms called “Karona”:

- One is the IAU constellation Corona Borealis. This is supposed to be the crown of Jesus.
- The other, also known as “Litwa” (see Gem, below) or “Blizniuki” (see Twins, below) is the IAU constellation Gemini. The stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) symbolized the Great Lithuanian Princedom and the Polish Kingdom.

This English asterism “Corona” is the IAU constellation Corona Borealis. English astronomer Richard Anthony Proctor gave the name “Corona, the Northern Crown” in 1873 as he believed that shortening the name would make more room on astronomical charts. “Corona” is listed in Proctor’s *A New Star Atlas* (1887) as an official constellation “recognized in the catalogue of the British Association”.

This Arabic and Persian asterism "Al Tāj" ('the crown" or "the tiara") is the stars Omicron (o) 1 and 2 Orionis, Pi (π) 1, 2, 3, 4, 5, and 6 Orionis in the IAU constellation Orion:

- "Tāj al-Jauzā'" ("crown of al-Jauzā'" is a curve of the stars Pi (π) 1, 2, 3, 4, 5, and 6 Orionis in the IAU constellation Orion as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- "Al Tāj" according to the 16th century Arabic astronomer Al Tizini is the stars Omicron (o) 1 and 2 Orionis, Pi (π) 1, 2, 3, 4, 5, and 6 Orionis .
- "Al Tāj" is listed in R. H. Allen's *Star Names* in 1899.

This Coptic lunar station "Stephani" is the stars Delta (δ) Scorpii, Beta (β) Scorpii (Acrab), and Pi (π) Scorpii in the IAU constellation Scorpius as listed by W. B. Yeats in *A Vision* in 1917, which was derived from German Jesuit astronomer Athanasius Kircher's *Lingua Aegyptiaca Restituta* in 1636, in which Kircher described it as "Corona". R. H. Allen listed it in his *Star Names* in 1899.

This asterism is the IAU constellation Lyra as represented on two Islamicate celestial globes, described by Savage-Smith and Belloli (pg. 144-46 & fig. 55 https://repository.si.edu/handle/10088/2445).

This Filipino (Mayayaw Ifugao) asterism "Nahiki'hig" or "Ni'pugot" is the IAU constellation Corona Australis (Masong 2017).

There are two Belarussian asterisms named "Korona", "Koruna", or "Koronka":

- One is the Pleiades cluster in the IAU constellation Taurus (Avilin 2009, 2018).
- One is the IAU constellation Gemini (Avilin 2009).

There are four **telescopic** "crown" asterisms:

- One is in the IAU constellation Ursa Major, 2 degrees west of Beta (β) Ursae Majoris (Merak). It is an oval of 9th magnitude stars resembling a small crown or tiara with the "jewel" being the 7th magnitude star HIP 53036 and the "crown" including HIP 53061 and 53042.
- One is Vastagh 11, listed in 2009 by Hungarian astronomer László Vastagh, which is in the IAU constellation Andromeda. Its apparent diameter is 22'. Vastagh describes it as "Six bright stars draw a circular arc that is not completely closed… In the center of the resulting crown, or letter 'C', a few faint stars can be seen in a group. The [asterism] contains a total of 17 stars."
- One is in the IAU constellation Hydra and was listed by American astronomer John A. Chiravalle. Jeffrey Corder lists it as Corder 1750. Size80' X 45'. It is also known as the Flower Vase (see below). Corder describes this as a "pretty rich collection of at least 16 stars between magnitudes 7.5 and 9.5… elongated north/south, although most of the stars are in a curving chain that is nearly "S" shaped. The double star HIP 44584A is near the center. The "base" of the vase or crown is HP 44476 and 44316. The top of the vase or crown is HIP 44622 and 44594.
- One is in the IAU constellation Sagittarius and is Corder 3977 on the observing list of American astronomer Jeffrey Corder. Size 25'.

Crown Jewel:

This Latin star "Gemma Coronae" is Alpha (α) Coronae Borealis (Alphecca) in the IAU constellation Corona Borealis. R. H. Allen suggests in his *Star Names* in 1899 that this may have come from the 1st century B.C.E. Roman poet Ovid's asterism Nine Precious Stones (see below). "Gemma seu margarita

Coronae" ("the jewel or pearl of the crown") is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch. Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Gemma". Compare this to "Gem", below.

Crown of Al-Jawza:

See Hair Braids of Al-Jawza, below.

Crown of Anu:

This Babylonian asterism "AGA dA-nim" (Anthony 1996) is not clearly identified. Anu is related to the IAU constellation Taurus, and it has been suggested by Berio (2014) that this asterism is Corona Australis as it resembles the curved horns of a bull. Taurus rises as Corona Australis sets (Berio 2014)

Crown of Cassiopeia:

This **telescopic** asterism is made up of stars of the IAU constellation Cassiopeia. *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), describes the star Zeta (ζ) Cassiopeiae as the Cassiopeia's head and describes "a singular and brilliant array of stars near it in a broken half circle, which may suggest the notion of a crown". This appears to be the stars HIP 2854, HIP 2782, HIP 2697, HD 232222, HIP 2795, and HIP 2890.

Crown of Cressa:

This Latin asterism "Corona Cressa" is the IAU constellation Corona Borealis.

Crown of Dapi'chi:

This Toba asterism "Nolo'pa" is stars near the Pleiades cluster in the IAU constellation Taurus (Gómez 2011) and is related to their asterism Dapi'chi (see below).

Crown of Esther:

This German asterism is the IAU constellation Corona Borealis as described by German poet Philipp von Zesen (1619 – 1689), who described it as the crown of Ahasuersus, the Biblical King of Persia, placed on Esther's head.

Crown of Firmiana:

This Austrian asterism "Corona Firmiana" is the IAU constellation Corona Borealis and was created in 1730 to honor the Archbishop of Salzburg in the atlas *Mercurii Philosophicii Firmamentum Descriptionem et Cum Globi Artificialis Coelestis* by Benedictine Monk Corinianus Thomas, a professor of mathematics and theology at the university there. The constellation resembles the stag's antlers that are on the coat of arms of this family.

Crown of Guossia:

This asterism "Corona Guossia" is in the IAU constellation Cygnus and is listed in Edward Sherburne's Sphere of Marcus Manilius in 1675 as being "in the beak and tail of the swan". It is not mentioned elsewhere in Sherburne's text. "Corona Gnosia" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch. I believe that this is a reference to NGC 7000, the North America Nebula, a 4th magnitude HII region which is located next to the star Alpha (α) Cygni (Deneb).

Crown of the Forehead:

This Arabic and Bedouin manzil "Al-Ikleel", "ʾAl-Iklīl" (ٱلْإِكْلِيل), or "ʾAl-Iklīlu ʾl-Jab'hah" (ٱلْإِكْلِيلُ ٱلْجَبْهَة), or "Iklīl al Jabhah" (إكليل الجبهة), translated as "ornamented headband", "diadem", or "crown of the forehead", is in the IAU constellation Scorpius and is the stars Beta (β) Scorpii (Acrab), Delta (δ) Scorpii (Dschubba), and Pi (π) Scorpii:

- Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) listed it as the stars Theta (θ), Kappa (κ) and 42 Librae (Hafez 2010).
- This was later latinized to "Iklil" or "Iolil".
- Dorn lists this as the "Diadem" and describes it as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283).
- The rete of the 14th century Spanish astrolabe NMM AST0570 in the National Maritime Museum lists the name "Alielil" for Beta (β) Scorpii (Dekker 2000).
- The IAU identifies the stars of this asterism as Rho (ρ) Scorpii, Beta (β) Scorpii (Acrab), Delta (δ) Scorpii, Pi (π) Scorpii, and possibly Nu (ν) Scorpii.
- Dorn (1829) attributes the addition of the star Nu (ν) Scorpii to Ulugh Beg Mirza (1394 – 1449).
- Robert Hues (1659) lists it as "Alachil Algenubi".
- German poet Philip von Zesen (1619 – 1689) as "Aladil Algenubi".
- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) as "Elkeil Elgenubi
- John Chilmead (1899) list it as "Alachil Algenubi"
- The IAU approved the name Iklil for Rho (ρ) Scorpii Aa.
- NOTE: This asterism is the IAU constellation Aquila as listed in John Hill's *Urania* in 1754 to which he assigns the name "Alkale": He describes it as "one of the Arabic names of that constellation, and it signifies torment". The Arabic name for Aquila is "Alnasr". However, this does seem to match the Arabic asterism Crown of the Forehead, so this is probably where Hill got this name. Compare this to Crown (above).

This Yemeni manzil "Iklīl" is the stars Beta (β) Scorpii (Acrab), Delta (δ) Scorpii, and Pi (π) Scorpii in the IAU constellation Scorpius (Varisco 1995). This appears in the *Kitāb al-Tabşira Fī'ilm al-Nujūm* of 13th century Rasulid ruler al-Malik al-Ashraf 'Umar ibn Yūsuf (d 1296).

Crown of Gnosida:

This Latin asterism "Corona Gnosida" or "Gnossis" is the IAU constellation Corona Borealis. This is a reference to Ariadne's birthplace of Gnosos. Compare this to Gnosia Star of Corona (below). "Corona Gnosia" is listed as a name for Corona Borealis on the *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638).

"Corona Gnosia" and "Corona Septentrionalis" ("northern crown") are listed as names for Corona Borealis in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and he depicts it as a laurel wreath.

Crown of Heaven:

This Akkadian star "Dayan Esiru" ("prospering judge" or "crown of heaven") is Alpha (α) Draconis (Thuban) in the IAU constellation Draco as listed by R. H. Allen in his *Star Names* in 1899.

This Latin asterism “Diadema Coeli” is the IAU constellation Corona Borealis.

Crown of Sagittarius:

See Golden Crown of Sagittarius, below.

Crown of the Scorpion:

This Arabic star “iklīl al-ʿaqrab” or “Iklīl al ʿAḳrab” is Delta (δ) Scorpii (Dschubba) in the IAU constellation Scorpius:

- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) listed it as “Aakràb genubi”.
- This was later latinized to “Iclarkrau” in the *Palermo Catalogue* of Giuseppe Piazzi (1786 – 1846).

Crown of Thorns:

This German asterism is the IAU constellation Corona Borealis and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the “pagan” names of constellations with Biblical and early Christian figures. This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 labels it “Corona XPI Sps”. German poet Philipp von Zesen (1619 – 1689) also listed this name for this constellation. Edward Sherburne lists it as “Saviour’s Crown of Thorns” in his *Sphere of Marcus Manilius* in 1675. It later appears as “Crown of Thorns” in John Hill’s *Urania* in 1754.

Crown of Vulcan:

This Latin asterism is the IAU constellation Corona Borealis. Johann Bayer’s *Uranometria* (1603) lists “Corona Vulcani” as a name for Corona Borealis. “Corona Vulcani” is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch, who attributes it to “the ancients”.

Crown Prince:

This name was earlier given by the Chinese to a pole star listed during the Shang Dynasty (1600 – 1027 B.C.E.). Alpha (α) Ursae Minoris (Polaris) was NOT the pole star at that time (due to precession). Possible stars proposed for this pole star include i Draconis, 42 Draconis, or 184 Draconis, or Beta (β) Ursae Minoris (Kochab), but it is possible that this was something carried over from as early as 3000 B.C.E., so it is difficult to pin down the exact star.

There are three stars from the Three Kingdoms to the Ming Dynasty era with this name “Tàizǐ” (太子):

- One is the star Sigma (σ) Scorpii in the IAU constellation Scorpius and is part of their xing guan Heart (see below).
- One is the star 93 Leo in the IAU constellation Leo. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.
- One is the star Gamma (γ) Ursae Minoris in the IAU constellation Ursa Minor.

There are three Chinese Chenzhuo xing guans called “Tàizǐ”:

- One is the star Sigma (σ) Scorpii in the IAU constellation Scorpius.
- One is the star 93 Leonis in the IAU constellation Leo.

- One is the star Gamma (γ) Ursae Minoris in the IAU constellation Ursa Minor. It is part of their xing guan “Northern Pole”.

This Japanese star is the star Gamma (γ) Ursae Minoris in the IAU constellation Ursa Minor. This name comes from the ceiling art in the Takamatsu Zuka Kofun tomb.

Crown Without Honour:

This Latin asterism “Corona sine Honore” is the IAU constellation Corona Australis as described by the Roman general Germanicus (15 B.C.E. – 19 C.E.), who got this from an interpretation of the Aratus’ *Phaenomena* (c. 270 B.C.E.).

Crowned Bull’s Head:

This asterism was made up of stars of the IAU constellation Carina by German astronomer Erhard Weigel (1625 – 99) who produced his *Astrocopium Orbi Europaeo Sacrum* chart in 1661, 1681 and 1688 in which he tried to replace existing constellations a new system based upon the heraldry of the nation states and principalities of seventeenth century Europe, as well as of its principal hierarchies and social classes. This is labeled with a word beginning with the letter “M” but the rest of the label is unintelligible in the JPEG of this chart that I was examining. It is depicted as a bull’s head facing us with a very large gold ring in its nose and a gold crown on its head.

Crowned Face:

This **telescopic** asterism is the star cloud NGC 6682 in the IAU constellation Scutum and is Ennis 88 in the asterism list of Canadian astronomer Charles Ennis, who discovered it in July 2025. English astronomer John Herschel first recorded it in 1827. The cloud forms a face in right profile with an “eye” a dark patch by the star HIP 91337 and a “nose” a triangular mass of stars by the star HIP 91386. The bottom of the “ear” is the star HIP 91598 with the top being HIP 172316: The “ear” is a cloud of stars between them and extending slightly beyond them. The “crown” is the oval of stars starting at HD 172202 and running around through Gaia DR 3 4256965601505260160, Gaia DR3 4256868844485573620, HIP 91215, HD 171687, HIP 91272, SAO 142434, and Gaia DR3 4256960378824538880. Size 50’.

Crowned of Ursa Major:

This **telescopic** asterism “Coronáta Úrsae Majóris” is the barred lenticular galaxy NGC 3945 in the IAU constellation Ursa Major. It was discovered in 1790 by William Herschel who listed it as “I 251”. It became GC 2602 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to “the beautiful outer ring”.

Crowned with Dust of Virgo:

This **telescopic** asterism “Pulvericoronáta Virginis” is the lenticular galaxy NGC 4429 in the IAU constellation Virgo. It was discovered in 1784 by William Herschel who listed it as “II 65”. It became GC 2987 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of the “small dusty ring around the nucleus”.

Crow's Neck:

This Persian star "únuq al-ghuraab" or "Unuk al Ghyrab" (عنق ألغراب), latinized to "Al Unuḳ al Ghurāb" is Beta (β) Aquilae in the IAU constellation Aquila as listed in the 17th century *Calendarium* of Al Achsasi al Mouakket.

This Latin star "Collum Corvi" is Beta (β) Aquilae in the IAU constellation Aquila.

Crow's Nest:

This **telescopic** asterism is the open cluster NGC 1647 in the IAU constellation Taurus. It was discovered by William Herschel in 1784 who listed it as "VIII 8" in his catalogue. It is GC 896 in the *General Catalogue* of 1864. It is O'Meara 25 in astronomer Stephen James O'Meara's *Hidden Treasures Catalogue* (2007). It is also known as the Pirate Moon (see below). South African astronomer Auke Slotegraaf (2018) lists it under the name "Crow's Nest Cluster".

Croziers:

This English asterism is four stars in the IAU constellation Centaurus: Epsilon (ε), Zeta (ζ), Nu (ν), and Xi (ξ) 2 Centauri. English astronomer Edmond Halley (1656 – 1742) listed these as the four "Dictis a nautis Croziers" ('croziers as remarked by the sailors") according to R. H. Allen in his *Star Names* in 1899.

This French asterism is the IAU constellation Crux. When the Jesuit mathematician Guy Tachard (1651 – 1712) went to the Cape of Good Hope in 1685 and set up a temporary observatory, he used the name "the Crozier" in reference to this constellation (Moore 1994)

Crucifix Cluster:

This **telescopic** asterism is the globular cluster Messier 107 (NGC 6171) in the IAU constellation Ophiuchus. It was discovered by French astronomer Pierre Méchain in 1782, then independently by English astronomer William Herschel in 1792. John Herschel listed it in his 1864 *General Catalogue* as GC 4211 and in his other catalogue as h 3637, but it was RASC astronomer Helen Sawyer Hogg that added it to the modern catalogue in 1947.

Cruciform Cluster:

This **telescopic** asterism is the open cluster Melotte 49, which is found within the emission nebula and open cluster NGC 2264 (the Cone Nebula) in Monoceros. It was discovered by English astronomer William Herschel in 1784 who listed it as "V 27" and "VII 5" in his catalogue. It is GC 1440 in the *General Catalogue* of 1864. It was given this name in *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns. It is also known as the Christmas Tree Cluster.

Crumbs of Camelopardalis:

This **telescopic** asterism "Micárium Camelopardális" is the intermediate spiral galaxy NGC 2403 (Caldwell 7) in the IAU constellation Camelopardalis. It was discovered in 1788 by William Herschel who listed it as "V 44". It became GC 1541 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name due to the "mixture of HII regions with this galaxy…[which] look like an accumulation of light speckles".

Crusade:

This Chinese star “Fa” from the Three Kingdoms to the Ming Dynasty is Delta (δ) Ursae Majoris in the IAU constellation Ursa Major.

This Chinese Chenzhuo xing guan “Fa” is the star Delta (δ) Ursae Majoris in the IAU constellation Ursa Major. It is part of their xing guan Northern Dipper.

Crustacean:

This Myanmar asterism “Pucwan Tārā” (ပုဇွန် တာရာ) is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper above).

Crux:

These stars appear in 298 of the asterisms of the sky cultures of the world.

This is the IAU constellation Crux (IAU abbreviation Cru). Ptolemy (c.100 – c.170) included the stars of Crux in the IAU constellation Centaurus, but Pliny the Elder (24 – 79) recognized it as the asterism “θρόνος καισάριος” (“Thronos Caesaris” or “Caesar’s Throne”) in honour of the emperor Augustus in his *Naturalis Historia*. Venetian navigator Alvise Cadamosto made note of the stars of the Southern Cross in 1455, but the first accurate record of them is believed to be that of Portuguese navigator João Faras in 1500, who called it “The Guards” (“Las Guardas” or “Os Guarsas”- see below).

Italian explorer Antonio Pigafetta (1480 – 1531), one of Magellan’s companions, called this constellation “El Crucero”.

The Southern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Crux as a crucifix.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts Crux as a crucifix, but it is not labelled on this chart.

English uranographer Emery Molyneux (d. 1598), and Flemish uranographer Petrus Plancius (1522 – 1662) placed Crux on their globes of the sky in 1592, creating Crux from the stars in the hind legs of Ptolemy’s constellation Centaurus.

Flemish cartographer Jodocus Hondius (1563 – 1612) included Crux on his globe in 1598, labelling it “Cruzero”.

Dutch navigator Frederick de Houtman’s catalogue of fixed stars (1603) lists this constellation as “De Cruzeiro”.

Crux was included in Bayer’s *Uranometria* (1603) and in the same year Dutch navigator Frederick de Houtman (1571 – 1627) first catalogued it separately from Centaurus.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts “El Crusero Hispanis” as a cross.

“Crux” is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch, who also gives the Spanish name “Cruzero”.

Gores for a celestial globe Bibliothèque Nationale de France, Département Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius labels this “Cruzero” and “Pedes Se Tauris” and depicts it as a crucifix.

Robert Hues listed this constellation as “Crusiers” in his *A Learned Treatise of Globes* in 1659 and also gave the Spanish name “Crusero”.

This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as “Cruzero”.

“Crusiers” and “Crosers” are listed by Rear Admiral Sir. John Narborough (1640 - 1688).

Dutch cartographer Frederik de Wit’s *Planisphaerium Coeleste* (1670) labels this constellation “El Crusero”.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, and his *Firmamentum Sobiescianum sive Uranographia* (1690) lists “Crux” and depicts it as a cross.

Dutch uranographer Carel Allard’s *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) labels this constellation “Crux Hisp Crucero”.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley’s pirated catalogue of Flamsteed’s observations of 1712, depicts Crux but does not label it.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts “Crux” as a crucifix.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Crux as a crucifix.

French astronomer Abbé Nicolas Louis de Lacaille’s *Planisphère des Étoiles Ausralea* (1756) depicts “le Croix du Sud” as a crucifix.

French uranographer Gabriel Phillipe de la Hire’s *Planisphere Celeste* (1760) depicts “La Cruzero” as a crucifix.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts “Crucero” as a crucifix.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts “la Croizade” as a crucifix on the southern hemisphere chart and on a later closeup chart as “la Croix du Sud”.

Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists this constellation as ”Creutz” on some charts and “Sūdl Creutz” on others and depicts it as a crucifix.

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts “Crucero” as a cross.

Crux is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801) as “Tkruis”: It is depicted as a cross.

American uranographer William Croswell (1760 – 1834) depicts “Crux the Cross” on his *Mercator Map of the Starry Heavens* in 1810 as a cross.

American uranographer Elijah Burritt's *The Constellations for each Month in the Year* (1835) depicts "Crux the Cross" as a cross.

"Crux" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875): He indicates the borders of this constellation on the chart but offers no illustration of it.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts "Crux" as a crucifix.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this constellation on their charts as "Southern Cross".

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Crux, The Cross" as an official constellation "recognized in the catalogue of the British Association".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Crux" and describes it as the "Cross".

"Crusero" is listed by John Chilmead in 1899 "Crosiers" (by English astronomer Edmund Halley (1656 – 1742)), "Cruzero" (by Portuguese naturalist Cristoval d'Acosta).

In his *Star Names* in 1899, R. H. Allen cites English alchemist and translator Richard Eden (c.1520 – 1576) as naming them the "Cross Stars".

German astronomers call it "Kreuz" and the Italians "Cruce". and the French now call it "Croix", but an earlier French name "Crossiers" ("crossers") has been applied to this constellation,Standard IAU charts depict Crux as a cross made up of the stars Alpha (α) 1 Crucis (Acrux), Beta (β) Crucis (Mimosa), Gamma (γ) Crucis, and Delta (δ) Crucis.

In the 4th millennium B.C.E. Crux would have been visible in northern latitudes but by 400 C.E. they would not have risen above the horizon for most of Europe.

Cryer:

The IAU constellation Boötes has been described with the Latin asterisms "Clamator" ("cryer"), "Clamans" ("crying"), and "Plorans" ("weeping"). This was because some early translators thought the name of this constellation was derived from the old Greek word "Βοητής" or "Voitís" ("clamourous"), transcribed as "Boetes", and believed this to refer to the shouts of a herdsman to his oxen:

- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Clamator" and "Vociferator" as alternate names for Boötes.
- Johann Bayer's *Uranometria* (1603) lists "Clamator", "Vociferator", and "Plorans" as alternate names for this constellation.
- The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch lists "clamans clamator" ("crying cryer") for Boötes.
- Robert Hues lists it as "Clamator" and "Vociferator" in his *A Learned Treatise of Globes* in 1659
- "Clamator" and "Vociferator" are listed by English Admiral Henry William Smyth in his *Bedford Catalogue* in 1844. Smyth also lists "Plorans". Variations include Loud Weeper. Compare this to Shouter, below.

This Polish asterism "Przyczck" is the IAU constellation Boötes.

Crying:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of two stars in the IAU constellation Capricornus: Zeta (ζ) Capricorni (the determinative star) and b Capricorni.

This Chinese xing guan "Kū" (哭) is a line of two stars in the IAU constellation Aquarius: Epsilon (ε) and Mu (μ) Aquarii.

This Chinese Chenzhuo xing guan "Kū" is a line of two stars in the IAU constellation Capricornus: Delta (δ) and Gamma (γ) Capricorni.

Crying Children:

This Salish asterism is the Pleiades cluster in the IAU constellation Taurus.

Crystal Ball Nebula:

This **telescopic** asterism is planetary nebula NGC 1514 in the IAU constellation Taurus. It was discovered by English astronomer William Herschel in 1790 who listed it in his catalogue as "IV 69". It is GC 810 in the *General Catalogue* of 1864. David Knisely of the Prairie Astronomy Club wrote "I like to call NGC 1514 'the Crystal Ball Nebula' as it reminds me of one". It is also known as the Pansy Nebula. RASC member Frankie Sowa posted on Facebook 2023 December 23 that it "looks like a monkey's face". Size 2.2' X 2.2'.

Crystals:

This Thai star "Kaewkosin" is the red dwarf star GJ 3470 in the IAU constellation Cancer. Kaewkosin (แก้วโกสินทร์) refers to the crystals of the Hindu deity Indra. It received this name in the IAU's NameExoWorlds competition in 2022. It is It has an exoplanet GJ 3470b, "Phailinsiam" (ไพลินสยาม), which is the Thai term for the blue "Siamese Sapphire", alluding to the detection of Rayleigh scattering in the planet's atmosphere suggestive of blue skies.

Cú Chulainn:

This Celtic (Irish) asterism is the IAU constellation Canis Major (Mosenkis, N/K date). Cú Chulainn was a warrior hero whose name means "hound of Culann". Cú Chulainn was invited to Culann's feast, but Culann forgot and left his guard dog out. Cú Chulainn arrived and had to slay Culann's hound in self-defense and offered to take over the task of guarding Culann's holding in reparation, which is how he got this name.

In *The Myth of the Year*, Benigni, Carter and Ua Cuinn (2003) connect the Irish Celtic warrior hero to the IAU constellation Orion. The three stars of Orion's belt are heads of his enemies, and his hounds (Canis Major and Canis Minor) are accompanying him. This asterism is also found in Julie Ormonde's *Constellation Stories of Ancient Ireland* (2015).

Cú Chulainn and Ferdiad Forever Friends:

This Irish asterism is the IAU constellation Gemini. This asterism is found in Julie Ormonde's *Constellation Stories of Ancient Ireland* (2015). Ferdiad was a warrior of Connacht in the Ulster Cycle of Irish mythology.

Cú Roí:

This Celtic (Irish) asterism is the IAU constellation Canis Minor (Mosenkis, date N/K). Cú Roí, whose name means 'hound of the plain/field" who appears in several Irish texts and is depicted as a challenger of Cú Chulainn. Compare this to Hound, below.

Cube:

This Estonian asterism "Kubel" is made up of stars of the IAU constellation Cepheus: Alpha () Cephei (Alderamin), Zeta () Cephei, Iota () Cephei, and Beta () Cephei (Alfirk). It is found on the *Taeiva Kaart* of Estonian cartographer Ado Grenzstein (1886) which was created for the Estonian language *Olevik* newspaper and printed using the wood engraving technique.

Cubeccos:

This Celtic (Gaulish) star is Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor (Boutet 2017).

Cubit of the Nile:

This Coptic lunar mansion "Pi-Mahi" is the stars Gamma (γ) and Delta (δ) Cancri in the IAU constellation Cancer. Compare this to the Arabic and Bedouin manzil "Al-Nuthrah (see Tip of the Nose of the Lion, below).W. B. Yeats listed it in *A Vision* in 1917, taking this from German Jesuit astronomer Athanasius Kircher's *Lingua Aegyptiaca Restituta* in 1636, where it was described as "cubitus Leonis" ("Leo's elbows") and "cubutis (Nili)" ("elbow of the Nile"). Compare this to Elbow of the Nile, below.

Cucumber of Ursa Major:

This **telescopic** asterism "Cúcumis Úrsae Majóris" is the edge-on barred spiral galaxy NGC 4010 in the IAU constellation Ursa Major. It was discovered in 1830 by John Herschel who listed it as h 1040 and later as GC 2651 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Cudgel Bearer:

This Greek asterism "Κορυνήτης" ("Korynítis") or "Κορυνηφόρος" ("Korynifóros"), which translates as "club bearer" or "cudgel bearer" is the IAU constellation Hercules:

- Variations include "Korneforos" and "Korenephoros".
- American uranographer Elijah Burritt (1794 – 1838) listed it as "Kornephorus".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Korneforos" for Beta (β) Herculis.
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists Beta (β) Herculis as "Korneforus".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list "Kornephoros" for this star.
- The IAU approved the name Kornephoros for the star Beta (β) Herculis Aa.

This Latin asterism "Clavator" or "Claviger" is the IAU constellation Hercules as listed by Edward Sherburne in his *Sphere of Marcus Manlius* in 1675.

Cudgels:

This Bulgarian asterism is a five-sided figure in the IAU constellation Orion. It starts at Nu (ν) Orionis and runs around through Xi (ξ) Orionis, 69 Orionis, Chi (χ) 2 and Chi (χ) 1 Orionis. This is also known as Orion's Cudgel (see below), Grandmother's Cudgels (see below) and the Bent Stick (see above).

Cujam:

See Club, above.

Cultivation Area:

This Inca asterism "Chacra" is the IAU constellation Orion (Gamarra & Gamarra 2009). Bucur (2022) lists it as "farm".

Cumaros:

This Celtic (Gaulish) star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Boutet 2017).

Cumulative Corpse Gas:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty located inside their lunar mansion Ghosts (see below) is the Beehive Cluster, Messier 44 (see Beehive, above). It later became Cumulative Corpses (see below).

Cumulative Corpses:

This Chinese xing guan "Jīshī" (积尸), located inside their lunar mansion Ghosts (see below) is the Beehive Cluster, Messier 44 (see Beehive, above). In earlier Chinese sky lore it was known as Cumulative Corpse Gas (see above).

This Chinese Chenzhuo xing guan "Jishi" is the open cluster Messier 44 (NGC 2632) in the IAU constellation Cancer. It is inside their xing guan Cabin Ghosts.

Cup:

This Arabic star "al-Ka's" (الكأس) or "Al Kās", later latinized to "Alkes", is Alpha (α) Crateris in the IAU constellation Crater":

- Other variations include "Alkis", "Alker", or "Alhas" and "Alhes" (in the 15th century *Alfonsine Tables*- Kunitzsch 1986).
- Johann Bayer's *Uranometria* (1603) lists "Alhes", "Alkes", and "Alches".
- The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch lists "Elkes", "Alches", and "Alkaso".
- Robert Hues lists it as "Elkis" in his *A Learned Treatise of Globes* in 1659.
- John Hill lists it in his *Urania* in 1754 as "Alkas".
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Alkes".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Alkes…the shallow basin".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Alkes".

- In his *Star Names* in 1899, R. H. Allen translates it as “shallow basin” and states that it was originally a name for the entire constellation but goes on to say that it is “generally applied to the star α”.
- The 1st edition (1910) and the 14th edition of British schoolmaster Arthur P. Norton’s *A Star Atlas* (1959) list “Alkes” for this star.
- The IAU approved the name Alkes for the star Alpha (α) Crateris.

This Hebrew asterism “כוס”, listed in medieval manuscripts as “Kus” or “Kos” or “Cyathus”, is the IAU constellation Crater. John Hill lists it as “Kos” and “Kus” in his *Urania* in 1754 but translates it as “glass”. R. H. Allen lists it as “Cōs” in his *Star Names* in 1899.

This French asterism “Coupe” is the IAU constellation Crater.

This Latin asterism “Calix” or “Poculum” (“cup”) or “Scyphus” (“the cup”) is the IAU constellation Crater. The Romans made this the cup of Apollo, Bacchus, Hercules, Achilles, Dido, Demophoön, and Medea.

- Johann Bayer’s *Uranometria* (1603) lists “Calix” and “Poculum”.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Calix” and “Poculum” as alternate names for Crater.

This English asterism is the IAU constellation Crater as listed in John Hill’s *Urania* in 1754.

This German asterism “Becher” is the IAU constellation Crater as depicted in the *Nördliche Sternhimmel* sky map of O. S. Reuters based on the work of German astronomer Johann Elert Bode (1747 – 1826).

This Belarussian asterism “Chasha” is the IAU constellation Ursa Major (Avilin 2009).

This Estonian asterism “Karjus” is the IAU constellation Boötes and appears in the *Sky of Ests (Chudes)* by Aleksander Heintalu (Sass of Vigala) (Kuperjanov 2006).

This asterism is the IAU constellation Capricorn as renamed by the Unitarian Universalist Hysterical Society in 2024 on their Facebook page.

There are two **telescopic** “Cup” asterisms:

- One is Sánta 94, listed in 2007 by Hungarian astronomer Sánta Gábor, is a curve of 9th – 13th magnitude stars in the IAU constellation Taurus. Gábor describes it as “nice cup form asterism.
- One is “Cýathus Cassiopéiae” (“Cup of Cassiopeia”), the interacting galaxies PGC 3183 in the IAU constellation Cassiopeia. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Cup and Spoon:

This **telescopic** asterism is Vastagh 9, listed in 2009 by Hungarian astronomer László Vastagh, which is in the IAU constellation Cygnus. Its apparent diameter is 38’. Vastagh describes this as “Eight bright stars pattern a cup shape. Next to the cup is a small spoon, courtesy of three bright stars… a total of almost 50 stars are visible. The sugar in the cup must have spilled… A single red star is visible on the left wall of the cup. his could mean the sample, on drinking suitability.” NOTE: Vastagh observed this on his birthday in 2009, 20 July.

Cup Bearer:

This French asterism "Pocillator" is the asterism Antinous (see Antinous, above) in the IAU constellation Aquila as listed by French astronomer Joseph Jérôme Lefrançois de Lalande (1732 – 1807).

Cup of Christ's Passion:

This German asterism is the IAU constellation Crater as described by German poet Philipp von Zesen (1619 – 1689).

Cupped Hand:

This K'iche' asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Milbrath 1999).

Cupunika:

This Vedic star from the *Taittiriya Brahmana* is 19 Tauri (Taygeta) in the IAU constellation Taurus (Leitz 2019). It is part of their asterism Krttika (see Cutters, below).NOTE: Leitz listed 7 Vedic names of stars in Krttika and then a corresponding list of only 6 modern names. I'm making an educated guess that this last star on his list is Taygeta.

Curassow Bird:

This Carib asterism "Wokoyuman" or "Woko" is made up of stars of the IAU constellation Crux. The southern cross asterism represents a Paui bird resting in a tree (Magaña, and Jara, 1982).

Curl of Cetus:

This **telescopic** asterism "Cincínnus Céti" is the barred spiral galaxy NGC 945 in the IAU constellation Cetus. It was discovered in 1785 by William Herschel who listed it as "II 487". It became GC 547 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). They gave it this name due to its "gracefully curved arms".

Curls:

This Latin star "Cirros" or "Cirrus" ("curls" or "forelock") is Alpha (α) Cancri (Acubens) in the IAU constellation Cancer as listed by Pliny the Elder (23 – 79 C.E.) in his *Naturalis Historia*. This suggests a connection with the Arabic asterism Lion (see below) as this is situated where that part of their asterism would be.

Curls of Lynx:

This **telescopic** asterism "Cirrátus Lýncis" is the barred spiral galaxy NGC 2543 (IC 2232) in the IAU constellation Lynx. This was discovered in 1788 by William Herschel who listed it as "II 719" and appeared as GC 1633 in the General Catalogue of 1864, subsequently being catalogued as NGC 2543. French astronomer Stéphane Javelle observed it in 1896 and catalogued it as IC 2232. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name due to its "low surface brightness and faint absolute magnitude".

Curly One of Virgo:

This **telescopic** asterism “Cincinnáta Vírginis” is the interacting spiral galaxy NGC 5300 in the IAU constellation Virgo. William Herschel listed this as “II 533”. John Herschel listed this as h 1669 and later as GC 3655 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of “the many curled spiral arms at the eastern side”.

Cursa:

See Footstool of Al-Jawza, below.

Curve:

This Suku Bali asterism “Bengkongor” is the IAU constellation Aries.

Curved:

This Latin asterism “Curvus” is the IAU constellation Delphinus as described by Roman statesman Marcus Tullius Cicero (106 – 43 B.C.E.). German astronomer Johann Bayer (1572-1625) listed the name “Currus” (“chariot”), but this is believed to be a typographical error, because Bayer also explained “Ciceroni ob gibbum in dorso” (“Cicero because of the hump in the back”).

This Kiribati star “Rabi” is an unidentified star in the IAU constellation Auriga (Trussel and Groves 1978).

Curved Array:

This Chinese xing guan “Gōuchén” (勾陈) is a line of stars in the IAU constellation Ursa Minor. The line roughly forms the shape of a question mark or a “dipper” with the dipper at the Polaris end of Ursa Minor: HIP 113116, 2 Ursae Minoris, Alpha (α) Ursae Minoris (Polaris), Delta (δ) Ursae Minoris, Epsilon (ε) Ursae Minoris, and Zeta (ζ) Ursae Minoris. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Gōuchén” is a hooked line of stars in the IAU constellations Cepheus and Ursa Minor: Starting at Zeta (ζ) Ursa Minoris it runs through Epsilon (ε) Ursae Minoris, Delta (δ) Ursae Minoris, Alpha (α) Ursae Minoris (Polaris), and HIP 16489 to HIP 4283.

Curved Arrow:

This **telescopic** asterism from *Pattern Asterisms* by American astronomer John A. Chiravalle is an arrow with a curved shaft found in the constellation Coma Berenices 1.5 degrees south of the star 35 Comae Berenices. Three stars (HIP 62769, 62724 and 62783A) form the triangular arrowhead and the curving line of stars that form the “shaft” include the stars HIP 62904, 63043, and 63068. Size 120’ X 70’.

Curved Knife:

This **telescopic** asterism is the cluster Berkeley 82 in the IAU constellation Aquila. Size 4’ X 4’. René Merting describes it on the *Faint Fuzzies* website: “At 40X… the brightest members form a crooked line, which with a little imagination resembles a curved knife.”

Curved of Capricornus:

This **telescopic** asterism “Curvátus Capricórni” is the grand design spiral galaxy NGC 6907 in the IAU constellation Capricornus. It was discovered by English astronomer William Herschel in July 1784 who listed it as “III 141”. It is GC 4573 in the *General Catalogue* of 1864. This name appears in *The Catalogue*

of One Thousand Named Galaxies by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the S-shaped curve of this galaxy".

Curved of Virgo:

This **telescopic** asterism "Scólius Vírginis" is the barred spiral galaxy NGC 4241 in the IAU constellation Virgo. It was discovered in 1785 by William Herschel who listed it as "III 480". It became GC 2829 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name due to the lack of active star formation. NOTE: This was also observed by German astronomer Arnold Schwassmann in 1899 and entered in the Index Catalogue as IC 3115.

Curved Staff of Cancer:

This **telescopic** asterism "Lítuus Cáncri" is the spiral galaxy IC 2421 in the IAU constellation Puppis. It was discovered by Stéphane Javelle in 1896. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the elegant widening spiral arms have almost exactly the form of the mathematical lituus curve, a kind of Archimedean spiral".

Curving Cascade:

There are seven "curving cascade" asterisms:

- One is in the IAU constellation Leo Minor and is Corder 2061 on the observing list of American astronomer Jeffrey Corder. Size 480'. This starts at 44 Leonis Minoris and runs through 43, 42, RX, and 37 Leonis Minoris, ending at 33 Leonis Minoris.
- This asterism is in the IAU constellation Lupus and is Corder 2890 on the observing list of American astronomer Jeffrey Corder. Size 420' X 240'. This is eight stars including d, e, g, k1, Lambda (λ), Pi (π) and Epsilon (ε) Lupi and HIP 76397.
- This asterism One is in the IAU constellation Ophiuchus and is Corder 3261 on the observing list of American astronomer Jeffrey Corder. Size 240' X 40'. This is 36, 44, 51, and Theta (θ) Ophiuchi.
- One is in the IAU constellation Vulpecula and is Corder 4231 on the observing list of American astronomer Jeffrey Corder. Size 420' X 90'. This is 28, 29, 30, 31, and 32 Vulpeculae.
- One is in the IAU constellation Capricornus and is Corder 4419 on the observing list of American astronomer Jeffrey Corder. Size 125' X 25'. This is five 3rd – 5th magnitude stars including 33, 35, 36, and Zeta (ζ) Capricorni and HIP 105853.
- One is in the IAU constellation Aquarius and is Corder 4898 on the observing list of American astronomer Jeffrey Corder. Size 140' X 30'. This is four 3rd – 6th magnitude stars including 98, 99, 100, and 101 Aquarii.

There are 296 **telescopic** "curving cascade" asterisms:

- One is the open cluster NGC 1790 in the IAU constellation Auriga. René Merting describes it on the Faint Fuzzies website: "A star trail leads westwards from a medium-bright star, it is slightly curved towards the north - the brightness increases slightly towards the northwest - overall it is hardly noticeable".

- One is Sánta 146, listed in 2009 by Hungarian astronomer Sánta Gábor, which is described by Gábor as "a dense curve of stars, 9 – 13 [magnitude] along NNW – SSW… at the W end of Sánta 6". This is in the IAU constellation Gemini and includes the star HD 252102.
- One is Sánta 71, listed in 2007 by Hungarian astronomer Sánta Gábor, which is described by Gábor as a "tiny curve of 10 – 11 [stars]" in the IAU constellation Canis Major. Hungarian astronomer Gábor János Kernya lists this as Kernya 33. This includes Gaia DR3 3044491901400313600, Gaia DR3 3044491248568251904, Gaia DR3 3044489702376965376, and Gaia DR3 3044474618451871872.
- One is Sánta 139, listed in 2007 by Hungarian astronomer Sánta Gábor, which is described by Gábor as a "nice curve" in the IAU constellation Libra. Includes Gaia DR3 4418422527447054208, HIP 74106, Gaia DR3 4418425001348218112, HD 134135.
- One is Sánta 135, listed in 2008 by Hungarian astronomer Sánta Gábor, which is described by Gábor as an "arc of 6 stars, 7 – 10 [magnitude]" in the IAU constellation Aquarius: HD 220605, HD 220533, HIP 115526, HIP 115505.
- One is Cseh 4, listed in the asterism list of Hungarian astronomer Viktor Cseh, which is in the IAU constellation Ursa Major. It is described as "a small cascade formed by 9 – 10 magnitude stars, approximately 30 arcminutes long: Gaia DR3 1709526008921904384, SAO 2721, SAO 2725, SAO 2729, Gaia DR3 1710287416422819020 8, Gaia DR3 1710292231087898240.
- One is Cseh 24, listed in the asterism list of Hungarian astronomer Viktor Cseh, which is in the IAU constellation Mensa. Cseh describes it as "loosely arc shaped group of stars. Although it has only 5 members, it is very striking, clearly visible." This is HD 59398, HD 59553, HD 59796, and Gaia DR3 5211488376093233408.
- One is Cseh 47, listed in the asterism list of Hungarian astronomer Viktor Cseh, which is an arc of five stars of 10^{th} – 14^{th} magnitude in the IAU constellation Microscopium. Includes Gaia DR3 6799033907899397248.
- One is Kernya 19, listed by Hungarian astronomer Gábor János Kernya, which is a line of 8.5 – 11.5 magnitude stars in the IAU constellation Sextans: HD 47588, HD 84061, HD 84062, HD 84080, HIP 47630.
- One is a chain of stars in the IAU constellation Pegasus and is Corder 15 on the observing list of Jeffrey Corder. It is a curving arc of ten stars, magnitudes 6.5 to 10, with HIP 258 and HIP 324 at the north end and HIP 503 and the double star HIP 451 at the other. Size 90'X 25'.
- One is a chain of stars in the IAU constellation Pegasus and is Corder 32 on the observing list of Jeffrey Corder. This is an arc of six stars, magnitudes 7 to 9.5. This starts at HIP 836 at one end and HIP 860 is close to the other end.
- One is in the IAU constellation Cetus and is Corder 359 on the observing list of American astronomer Jeffrey Corder. Size 60' X 30'. This line of five stars includes HIP 10723, 10664, 10600, and 10631.
- One is in the IAU constellation Cassiopeia and is Corder 432 on the observing list of American astronomer Jeffrey Corder. Size 45'. This is an arc of stars of magnitude 7.5 to 8.5 including the double star HIP 12972A at one end as well as HIP 13022 and 13151.
- One is in the IAU constellation Camelopardalis and is Corder 558 on the observing list of American astronomer Jeffrey Corder. Size 60'. Corder describes this as "a deep art of 9 stars, magnitudes 7 to 9." This includes HIP 17083, 17075, 17008, and 16749.

- One is in the IAU constellation Auriga and is Corder 803 on the observing list of American astronomer Jeffrey Corder. Size 20' X 10'. Corder describes it as an "arc of five almost equal stars that are 10th magnitude." These are Gaia DR3 201293336075636480, 201290656016062464, 201102708244994176, 201101505654167808 and 201100818459429504.
- One is in the IAU constellation Taurus and is Corder 808 on the observing list of American astronomer Jeffrey Corder. Size 80' X 60'. Corder describes this as "an arc of 8 taint stars of 9th and 10th magnitude. The brightest star is at the southern end of the arc, which has a major axis pointing north-south. There is a triangle of three 10th magnitude stars at the north end." The triangle of stars is HIP 23606, HD 32461, and HIP 23645
- One is in the IAU constellation Auriga and is Corder 818 on the observing list of American astronomer Jeffrey Corder. Size 50' X 25'. This includes HIP 24738, Rho (ρ) Aurigae, HIP 25143, the double star HIP 24902A, HIP 24771, Lambda (λ) Aurigae, and Mu (μ) Aurigae.
- One is in the IAU constellation Orion and is Corder 819 on the observing list of American astronomer Jeffrey Corder. Size 40'. This is a curved group of 8th – 9th magnitude stars including HIP 24330.
- One is in the IAU constellation Auriga and is Corder 821 on the observing list of American astronomer Jeffrey Corder. Size 60' X 20'. This is a chain of stars of 7th – 10th magnitude including HIP 24662 and 24388.
- One is in the IAU constellation Orion and is Corder 926 on the observing list of American astronomer Jeffrey Corder. Size 30' X 10'. This is five 8th magnitude stars including HIP 27216 and the double star HIP 27258A.
- One is in the IAU constellation Orion and is Corder 952 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is an arc of seven stars between magnitude 6.5 and 10, including HIP 27839 and 27751.
- One is in the IAU constellation Orion and is Corder 957 on the observing list of American astronomer Jeffrey Corder. Size 35' X 20'. This is five stars between magnitude 7.5 and 9, including HIP 27919.
- One is in the IAU constellation Auriga and is Corder 971 on the observing list of American astronomer Jeffrey Corder. Size 55'. This is five stars between magnitude 7 – 9 including HIP 28354, 28131 and 28152.
- One is in the IAU constellation Auriga and is Corder 972 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is six stars between magnitude 8.5 to 11: HD 39658, HD 233183, Gaia DR3 2644838155063683 84, Gaia DR3 2644848119387797 76, Gaia DR3 2644880073942927 36, and Gaia DR3 2644992086697832 96.
- One is in the IAU constellation Orion and is Corder 980 on the observing list of American astronomer Jeffrey Corder. Size 40'. This is five stars between magnitude 7.5 to 9 including HIP 28398, 28414, and 28337.
- One is in the IAU constellation Orion and is Corder 1023 on the observing list of American astronomer Jeffrey Corder. Size 8'. This is an arc of four 8th magnitude stars including HIP 29253.
- One is in the IAU constellation Orion and is Corder 1047 on the observing list of American astronomer Jeffrey Corder. Size 65' X 25'. This is an arc of seven stars between 5th – 8th magnitude starting at the double star 71 Orionis and including HIP 29775, 29856, with the double star HIP 29731 at the other end. NOTE: Corder describes this as five stars, but I count seven.

- One is in the IAU constellation Orion and is Corder 1051 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is an arc of eight stars of magnitude 8.5 to 10 including the double star HIP 29770A.
- One is in the IAU constellation Lynx and is Corder 1080 on the observing list of American astronomer Jeffrey Corder. Size 70' X 20'. This is a chain of stars between 4^{th} – 7^{th} magnitude including 1, 2, and 4 Lyncis, and HIP 30491, 30458, and 30275.
- One is in the IAU constellation Monoceros and is Corder 1090 on the observing list of American astronomer Jeffrey Corder. Size 25' X 15'. This is an arc of four 6^{th} – 7^{th} magnitude stars including HIP 30602, 30552, and 30492.
- One is in the IAU constellation Auriga and is Corder 1138 on the observing list of American astronomer Jeffrey Corder. Size 30'. Corder describes this as a "faint, curving chain of seven stars of magnitude 9 to 10." This is HIP 31484, Gaia DR3 965476045046260992, HD 46357, HD 46398, HD 46551, and HD 31684
- One is in the IAU constellation Gemini and is Corder 1241 on the observing list of American astronomer Jeffrey Corder. Size 35'. This is seven stars between 7^{th} – 8^{th} magnitude including HIP 33855, 33893, 33921, and 34061.
- One is in the IAU constellation Gemini and is Corder 1411 on the observing list of American astronomer Jeffrey Corder. Size 45'. This is six stars of 8^{th} – 9^{th} magnitude including the double star HIP 37769.
- One is in the IAU constellation Gemini and is Corder 1478 on the observing list of American astronomer Jeffrey Corder. Size 25'. Ten stars between magnitudes 8.5 and 10 including HIP 38992, 39058, and 39096.
- One is in the IAU constellation Lynx and is Corder 1570 on the observing list of American astronomer Jeffrey Corder. Size 90' X 20'. This is an arc of four 5^{th} – 6^{th} magnitude stars including HIP 41152, 40878, 40677, and 40599.
- One is in the IAU constellation Hydra and is Corder 1589 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is four stars between 8^{th} - 9^{th} magnitude: HD 70595, SAO 116701, HD 70666, and Gaia DR3 3093002972886494464.
- One is in the IAU constellation Ursa Major and is Corder 1610 on the observing list of American astronomer Jeffrey Corder. Size 55' X 20'. This is a chain of six 8^{th} – 9^{th} magnitude stars: HIP 41180, HD 70663, HD 70877, SAO 14561, HD 70823, and HD 70625.
- One is in the IAU constellation Cancer and is Corder 1717 on the observing list of American astronomer Jeffrey Corder. Size 40' X 20'. This is five stars starting at the double star 57 Cancri and includes HIP 43732, 43616, and 43549.
- One is in the IAU constellation Ursa Major and is Corder 1754 on the observing list of American astronomer Jeffrey Corder. Size 45' X 30'. This is seven 7^{th} – 9^{th} magnitude stars including HIP 44830, HIP 44744, and the double star HIP 44727.
- One is in the IAU constellation Leo Minor and is Corder 1860 on the observing list of American astronomer Jeffrey Corder. Size 35'. This is HIP 46749 and 9, 10, and 11 Leonis Minoris.
- One is in the IAU constellation Leo and is Corder 1872 on the observing list of American astronomer Jeffrey Corder. Size 45' X 15'. This is seven 7.5 – 9.5 magnitude stars including HIP 47323 and 46938.

- One is in the IAU constellation Camelopardalis and is Corder 1902 on the observing list of American astronomer Jeffrey Corder. Size 45' X 20'. This is five 7th – 8th magnitude stars including HIP 48154 and 48236.
- One is in the IAU constellation Ursa Major and is Corder 1914 on the observing list of American astronomer Jeffrey Corder. Size 40' X 20'. This is five 7th – 9th magnitude stars including HIP 48314 and the double star HIP 48271.
- One is in the IAU constellation Ursa Major and is Corder 1935 on the observing list of American astronomer Jeffrey Corder. Size 65' X 20'. This is six 5th – 9th magnitude stars including HIP 49408, 49437, 49452, 49415, and the double stars HIP 49253 and 49224A.
- One is in the IAU constellation Ursa Major and is Corder 1941 on the observing list of American astronomer Jeffrey Corder. Size 50' X 25'. This is seven 8th – 11th magnitude stars including HIP 49263 and 49197.
- One is in the IAU constellation Leo Minor and is Corder 1956 on the observing list of American astronomer Jeffrey Corder. Size 55' X 30'. This is eight 7th – 10th magnitude stars including HIP 49680.
- One is in the IAU constellation Leo Minor and is Corder 1983 on the observing list of American astronomer Jeffrey Corder. Size 20 X 10'. This is four 8th – 9th magnitude stars including HIP 89054 and 50374.
- One is in the IAU constellation Leo and is Corder 2032 on the observing list of American astronomer Jeffrey Corder. Size 90' X 30'. This is seven 7th – 9th magnitude stars including HIP 51663, 51562, 51550, 51513, 51377, and the double star HIP 51591A.
- One is in the IAU constellation Ursa Major and is Corder 2037 on the observing list of American astronomer Jeffrey Corder. Size 80' X 30'. This includes 32, 35, and 38 Ursae Majoris and HIP 50933, 52577, 52338, 52425, 53275, and 54038.
- One is in the IAU constellation Ursa Major and Leo Minor and on the observing list of American astronomer John Raymond, who calls it "46-46". It is Corder 2091 on the observing list of American astronomer Jeffrey Corder. Size 90' X 45'. This includes the stars 46 Ursae Majoris, 47 Leonis Minoris, HIP 53305, and Omicron (o) Leonis Minoris (46 Leonis Minoris).
- One is in the IAU constellation Ursa Major and is Corder 2154 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is four 8th – 9th magnitude stars including HIP 54964.
- One is in the IAU constellation Leo and is Corder 2159 on the observing list of American astronomer Jeffrey Corder. Size 90' X 35'. This is five stars including the double star Eta (η) Leonis, HIP 55033, 55029, 55167, and 55209.
- One is in the IAU constellation Leo and is Corder 2172 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is four 8th – 9th magnitude stars including HIP 55496.
- One is in the IAU constellation Draco and is Corder 2200 on the observing list of American astronomer Jeffrey Corder. Size 35' X 25'. This is five 8th – 9th magnitude stars including HIP 56298 and 56349.
- One is in the IAU constellation Leo and is Corder 2265 on the observing list of American astronomer Jeffrey Corder. Size 75' X 45'. This is six 7th – 8th magnitude stars including HIP 58359, 58221, 58069, 57932, 57941, and the double star HIP 58006.
- One is in the IAU constellation Ursa Major and is Corder 2272 on the observing list of American astronomer Jeffrey Corder. Size 55' X 25'. This is an arc of five 6th – 8th magnitude stars including HIP 58003, 58193, 58287, 58277, and the double star HIP 58261A.

- One is in the IAU constellation Ursa Major and is Corder 2279 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is four 5th -9th magnitude stars including HIP 58698 and the double stars HIP 58648A, HIP 58708, and 67 Ursae Majoris.
- One is in the IAU constellation Ursa Major and is Corder 2293 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is five 9th – 10th magnitude stars including HIP 59020 and 58994.
- One is in the IAU constellation Tucana and is Corder 20 on the observing list of American astronomer Jeffrey Corder. Size 30'. This is four 8th magnitude stars including HIP 407, 372, 409, and 558.
- One is in the IAU constellation Phoenix and is Corder 49 on the observing list of American astronomer Jeffrey Corder. Size 50' X 30', This is six 8th – 10th magnitude stars including HIP 1331, 1728, 2017, 2184, and the double stars HIP 724, 1072, and 2237A.
- One is in the IAU constellation Tucana and is Corder 90 on the observing list of American astronomer Jeffrey Corder. Size 35' X 15'. This is four 8th – 9th magnitude stars including HIP 1764 and 2013, and the double stars HIP 1876 and 2111.
- One is in the IAU constellation Tucana and Hydrus and is Corder 149 on the observing list of American astronomer Jeffrey Corder. Size 65' X 25'. This is four stars including Lambda (λ) Hydri, HIP 4062, 4157, and 4291. NOTE: Corder lists Lambda (λ) Hydri as "Gamma Tucana".
- One is in the IAU constellation Hydrus and is Corder 164 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is five 8th – 11th magnitude stars including the double star HIP 4638A.
- One is in the IAU constellation Octans and is Corder 268 on the observing list of American astronomer Jeffrey Corder. Size 65' X 25'. This is six 6th – 9th magnitude stars including HIP 8291 and 7637 and the double stars HIP 7601 and HIP 8018A.
- One is in the IAU constellation Hydrus and is Corder 281 on the observing list of American astronomer Jeffrey Corder. Size 60'. This is nine mostly 8th – 9th magnitude stars including Tau (τ) 2 Hydri (6th magnitude), HIP 7958, and 8419.
- One is in the IAU constellation Phoenix and is Corder 342 on the observing list of American astronomer Jeffrey Corder. Size 70' X 25'. This is seven 6th – 8th magnitude stars including HIP 10254, 10278, 10205, 10133, 10018, and 9970.
- One is in the IAU constellation Fornax and is Corder 413 on the observing list of American astronomer Jeffrey Corder. Size 120' X 45'. This is an arc of five stars including HIP 12435, HIP 11979, the double star HIP 11917, and Iota (ι) 1 and 2 Fornacis.
- One is in the IAU constellation Fornax and is Corder 474 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is six 8th – 10th magnitude stars including HIP 14122, and 14100.
- One is in the IAU constellation Eridanus and is Corder 602 on the observing list of American astronomer Jeffrey Corder. Size 180' X 40'. This is Tau (τ) 6, 7, 8, and 9 Eridani.
- One is in the IAU constellation Eridanus and is Corder 637 on the observing list of American astronomer Jeffrey Corder. Size 45'. This is four 7th – 8th magnitude stars and one 9th magnitude star including HIP 19360, 19375, 19421, and the double star HIP 19414.
- One is in the IAU constellation Eridanus and is Corder 652 on the observing list of American astronomer Jeffrey Corder. Size 40' X 20'. This is four 6th – 8th magnitude stars including HIP 19856, 19839, 19820, and 19752.

- One is in the IAU constellation Eridanus and is Corder 675 on the observing list of American astronomer Jeffrey Corder. Size 60' X 35'. This is six 8th – 9th magnitude stars including HIP 20524, 20398, 20289, and the double star HIP 20613.
- One is in the IAU constellation Caelum and is Corder 689 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is eight 8th – 10th magnitude stars including HIP 20929.
- One is in the IAU constellation Reticulum and is Corder 697 on the observing list of American astronomer Jeffrey Corder. Size 6'. This is four 8th magnitude stars including HIP 21184 and 21150.
- One is in the IAU constellation Caelum and is Corder 746 on the observing list of American astronomer Jeffrey Corder. Size 75' X 25'. This is ten 6th – 10th magnitude stars including HIP 22674, 22430, 22437, 22397, and the double stars HIP 22551, 22411A, 22389, and 22488.
- One is in the IAU constellation Lepus and is Corder 778 on the observing list of American astronomer Jeffrey Corder. Size 45'. This is four 8th magnitude stars including HIP 23237.
- One is in the IAU constellation Orion and is Corder 795 on the observing list of American astronomer Jeffrey Corder. Size 30' X 15'. This is seven 7th – 9th magnitude stars ending at the reflection nebula NGC 1788. This includes HIP 23819, 23745, and 23661.
- One is in the IAU constellation Lepus and is Corder 988 on the observing list of American astronomer Jeffrey Corder. Size 4'. This is four 8th – 9th magnitude stars: Gaia DR3 2998862100122114432, HD 40659, HD 40619, and Gaia DR3 2998854708480814208.
- One is in the IAU constellation Columba and is Corder 999 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is four 8th – 9th magnitude stars including HIP 28635 and 28611.
- One is in the IAU constellation Orion and is Corder 1024 on the observing list of American astronomer Jeffrey Corder. Size 6'. This is four 8th – 9th magnitude stars including HIP 29253.
- One is in the IAU constellation Canis Major and is Corder 1064 on the observing list of American astronomer Jeffrey Corder. Size 40' X 15'. This is nine 9th – 10th magnitude stars including HIP 29819.
- One is in the IAU constellations Canis Major and Columba and is Corder 1065 on the observing list of American astronomer Jeffrey Corder. Size 350' X 90'. This includes HIP 31688, HIP 31362, Lambda (λ) Canis Majoris, Delta (δ) Columbae, HIP 30143, HIP 30059, and Kappa (κ) Columbae.
- One is in the IAU constellation Monoceros and is Corder 1213 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is four 7th – 8th magnitude stars including HIP 33395, 33405, 33381, and 33361.
- One is in the IAU constellation Monoceros and is Corder 1219 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is five 8th – 9th magnitude stars including HIP 33602.
- One is in the IAU constellation Canis Major and is Corder 1293 on the observing list of American astronomer Jeffrey Corder. Size 40' X 20'. This is eight 8th – 9th magnitude stars including HIP 34989.
- One is in the IAU constellation Puppis and is Corder 1296 on the observing list of American astronomer Jeffrey Corder. Size 25' X 15'. This is six 4th – 9th magnitude stars including HIP 35096, 34958, and 34921 and the double star HIP 35020.
- One is in the IAU constellation Puppis and is Corder 1307 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is seven 7th – 10th magnitude stars including HIP 35114, 35147, 35376, and the double star HIP 35090.

- One is in the IAU constellation Monoceros and is Corder 1315 on the observing list of American astronomer Jeffrey Corder. Size 25' X 15'. This is eight 7th – 9th magnitude stars including HIP 35561, 35642, and 35707 and the double star HIP 35594A.
- One is in the IAU constellation Mensa and is Corder 1321 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is four 10th magnitude stars in a short curve: Gaia DR3 5211488376093233408, HD 59796, HD 59553, and HD 59398.
- One is in the IAU constellation Canis Major and is Corder 1337 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is five 7th – 8th magnitude stars including HIP 36101 and the double star HIP 35997A.
- One is in the IAU constellation Puppis and is Corder 1423 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is seven 7th – 9th magnitude stars including HIP 37907 and the double star HIP 37954A.
- One is in the IAU constellation Puppis and is Corder 1430 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is five 3rd – 9th magnitude stars including the double star Xi (ξ) Puppis, 188 Puppis, and HIP 38134.
- One is in the IAU constellation Puppis and is Corder 1439 on the observing list of American astronomer Jeffrey Corder. Size 30'. This is four 5th – 8th magnitude stars including 9 Puppis, HIP 38436, and the double star HIP 38493.
- One is in the IAU constellation Puppis and is Corder 1444 on the observing list of American astronomer Jeffrey Corder. Size 50' X 30'. This is five 7th – 10th magnitude stars including HIP 38652, 38629, and the double star HIP 38395A.
- One is in the IAU constellation Volans and is Corder 1473 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is four 8th – 9th magnitude stars including HIP 38809.
- One is in the IAU constellation Hydra and is Corder 1539 on the observing list of American astronomer Jeffrey Corder. Size 45'. This is seven 7th – 9th magnitude stars including HIP 40281 and 40468 and the double star HIP 40419.
- One is in the IAU constellation Puppis and is Corder 1542 on the observing list of American astronomer Jeffrey Corder. Size 60-' X 30'. This is five 6th – 7th magnitude stars including HIP 40307, 40344, 40485, and 40639, and the double star HIP 40407.
- One is in the IAU constellation Puppis and is Corder 1590 on the observing list of American astronomer Jeffrey Corder. Size 140' X 45'. This is five 5th – 6th magnitude stars including 22 Puppis, HIP 41395, 41255, 40822, and the double star HIP 40693.
- One is in the IAU constellation Carina and is Corder 1602 on the observing list of American astronomer Jeffrey Corder. Size 40'. This is five 6th – 7th magnitude stars including HIP 41223 and the double stars HIP 41285, 41266A, and 41147.
- One is in the IAU constellation Puppis and is Corder 1608 on the observing list of American astronomer Jeffrey Corder. Size 35'. This is five 7th – 9th magnitude stars including HIP 41354.
- One is in the IAU constellation Puppis and is Corder 1616 on the observing list of American astronomer Jeffrey Corder. Size 25' X 15'. This is five 8th magnitude stars including HIP 41498.
- One is in the IAU constellation Hydra and is Corder 1643 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is five 8th – 9th magnitude stars including HIP 42013 and the double star HIP 42037A.

- One is in the IAU constellation Hydra and is Corder 1653 on the observing list of American astronomer Jeffrey Corder. Size 70' X 35'. This is eight 6th – 8th magnitude stars including HIP 42510, 42495, 42122, 42065, 41939, and 41980 and the double stars 42406A and 42302.
- One is in the IAU constellation Vela and is Corder 1688 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is four 7th – 9th magnitude stars including HIP 43057, 43011, and the double star HIP 43037A.
- One is in the IAU constellation Vela and is Corder 1746 on the observing list of American astronomer Jeffrey Corder. Size 75' X 15'. This is ten 7th – 9th magnitude stars including HIP 43938, 44317, 44461, and the double stars HIP 44181A, 44634A, and 44618A.
- One is in the IAU constellation Hydra and is Corder 1811 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is four 7th – 9th magnitude stars including HIP 46090.
- One is in the IAU constellation Vela and is Corder 1812 on the observing list of American astronomer Jeffrey Corder. Size 50' X 20'. This is four 6th – 7th magnitude stars including HIP 46204 and the double star HIP 46067.
- One is in the IAU constellation Carina and is Corder 1848 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is five 8th – 9th magnitude stars including HIP 46600 and the double stars HIP 46678A and 46778.
- One is in the IAU constellation Hydra and is Corder 1854 on the observing list of American astronomer Jeffrey Corder. Size 50'. This is nine 6th – 9th magnitude stars including HIP 46717, 46869, and the double star HIP 46801.
- One is in the IAU constellation Sextans and is Corder 1891 on the observing list of American astronomer Jeffrey Corder. Size 30' X 10'. This is six 9th – 10th magnitude stars including HIP 47630, 47588, and 47516.
- One is in the IAU constellation Hydra and is Corder 1896 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is five 7th – 10th magnitude stars including HIP 47596.
- One is in the IAU constellation Hydra and is Corder 1917 on the observing list of American astronomer Jeffrey Corder. Size 35'. This is twelve 7th – 10th magnitude stars in a curving line: HD 84785, SAO 178004, Gaia DR3 5660301012435538432, HD 85060, HD 85224, HD 85276, HD 85262, SAO 178057, SAO 178056, HIP 48180, HD 84973, HD 84786.
- One is in the IAU constellation Carina and is Corder 1961 on the observing list of American astronomer Jeffrey Corder. Size 45' X 20'. This is an arc of eight 7th – 9th magnitude stars including HIP 49934, 49907, 49723, 49662, 49607, and the double star HIP 49644.
- One is in the IAU constellation Hydra and is Corder 1962 on the observing list of American astronomer Jeffrey Corder. Size 60' X 30'. This is four stars including HIP 49774, 49802, and the double stars Lambda (λ) Hydrae and HIP 49809.
- One is in the IAU constellation Carina and is Corder 1970 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is six 6th – 9th magnitude stars including HIP 49833, 49875, 50020, and the double star HIP 50018A.
- One is in the IAU constellation Sextans and is Corder 1985 on the observing list of American astronomer Jeffrey Corder. Size 110' X 20'. This is eight 8th – 9th magnitude stars including HIP 50466, 50354, 50291, 50275, 50322, and 50343.
- One is in the IAU constellation Sextans and is Corder 1991 on the observing list of American astronomer Jeffrey Corder. Size 60' X 20'. This is five 8th – 9th magnitude stars including HIP 50534 and 50515.

- One is in the IAU constellation Sextans and is Corder 1995 on the observing list of American astronomer Jeffrey Corder. Size 35' X 15'. This is four 6th – 7th magnitude stars forming a pair of binocular doubles including HIP 50692, 50658, 50554, and 50552.
- One is in the IAU constellation Carina and is Corder 2007 on the observing list of American astronomer Jeffrey Corder. Size 20' X 10'. This is four 7th – 8th magnitude stars including HIP 50919 and 50843.
- One is in the IAU constellation Antlia and is Corder 2010 on the observing list of American astronomer Jeffrey Corder. Size 20' X 15'. This is six 8th – 10th magnitude stars including HIP 50492 and 50510.
- One is in the IAU constellation Carina and is Corder 2063 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is five 8th – 9th magnitude stars: HD 93059, Gaia DR3 5232821684824141056, Gaia DR3 5232821100708520320, HD 92967, HD 92897.
- One is in the IAU constellation Vela and is Corder 2095 on the observing list of American astronomer Jeffrey Corder. Size 90' X 25'. This is about eighteen 7th – 10th magnitude stars including HIP 53638, 53542, 53343, 53244, 52927, 52855, and 52740 and the double star HIP 53782A.
- One is in the IAU constellation Vela and is Corder 2099 on the observing list of American astronomer Jeffrey Corder. Size 80' X 40'. This is six 4th – 7th magnitude stars including HIP 53773, 53605, 53356, 52924, 52710, 52694, and 52709 and the double star HIP 53379.
- One is in the IAU constellation Vela and is Corder 2106 on the observing list of American astronomer Jeffrey Corder. Size 50' X 25'. This is five 6th – 8th magnitude stars including HIP 53784, 53729, and 53762, and the double star HIP 53777A.
- One is in the IAU constellation Crater and is Corder 2141 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is five 7th – 8th magnitude stars including HIP 54737 and 54739.
- One is in the IAU constellation Chamaeleon and is Corder 2150 on the observing list of American astronomer Jeffrey Corder. Size 20' X 15'. This is four 8th – 10th magnitude stars including HIP 54852.
- One is in the IAU constellation Carina and is Corder 2163 on the observing list of American astronomer Jeffrey Corder. Size 50' X 15'. This is four 6th – 7th magnitude stars including HIP 55046 and HIP 54931 and the double star HIP 55140.
- One is in the IAU constellation Centaurus and is Corder 2176 on the observing list of American astronomer Jeffrey Corder. Size 30' X 10'. This is six 7th – 8th magnitude stars including HIP 55400, 55336, 55238, and the double star HIP 55518.
- One is in the IAU constellation Chamaeleon and is Corder 2247 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is six 8th – 10th magnitude stars including HIP 57505 and 57374.
- One is in the IAU constellation Hydra and is Corder 2280 on the observing list of American astronomer Jeffrey Corder. Size 40' X 20'. This is five 7th – 9th magnitude stars including HIP 58601.
- One is in the IAU constellation Octans and is Corder 2283 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is four 8th – 10th magnitude stars including HIP 59059.

- One is in the IAU constellation Corvus and is Corder 2330 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is four 5th – 8th magnitude stars including HIP 60209, and the double stars Zeta (ζ) Corvi and HIP 60157A.
- One is in the IAU constellation Musca and is Corder 2334 on the observing list of American astronomer Jeffrey Corder. Size 60' X 25'. This is about fifteen 6th – 8th magnitude stars including HIP 59985, 60183, 60601, 60339, 60570, 60394, and 60165, and the double star HIP 59898.
- One is in the IAU constellation Hydra and is Corder 2349 on the observing list of American astronomer Jeffrey Corder. Size 40' X 15'. This is seven 8th – 10th magnitude stars: HD 108390, HD 108338, Gaia DR3 3469670569656457216, SAO 203464, Gaia DR3 3469714275243659392, SAO 203451, HD 107970.
- One is in the IAU constellation Hydra and is Corder 2369 on the observing list of American astronomer Jeffrey Corder. Size 45'. This is five 6th – 8th magnitude stars including HIP 61337, 61211, 61172, and 61159.
- One is in the IAU constellation Crux and is Corder 2404 on the observing list of American astronomer Jeffrey Corder. Size 45' X 20'. This is five 4th – 8th magnitude stars including HIP 62058 and the double stars HIP 62026 and 62327.
- One is in the IAU constellation Virgo and is Corder 2409 on the observing list of American astronomer Jeffrey Corder. Size 50' X 20'. The is four 7th – 8th magnitude stars including HIP 62551, 62458, 62383, and the double star HIP 62304.
- One is in the IAU constellation Hydra and is Corder 2411 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is four 6th – 9th magnitude stars including HIP 62447, 62448, and the double star HIP 62471B.
- One is in the IAU constellation Corvus and is Corder 2415 on the observing list of American astronomer Jeffrey Corder. Size 25' X 10'. This is five 9th – 10th magnitude stars: HD 111400, Gaia DR3 3509506636141300864, SAO 157522, Gaia DR3 3503501309788475904, Gaia DR3 3503494815797907840.
- One is in the IAU constellation Crux and is Corder 2432 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is six 4th – 7th magnitude stars including HIP 62861, 63145, and 63230, and the double stars HIP 63117 and Mu (μ) 1 and 2 Crucis.
- One is in the IAU constellation Hydra and is Corder 2435 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is seven 10th – 11th magnitude stars: Includes SAO 181293 and Gaia DR3 6187318449120674304.
- One is in the IAU constellation Hydra and is Corder 2441 on the observing list of American astronomer Jeffrey Corder. Size 50' X 20'. This is six 6th – 9th magnitude stars including HIP 63538, and 63673, and the double star HIP 63738B.
- One is in the IAU constellation Centaurus and is Corder 2458 on the observing list of American astronomer Jeffrey Corder. Size 25' X 15'. This is six 4th – 7th magnitude stars including HIP 64565, 64580, and the double stars HIP 64583, 64478A, 64425, and 64033A.
- One is in the IAU constellation Centaurus and is Corder 2469 on the observing list of American astronomer Jeffrey Corder. Size 45' X 15'. This is four 7th – 8th magnitude stars including HIP 64699 and 64585 and the double star HIP 64791A.
- One is in the IAU constellation Centaurus and is Corder 2469 on the observing list of American astronomer Jeffrey Corder. Size 45' X 30'. This is four 5th – 8th magnitude stars including Iota (ι) 1 and 2 Muscae and HIP 64972.

- One is in the IAU constellation Virgo and is Corder 2530 on the observing list of American astronomer Jeffrey Corder. Size 35'. This is seven 8th – 10th magnitude stars including HIP 66858, 66708, and the double star HIP 66476A.
- One is in the IAU constellation Centaurus and is Corder 2565 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is four 6th magnitude stars including HIP 67851 and 67648 and the double stars HIP 67819A and 67244.
- One is in the IAU constellation Centaurus and is Corder 2574 on the observing list of American astronomer Jeffrey Corder. Size 45' X 20'. This is six 7th – 8th magnitude stars including HIP 67956, 67913, and 68054, and the double stars HIP 68101, 67919, and 68162.
- One is in the IAU constellation Virgo and is Corder 2595 on the observing list of American astronomer Jeffrey Corder. Size 60' X 40'. This is nine 6th – 9th magnitude stars including HIP 68707, 68783, 68731, and 68680.
- One is in the IAU constellation Centaurus and is Corder 2607 on the observing list of American astronomer Jeffrey Corder. Size 7'. This is six 8th – 10th magnitude stars including HIP 69224 and the double star HIP 69220.
- One is in the IAU constellation Boötes and is Corder 2618 on the observing list of American astronomer Jeffrey Corder. Size 80' X 25'. This is eight 6th – 9th magnitude stars including HIP 69891, 69876, 69735, 69580, 69534, and 69520, and the double star HIP 69666A.
- One is in the IAU constellation Boötes and is Corder 2632 on the observing list of American astronomer Jeffrey Corder. Size 50'. This is four 6th – 8th magnitude stars including HIP 69888, 69955, 70029, and 70135.
- One is in the IAU constellation Centaurus and is Corder 2635 on the observing list of American astronomer Jeffrey Corder. Size 35' X 15'. This is six 8th – 9th magnitude stars including HIP 70126, 70257, and 70307.
- One is in the IAU constellation Virgo and is Corder 2649 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is four 9th – 11th magnitude stars: HD 126497,.Gaia DR3 3654233496279055136, HD 126534, Gaia DR3 3654228445397558400.
- One is in the IAU constellation Libra and is Corder 2653 on the observing list of American astronomer Jeffrey Corder. Size 35'. This is ten 9th – 10th magnitude stars including HIP 70889 and 70598.
- One is in the IAU constellation Lupus and is Corder 2659 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is five 7th – 8th magnitude stars including HIP 70918 and the double star HIP 70976A.
- One is in the IAU constellation Draco and is Corder 2667 on the observing list of American astronomer Jeffrey Corder. Size 35'. This is four 6th – 8th magnitude stars including HIP 70952 and 71267.
- One is in the IAU constellation Boötes and is Corder 2683 on the observing list of American astronomer Jeffrey Corder. Size 45' X 20'. This is four 8th magnitude stars including HIP 71612, 71472, and 71468.
- One is in the IAU constellation Virgo and is Corder 2684 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is seven 9th – 10th magnitude stars: HIP 71438, Gaia DR3 1171262462365591424, Gaia DR3 1171066233899673856, SAO 120561, HIP 71483, Gaia DR3 11710426, SAO 120577.

- One is in the IAU constellation Hydra and is Corder 2698 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is four 8th – 9th magnitude stars including HIP 71871.
- One is in the IAU constellation Hydra and is Corder 2711 on the observing list of American astronomer Jeffrey Corder. Size 45' X 15'. This is five 7th – 9th magnitude stars including HIP 72353 and 72278.
- One is in the IAU constellation Libra and is Corder 2716 on the observing list of American astronomer Jeffrey Corder. Size 90' X 15'. This is five 6th – 7th magnitude stars including HIP 72731, 72650, 72553, 72442, and 72373 and the double star HIP 72347.
- One is in the IAU constellation Hydra and is Corder 2736 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is five 6th – 9th magnitude stars including HIP 72883, 72930, and 72962.
- One is in the IAU constellation Libra and is listed as Corder 2750 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is five 7th – 9th magnitude stars including Delta (δ) Librae and HIP 73571, 73587, and 73565.
- One is in the IAU constellation Libra and is Corder 2753 on the observing list of American astronomer Jeffrey Corder. Size 5'. This is four 10th magnitude stars including HIP 73349 and 73356.
- One is in the IAU constellation Circinus and is Corder 2771 on the observing list of American astronomer Jeffrey Corder. Size 45' X 25'. This is seven 7th – 8th magnitude stars including HIP 73769, 73755, 73728, and 73785.
- One is in the IAU constellation Lupus and is Corder 2790 on the observing list of American astronomer Jeffrey Corder. Size 35' X 15'. This is five 8th – 9th magnitude stars including HIP 74389 and 74414 and the double star HIP 74469A.
- One is in the IAU constellation Libra and is Corder 2800 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is seven 9th – 11th magnitude stars including the double star HIP 74586.
- One is in the IAU constellation Serpens and is Corder 2809 on the observing list of American astronomer Jeffrey Corder. Size 125' X 50'. This is five 5th – 7th magnitude stars including 4 & 6 Serpentis, HIP 75293, and the double stars HIP 74702 and 74895A.
- One is in the IAU constellation Libra and is Corder 2818 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is four 8th – 9th magnitude stars including HIP 75075 and 75028.
- One is in the IAU constellation Libra and is Corder 2842 on the observing list of American astronomer Jeffrey Corder. Size 75'. This is eight 8th – 9th magnitude stars including HIP 75892, 75789, 75739, 75629, 75474, 75325, 75131, and 75158.
- One is in the IAU constellation Libra and is Corder 2899 on the observing list of American astronomer Jeffrey Corder. Size 100' X 25'. This is sixteen 5th – 9th magnitude stars including 42 Librae, HIP 76614, 76666, 76834, 76969, and 77077, and the double stars HIP 76532 and 77399A.
- One is in the IAU constellation Triangulum Australe and is Corder 2901 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is seven 8th – 10th magnitude stars including HIP 76755, 77039, and the double star HIP 76919A.

- One is in the IAU constellation Serpens and is Corder 2906 on the observing list of American astronomer Jeffrey Corder. Size 45' X 35'. This is six 7^{th} – 10^{th} magnitude stars including HIP 76883, 76964, 76959, and 76965.
- One is in the IAU constellation Ursa Minor and is Corder 2910 on the observing list of American astronomer Jeffrey Corder. Size 60' X 20'. This is five 7^{th} – 8^{th} magnitude stars including HIP 77013.
- One is in the IAU constellation Scorpius and is Corder 2930 on the observing list of American astronomer Jeffrey Corder. Size 65' X 25'. This is ten 7^{th} – 10^{th} magnitude stars including HIP 77457, 77664, and the double star HIP 77729.
- One is in the IAU constellation Lupus and is Corder 2946 on the observing list of American astronomer Jeffrey Corder. Size 60' X 30'. This is six 7^{th} – 9^{th} magnitude stars including HIP 78118, and 78020, and the double star HIP 78142A.
- One is in the IAU constellation Corona Borealis and is Corder 2956 on the observing list of American astronomer Jeffrey Corder. Size 30'. This is four 4^{th} – 8^{th} magnitude stars including HIP 78989, HIP 78234 and the double star Epsilon (ε) Coronae Borealis.
- One is in the IAU constellation Draco and is Corder 2961 on the observing list of American astronomer Jeffrey Corder. Size 40'. This is five 7^{th} – 8^{th} magnitude stars including HIP 78492, 78461, and 78548.
- One is in the IAU constellation Norma and is Corder 2985 on the observing list of American astronomer Jeffrey Corder. Size 60'. This is four 6^{th} – 7^{th} magnitude stars including HIP 78803 and the double star HIP 79133.
- One is in the IAU constellation Triangulum Australe and is Corder 2990 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is five 6^{th} – 8^{th} magnitude stars including HIP 79251, 79208, 79079, and 78951, and the double star HIP 78978.
- One is in the IAU constellation Scorpius and is Corder 2994 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is four 7^{th} – 8^{th} magnitude stars including the double star HIP 79169.
- One is in the IAU constellation Scorpius and is Corder 3016 on the observing list of American astronomer Jeffrey Corder. Size 20' X 10'. This is five 8^{th} – 9^{th} magnitude stars including HIP 79687 and the double star HIP 79696.
- One is in the IAU constellation Hercules and is Corder 3055 on the observing list of American astronomer Jeffrey Corder. Size 100' X 25'. This is twelve 8^{th} – 9^{th} magnitude stars including HIP 80814, 80684, 80657, 80543, 80555, 80348, and 80317.
- One is in the IAU constellation Ophiuchus and is Corder 3103 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is four 7^{th} – 8^{th} magnitude stars including HIP 81809 and 81742.
- One is in the IAU constellation Ara and is Corder 3110 on the observing list of American astronomer Jeffrey Corder. Size 90' X 30'. This is four 5^{th} – 8^{th} magnitude stars including HIP 81850, 82110, and 82171, and the double star HIP 81937A.
- One is in the IAU constellation Hercules and is Corder 3118 on the observing list of American astronomer Jeffrey Corder. Size 25' X 15'. This is seven 8^{th} – 10^{th} magnitude stars including HIP 82043, and 82053.

- One is in the IAU constellation Scorpius and is Corder 3148 on the observing list of American astronomer Jeffrey Corder. Size 80' X 45'. This is five 6th – 7th magnitude stars including HIP 82829, 92650, and the double stars HIP 82560 and 82740B.
- One is in the IAU constellation Hercules and is Corder 3172 on the observing list of American astronomer Jeffrey Corder. Size 90' X 20'. This is nine 7th – 9th magnitude stars including HIP 83213, 83170, 83115, 83108, 83212, and the double star HIP 83260.
- One is in the IAU constellation Apus and is Corder 3183 on the observing list of American astronomer Jeffrey Corder. Size 35' X 20'. This is five 9th magnitude stars: Gaia DR3 5777272767414445312, HD 151711, HD 151992, HD 152302, Gaia DR3 5777633269789281664, HD 152494.
- One is in the IAU constellation Ara and is Corder 3192 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is four 6th – 8th magnitude stars including HIP 83323 and the double stars HIP 83174 and 83268A.
- One is in the IAU constellation Ophiuchus and is Corder 3196 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is four 7th – 8th magnitude stars including HIP 83540 and 83461.
- One is in the IAU constellation Ophiuchus and is Corder 3206 on the observing list of American astronomer Jeffrey Corder. Size 5'. This is four 9th – 11th magnitude stars.
- One is in the IAU constellation Serpens and is Corder 3244 on the observing list of American astronomer Jeffrey Corder. Size 45' X 30'. This is four 6th – 9th magnitude stars including HIP 84647, 84675, and 84649.
- One is in the IAU constellation Ophiuchus and is Corder 3258 on the observing list of American astronomer Jeffrey Corder. Size 100' X 30'. This is seven 3rd – 9th magnitude stars including 32 Scorpii, Theta (θ) Ophiuchi, HIP 84907, and HIP 85071.
- One is in the IAU constellation Ophiuchus and is Corder 3308 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is nine 6th – 10th magnitude stars including 52 Ophiuchi.
- One is in the IAU constellation Ara and is Corder 3310 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is seven 6th – 10th magnitude stars including HIP 85968 and 85975.
- One is in the IAU constellation Draco and is Corder 3326 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is four 8th – 9th magnitude stars including HIP 86469.
- One is in the IAU constellation Apus and is Corder 3333 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is four 7th – 10th magnitude stars including HIP 86381.
- One is in the IAU constellation Sagittarius and is Corder 3387 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is seven 8th – 9th magnitude stars including HIP 87429 and 87455.
- One is in the IAU constellation Apus and is Corder 3407 on the observing list of American astronomer Jeffrey Corder. Size 25' X 15'. This is four 8th – 9th magnitude stars including HIP 87772 and 87758.
- One is in the IAU constellation Hercules and is Corder 3429 on the observing list of American astronomer Jeffrey Corder. Size 30'. This is nine 5th – 10th magnitude stars including 96 Herculis, HIP 88391, 88131, 87934, 87896, and 87825 and the double star HIP 88313.

- One is in the IAU constellation Hercules and is Corder 3462 on the observing list of American astronomer Jeffrey Corder. Size 35'. This is ten 6th – 10th magnitude stars including HIP 88590, 88689, and 88766 and the double stars HIP 88772 and 88778.
- One is in the IAU constellation Sagittarius and is Corder 3472 on the observing list of American astronomer Jeffrey Corder. Size 7'. This is five 9th – 10th magnitude stars including HIP 88805.
- One is in the IAU constellation Lyra and is Corder 3519 on the observing list of American astronomer Jeffrey Corder. Size 40'. This is four 7th magnitude stars including HIP 89654 and the double star HIP 89603A.
- One is in the IAU constellation Draco and is Corder 3526 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is four 8th – 9th magnitude stars including HIP 89857 and 89730.
- One is in the IAU constellation Sagittarius and is Corder 3543 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is eight 7th – 9th magnitude stars including HIP 90184, and the double star HIP 90128A.
- One is in the IAU constellation Sagittarius and is Corder 3565 on the observing list of American astronomer Jeffrey Corder. Size 30' X 10'. This is eight 7th – 10th magnitude stars including the double star HIP 90513.
- One is in the IAU constellation Draco and is Corder 3570 on the observing list of American astronomer Jeffrey Corder. Size 50' X 15'. This is ten 7th – 10th magnitude stars including HIP 90423, 90527, and 90495.
- One is in the IAU constellation Corona Australis and is Corder 3587 on the observing list of American astronomer Jeffrey Corder. Size 45'. This is six 5th – 8th magnitude stars including HIP 90842, 90782, 90674, and 90597.
- One is in the IAU constellation Hercules and is Corder 3610 on the observing list of American astronomer Jeffrey Corder. Size 60' X 20'. This is twelve 7th – 9th magnitude stars including HIP 91518, 91377, 91313, 91390, and the double star HIP 91408.
- One is in the IAU constellation Pavo and is Corder 3618 on the observing list of American astronomer Jeffrey Corder. Size 40' X 20'. This is four 7th – 8th magnitude stars including HIP 91565, 91512, 91464, and 91516.
- One is in the IAU constellation Scutum and is Corder 3634 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is five 8th – 9th magnitude stars including HIP 91867.
- One is in the IAU constellation Serpens and is Corder 3641 on the observing list of American astronomer Jeffrey Corder. Size 20' X 10'. This is four 8th magnitude stars including HIP 91850 and the double star HIP 91893A.
- One is in the IAU constellation Telescopium and is Corder 3686 on the observing list of American astronomer Jeffrey Corder. Size 60' X 45'. This is ten 6th – 8th magnitude stars including HIP 92799 and 92678.
- One is in the IAU constellation Sagittarius and is Corder 3720 on the observing list of American astronomer Jeffrey Corder. Size 2'. This is five 10th – 11th magnitude stars: Gaia DR3 6731114841275915648, Gaia DR3 6731114978714868096, Gaia DR3 6731115287952489088, HD 175649, Gaia DR3 6731103944934365824.
- One is in the IAU constellation Vulpecula and is Corder 3724 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is seven 7th – 9th magnitude stars including HIP 93150 and the double star HIP 93127.

- One is in the IAU constellation Aquila and is Corder 3746 on the observing list of American astronomer Jeffrey Corder. Size 50' X 15'. This is five 6th – 8th magnitude stars including HIP 93671, 93645, 93586, 93566, and the double star HIP 93601A.
- One is in the IAU constellation Sagittarius and is Corder 3748 on the observing list of American astronomer Jeffrey Corder. Size 45'. This is five 6th – 9th magnitude stars including HIP 93077 and the double stars HIP 93543, 93537A, 93224, and 92950.
- One is in the IAU constellation Corona Australis and is Corder 3758 on the observing list of American astronomer Jeffrey Corder. Size 90' X 20'. This is seven 4th – 9th magnitude stars including Alpha (α) Coronae Australis (Meridiana), HIP 93874, 93858, 93552, and the double star HIP 93625A.
- One is in the IAU constellation Sagittarius and is Corder 3768 on the observing list of American astronomer Jeffrey Corder. Size 30' X 10'. This is four 7th – 9th magnitude stars including HIP 94122 and the double star 94041.
- One is in the IAU constellation Draco and is Corder 3803 on the observing list of American astronomer Jeffrey Corder. Size 60' X 30'. This is five 7th – 8th magnitude stars including HIP 94508 and 94775.
- One is in the IAU constellation Lyra and is Corder 3823 on the observing list of American astronomer Jeffrey Corder. Size 40'. This is four 6th – 8th magnitude stars including the double stars HIP 94981 and 94932.
- One is in the IAU constellation Aquila and is Corder 3827 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is six 6th – 8th magnitude stars including 23 and 24 Aquilae and HIP 94793, 94785, and the double star HIP 94883.
- One is in the IAU constellation Sagittarius and is Corder 3829 on the observing list of American astronomer Jeffrey Corder. Size 6'. This is four 9th magnitude stars: HD 181031, HD 180978, 180952, 180925.
- One is in the IAU constellation Cygnus and is Corder 3846 on the observing list of American astronomer Jeffrey Corder. Size 30' X 15'. This is ten 8th – 9th magnitude stars: Gaia DR3 2025969303717478912, Gaia DR3 2025970089669922048, HD 338254, Gaia DR3 2025947897598966528, Gaia DR3 2025947450922386944, Gaia DR3 2025948069397684352, HD 338521, Gaia DR3 2025990361915544192, Gaia DR3 2026000261842879616, HIP 95330, HIP 95400.
- One is in the IAU constellation Aquila and is Corder 3866 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is five 5th – 10th magnitude stars including 35 Aquilae.
- One is in the IAU constellation Sagittarius and is Corder 3870 on the observing list of American astronomer Jeffrey Corder. Size 45' X 20'. This is six 8th – 9th magnitude stars including HIP 95991 and 95941.
- One is in the IAU constellation Draco and is Corder 3893 on the observing list of American astronomer Jeffrey Corder. Size 40' X 25'. This is five stars including Sigma (σ) Draconis, HIP 95988 and 96350.
- One is in the IAU constellation Aquila and is Corder 3902 on the observing list of American astronomer Jeffrey Corder. Size 120' X 60'. This is a chain of 4th – 10th magnitude stars including Iota (ι) Aquilae, HIP 96535, 96604, and the double stars HIP 96379 and 96193.

- One is in the IAU constellation Draco and is Corder 3947 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is four 8th – 9th magnitude stars including HIP 97399. NOTE: Corder lists this same asterism elsewhere as Corder 3953.
- One is in the IAU constellation Cygnus and is Corder 3991 on the observing list of American astronomer Jeffrey Corder. Size 150' X 20'. This is four 5th – 6th magnitude stars including HIP 98044, and 98073 and the double stars HIP 97892 and 23 Cygni.
- One is in the IAU constellation Telescopium and is Corder 4009 on the observing list of American astronomer Jeffrey Corder. Size 45'. This is nine 7th – 9th magnitude stars including HIP 98048, 98112, 98327, and 98317 and the double star HIP 98196A.
- One is in the IAU constellation Pavo and is Corder 4010 on the observing list of American astronomer Jeffrey Corder. Size 6'. This asterism is seven 10th – 11th magnitude stars: HD 187790, HD 187455, HIP 97952, HD 187443, HD 188163, Gaia DR3 6427280058657173504, Gaia DR3 6427306275138645376.
- One is in the IAU constellation Cygnus and is Corder 4023 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is four 5th – 9th magnitude stars including 25 Cygni and HP 98563.
- One is in the IAU constellation Sagittarius and is Corder 4025 on the observing list of American astronomer Jeffrey Corder. Size 35'. This is six 7th – 9th magnitude stars including HIP 98479 and 98521.
- One is in the IAU constellation Aquila and is Corder 4060 on the observing list of American astronomer Jeffrey Corder. Size 130' X 25'. This is Theta (θ), 62, 64, and 66 Aquilae.
- One is in the IAU constellation Cygnus and is Corder 4068 on the observing list of American astronomer Jeffrey Corder. Size 45'. This is six 7th – 9th magnitude stars including HIP 99414 and 99561.
- One is in the IAU constellation Octans and is Corder 4090 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is five 7th – 9th magnitude stars including HIP 99219 and the double star HIP 99959A.
- One is in the IAU constellation Aquila and is Corder 4095 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is six 9th – 10th magnitude stars including HIP 99797.
- One is in the IAU constellation Aquila and is Corder 4099 on the observing list of American astronomer Jeffrey Corder. Size 15': HD 192689, Gaia Dr3 4250888428897980928, Gaia DR3 4250888635056274048, SAO 125623, HIP 99860.
- One is in the IAU constellation Aquila and is Corder 4100 on the observing list of American astronomer Jeffrey Corder. Size 60' X 25'. This is eight 7th – 10th magnitude stars including HIP 99894 and the double star HIP 99867A.
- One is in the IAU constellation Cygnus and is Corder 4129 on the observing list of American astronomer Jeffrey Corder. Size 30' X 20'. This is four 6th – 10th magnitude stars including HIP 100434, 100501, and 100548.
- One is in the IAU constellation Delphinus and is Corder 4130 on the observing list of American astronomer Jeffrey Corder. Size 35' X 20'. This is five 7th – 8th magnitude stars including HIP 100500 and 100381 and the double star HIP 100397A.
- One is in the IAU constellation Draco and is Corder 4134 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is five 5th – 10th magnitude stars including HIP 100553, 100059 and the double stars HIP 100357 and 99832.

- One is in the IAU constellation Sagittarius and is Corder 4150 on the observing list of American astronomer Jeffrey Corder. Size 30'. This is four 6^{th} – 8^{th} magnitude stars, descending in magnitude from one end to the other: HIP 100764, HD 194027, HIP 100604, HD 193885, HD 194064.
- One is in the IAU constellation Telescopium and is Corder 4152 on the observing list of American astronomer Jeffrey Corder. Size 35' X 25'. This is eight 8^{th} – 10^{th} magnitude stars including HIP 100627 and 100752.
- One is in the IAU constellation Delphinus and is Corder 4153 on the observing list of American astronomer Jeffrey Corder. Size 65' X 25'. This is four 6^{th} – 7^{th} magnitude stars including HIP 101114, 100969, and 100797.
- One is in the IAU constellation Delphinus and is Corder 4176 on the observing list of American astronomer Jeffrey Corder. Size 40' X 15'. This is four 7^{th} magnitude stars including HIP 101371, 101290, and 101219.
- One is in the IAU constellation Indus and is Corder 4223 on the observing list of American astronomer Jeffrey Corder. Size 20' X 10'. This is five 9^{th} – 11^{th} magnitude stars including HIP 102064.
- One is in the IAU constellation Cygnus and is Corder 4262 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is five 9^{th} – 10^{th} magnitude stars: Gaia DR3 1870104150260339200, Gaia DR3 1870103394346059264, Gaia DR3 1870103256907096960, Gaia DR3 1870079686125492224, Gaia DR3 1870079376887875200.
- One is in the IAU constellation Equuleus and is Corder 4318 on the observing list of American astronomer Jeffrey Corder. Size 35' X 25'. This is six 7^{th} – 10^{th} magnitude stars including 104325 and 104274.
- One is in the IAU constellation Cepheus and is Corder 4339 on the observing list of American astronomer Jeffrey Corder. Size 45' X 20'. This is five 9^{th} magnitude stars including HIP 104736.
- One is in the IAU constellation Cepheus and is Corder 4348 on the observing list of American astronomer Jeffrey Corder. Size 50' X 20'. This is five 6^{th} – 9^{th} magnitude stars including HIP 104886, 104900, and the double star HIP 104778A.
- One is in the IAU constellation Microscopium and is Corder 4375 on the observing list of American astronomer Jeffrey Corder. Size 55' X 25'. This is six 6^{th} – 9^{th} magnitude stars including HIP 105090, 105086, 105198, 105260, and the double star HIP 105289A.
- One is in the IAU constellation Cygnus and is Corder 4376 on the observing list of American astronomer Jeffrey Corder. Size 90' X 50'. This is twelve 4^{th} – 9^{th} magnitude stars including Sigma (σ) Cygni, HIP 105116, 105264, 105561, and 105573.
- One is in the IAU constellation Pavo and is Corder 4385 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is ten 8^{th} – 11^{th} magnitude stars including HIP 105509 and 105191.
- One is in the IAU constellation Cygnus and is Corder 4399 on the observing list of American astronomer Jeffrey Corder. Size 90' X 30'. This is ten 5^{th} – 8^{th} magnitude stars including HIP 105722, 105497, and 105282 and the double stars HIP 105866, 105733, 105540A, and 105290.
- One is in the IAU constellation Cygnus and is Corder 4409 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is five 8^{th} – 11^{th} magnitude stars including HIP 105741 and 105709.

- One is in the IAU constellation Octans and is Corder 4420 on the observing list of American astronomer Jeffrey Corder. Size 60' X 25'. This is four 7th magnitude stars including HIP 105511, 106259, 106474 and the double star HIP 104997A.
- One is in the IAU constellation Grus and is Corder 4437 on the observing list of American astronomer Jeffrey Corder. Size 170' X 40'. This is eight 7th magnitude stars including HIP 106056, 106123, 106098, 106116, and the double star HIP 106203A.
- One is in the IAU constellation Piscis Austrinus and is Corder 4458 on the observing list of American astronomer Jeffrey Corder. Size 55'. This is twelve 7th – 10th magnitude stars including HIP 106490, 106576, 106180, and the double star HIP 106438.
- One is in the IAU constellation Cepheus and is Corder 4459 on the observing list of American astronomer Jeffrey Corder. Size 75' X 15'. This is seven 7th – 8th magnitude stars including HIP 107334 and the double star HIP 105644A.
- One is in the IAU constellation Cygnus and is Corder 4464 on the observing list of American astronomer Jeffrey Corder. Size 75' x 15'. This is four 3rd – 6th magnitude stars including Rho (ρ) Cygni, HIP 106507, 106420, and 106642.
- One is in the IAU constellation Pegasus and is Corder 4469 on the observing list of American astronomer Jeffrey Corder. Size 35'. This is five 10th magnitude stars: Gaia DR3 1741724313587804032, Gaia DR3 1741722423802211072, SAO 107276, Gaia DR3 1742380923892087040, Gaia DR3 1742375293191018368.
- One is in the IAU constellation Cepheus and is Corder 4484 on the observing list of American astronomer Jeffrey Corder. Size 40' X 25'. This is nine 9th magnitude stars including HIP 107192 and 106869.
- One is in the IAU constellation Capricornus and is Corder 4494 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is seven 6th – 9th magnitude stars including HIP 107304 and the double star HIP 107238.
- One is in the IAU constellation Aquarius and is Corder 4518 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is four 7th – 8th magnitude stars including HIP 107895, 107886, and 107816.
- One is in the IAU constellation Octans and is Corder 4521 on the observing list of American astronomer Jeffrey Corder. Size 30' X 15'. This is seven 9th – 11th magnitude stars including the double star HIP 108162A.
- One is in the IAU constellation Cepheus and is Corder 4540 on the observing list of American astronomer Jeffrey Corder. Size 80' X 25'. This is six 7th – 9th magnitude stars including HIP 108027, 108151, 108387, and the double star HIP 208411.
- One is in the IAU constellation Cepheus and is Corder 4567 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is four 9th magnitude stars including HIP 108897 and the double star HIP 108902A.
- One is in the IAU constellation Piscis Austrinus and is Corder 4584 on the observing list of American astronomer Jeffrey Corder. Size 55' X 40'. This is six 7th – 8th magnitude stars including HIP 109116, 109189, and 109230.
- One is in the IAU constellation Cepheus and is Corder 4588 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is seven 7th – 9th magnitude stars including HIP 109295, 109311 and the double star HIP 109254A.

- One is in the IAU constellation Aquarius and is Corder 4592 on the observing list of American astronomer Jeffrey Corder. Size 50'. This is eight 7^{th} – 10^{th} magnitude stars including the double star HIP 109378.
- One is in the IAU constellation Lacerta and is Corder 4611 on the observing list of American astronomer Jeffrey Corder. Size 55' X 35'. This is six 7^{th} – 8^{th} magnitude stars including HIP 109503, 109706, 109727 and the double star HIP 109829A.
- One is in the IAU constellation Cepheus and is Corder 4626 on the observing list of American astronomer Jeffrey Corder. Size 30' X 20'. This is five 8^{th} – 9^{th} magnitude stars: HD 212350, HD 212236, HD 212349, SAO 10300, HIP 109575.
- One is in the IAU constellation Aquarius and is Corder 4649 on the observing list of American astronomer Jeffrey Corder. Size 40'. This is five 9^{th} – 10^{th} magnitude stars: HD 212011, HD 211895, HD 211874, SAO 191076, HD 211939.
- One is in the IAU constellation Pegasus and is Corder 4652 on the observing list of American astronomer Jeffrey Corder. Size 30' X 10'. This is six 8^{th} – 9^{th} magnitude stars including HIP 110559.
- One is in the IAU constellation Tucana and is Corder 4656 on the observing list of American astronomer Jeffrey Corder. Size 90' X 30'. This is four 5^{th} – 8^{th} magnitude stars including HIP 110311 and 110649 and the double stars HIP 109955 and 110842A.
- One is in the IAU constellation Pegasus and is Corder 4670 on the observing list of American astronomer Jeffrey Corder. Size 25' X 15'. This is six 7^{th} – 9^{th} magnitude stars including HIP 110809.
- One is in the IAU constellation Pegasus and is Corder 4678 on the observing list of American astronomer Jeffrey Corder. Size 75' X 45'. This is five 5^{th} – 7^{th} magnitude stars including HIP 111124 and the double stars 34, 35, and 37 Pegasi.
- One is in the IAU constellation Pegasus and is Corder 4690 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is five 7^{th} – 9^{th} magnitude stars including HIP 111177.
- One is in the IAU constellation Grus and is Corder 4693 on the observing list of American astronomer Jeffrey Corder. Size 30' X 15'. This is 6^{th} – 9^{th} magnitude stars including the double star HIP 111143.
- One is in the IAU constellation Cepheus and is Corder 4742 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is eight 8^{th} – 10^{th} magnitude stars including HIP 112036.
- One is in the IAU constellation Pegasus and is Corder 4757 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is seven 9^{th} – 10^{th} magnitude stars: SAO 127743, HIP 112435, Gaia DR3 2716343373344100960, SAO 127765, HD 215912, HD 215930, HIP 112659.
- One is in the IAU constellation Piscis Austrinus and is Corder 4803 on the observing list of American astronomer Jeffrey Corder. Size 35'. This is six 6^{th} – 9^{th} magnitude stars including HIP 113593, 113562, 113570, 113623, and 113574.
- One is in the IAU constellation Cepheus and is Corder 4825 on the observing list of American astronomer Jeffrey Corder. Size 70' X 25'. This is twelve 6^{th} – 9^{th} magnitude stars including HIP 114307, 114070, 113947, 113793, 113249, and 113218, and the double stars HIP 113907A, 113461A, 113306A, and 113301.
- One is in the IAU constellation Grus and is Corder 4828 on the observing list of American astronomer Jeffrey Corder. Size 20' X 10'. This is five 5^{th} – 8^{th} magnitude stars including Nu (v) Gruis and HIP 114127, and 113997.

- One is in the IAU constellation Tucana and is Corder 4844 on the observing list of American astronomer Jeffrey Corder. Size 7'. This is six 10th magnitude stars including the double star HIP 114582A.
- One is in the IAU constellation Cepheus and is Corder 4864 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is seven 7th – 8th magnitude stars including HIP 114816, 114990, and 115047, and the double star HIP 114898A.
- One is in the IAU constellation Pegasus and is Corder 4866 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is five 8th – 10th magnitude stars including HIP 115032 and 115100.
- One is in the IAU constellation Aquarius and is Corder 4885 on the observing list of American astronomer Jeffrey Corder. Size 30'. This is four 7th – 8th magnitude stars including HIP 115526 and the double star HIP 115505.
- One is in the IAU constellation Sculptor and is Corder 4888 on the observing list of American astronomer Jeffrey Corder. Size 60' X 15'. This is four 7th magnitude stars including HIP 115796, 115681, and the double star HIP 115518A.
- One is in the IAU constellation Sculptor and is Corder 4892 on the observing list of American astronomer Jeffrey Corder. Size 50' X 20'. This is six 9th – 10th magnitude stars including HIP 115794, 115676, and 115659.
- One is in the IAU constellation Pegasus and is Corder 4904 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is four 7th – 8th magnitude stars including HIP 116005, 115921, and 115896.
- One is in the IAU constellation Pegasus and is Corder 4905 on the observing list of American astronomer Jeffrey Corder. Size 75' X 40'. This is seven 8th – 9th magnitude stars including HIP 115847 and the double star HIP 116067A.
- One is in the IAU constellation Pegasus and is Corder 4951 on the observing list of American astronomer Jeffrey Corder. Size 20' X 5'. This is four 8th – 9th magnitude stars including HIP 116809 and the double star HIP 116880A.
- One is in the IAU constellation Cassiopeia and is Corder 4959 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is four 8th magnitude stars including HIP 116969.
- One is in the IAU constellation Andromeda and is Corder 4977 on the observing list of American astronomer Jeffrey Corder. Size 30'. This is four 8th – 9th magnitude stars including HIP 117620 and the double stars HIP 117695A and 117565A.
- One is made up of stars of the IAU constellation Taurus. It is Dezsi 13 on the list of Hungarian astronomer Attila Dezsi. It is the five stars HD 23823, HD 23852, HD 17892, HIP 17928, and Gaia DR3 64117853073517440.

Custom:

This Arabic star "Al Araph'" (العرف) is Beta (β) Virginis in the IAU constellation Virgo:

- This was later latinized to "Alaraph" in the of the *Alfonsine Tables*.
- The 1515 edition of the *Alfonsine Tables* lists this as Epsilon (ε) Virginis.
- German astronomer Johann Bayer (1572-1625) lists "Alacast", "Alcalst", "Alaraph", and "Almucedie" as names for Epsilon (ε) Virginis.
- Compare this to their manzil Unarmed High One, below.

This Hebrew asterism "Shiboleth" is the IAU constellation Virgo as listed in John Hill's *Urania* in 1754. Shibboleth is the Hebrew term for "custom". Compare this to the Arabic asterism Alaraph.

Customary Cat:

This Celtic (Gaulish) asterism "Cattos Pallucos" is the Hyades cluster in the IAU constellation Taurus (Boutet 2017). It was also known as "Cat Palug" ("defective cat") or "Catosđirai" ("cat stars").

Cut Short Hand:

There are three Arabic asterisms with the name "al-Kaff al-Jadhmā'" (الكف الجذماء):

- One, listed by Persian astronomer Ulugh Beg Mirza (1394 – 1449) and 16th century Arabic astronomer Al Tizini is the star Gamma (γ) Ceti in the IAU constellation Cetus.
    - "al-Kaff al-Jadhmā" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
    - This was later latinized to "Kaffaljidhma", "Al Kaff al Jidhmah", "Kafalgidma", or "Alkaffaljidhina".
    - It is found on the Borgian globe of 1225.
    - The IAU approved the name Kaffaljidhma for the star Gamma (γ) Ceti A.
    - NOTE: Catholic librarian Giuseppe Simone Assemani (1687 - 1768) interpreted the listing on the Borgian globe as the constellation Eridanus and called it "Al Kaff Algeria".
- One is the stars Delta (δ), Mu (μ), and Xi (ξ) 1 and 2 Ceti in the IAU constellation Cetus:
    - This was later latinized to Al Kaff al Jidmah I, II, III & IV. This is one version of the "hand" of Al Thurayya (see Little Abundant One, below). It is called this as it is at the end of a shorter "arm" than the other one in that asterism. Compare this to another version of this asterism, Leprous Hand (see below).
    - NOTE: English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists it as "Kaff-al-jidhmà, the maimed hand" and indicates that it was used for both of the "Cut Short Hand" asterisms listed above.
- One, "kaff al-jadmā'" is Alpha (α) Ceti (Menkar) in the IAU constellation Cetus as it appears on the star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003).

Cutter:

This Akkadian asterism is from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) is "Zuqaqipu" (Hunger 1992, Parpola 1993), "Zuqaqīpu" or "Zuqaqipu" is the IAU constellation Scorpius.

This Persian asterism "Zuqaqipu" from the list of Masu stars from the lists K 250 and VAT 9418 from the Persian (Achaemenid) Period (539 – 331 B.C.E.) is the IAU constellation Scorpius (Boll 1918).

Cutters:

This Vedic nakshatra (lunar mansion) "Kṛttikā" (Sanskrit: कृत्तिका) , "Krittika", "Kritika", "Kṛttikās" (Ivanković 2021), or "Kārtikā" (literally "the cutters") is the Pleiades cluster in the IAU constellation Taurus (Vahia 2014). Ivanković (2021) lists it as "Kṛttikā" and translates this as "skinny", associating it to the God Agni. Ivankovic also lists the variation "Krttikah" as appearing in the *Taittirīya Brāhmana*. The six Krittikas raised the Hindu God Kārttisa, son of Shiva. It is associated with the God Agni ("fire").

NOTE: R. H. Allen in his *Star Names* in 1899 translates this as “General of the Celestial Armies” and lists the names “Krittikā”, “Karteek”, or “Kartiguey”. In the *Atharveda* and on the nakshatra list of the scholars Varahamihir and Parasara it appears as “Krttika” (Leitz 2019). W. Brennand lists this as “Critica” in his *Hindu Astronomy* in 1896 and translates this as “a razor”. Bhagwath (2019) lists the symbols associated with this nakshatra as a knife or spear.

This Javanese asterism “Krrtika”, “Kartika” or “Ketika”, is the Pleiades cluster in the IAU constellation Taurus.

This Myanmar nekkhat (lunar mansion) “Kyattika” (ကြတ္တိကာ) is the Pleiades cluster in the IAU constellation Taurus.

This Tibetan gyukar (lunar house) “Mindruk” or “Smin Drug” is the Pleiades cluster in the IAU constellation Taurus (Johnson-Groh 2013).

Cybele:

This Greek asterism “Cybele” is the IAU constellation Virgo as listed in R. H. Allen’s *Star Names* in 1899. Cybele was a Greek Mother Goddess.

Cyclogon of Virgo:

This **telescopic** asterism “Cyclogónum Vírginis” is the barred spiral galaxy NGC 4902 in the IAU constellation Virgo. It was discovered in 1785 by William Herschel who listed it as “I 69”. It became GC 3358 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “the southern arms of this spiral galaxy are well rounded”. It comes from the Greek word kyklogonios, meaning “round and angular”.

Cyclopes:

This Greek asterism is the IAU constellation Corona Australis as listed by Hesiod (Mosenkis, date n/k). The Cyclopes were monsters exiled to Tartarus by Uranus. This is related to their asterisms Hundred Handed (see below) and Campe (see above).

Cyclops of Aquarius:

This **telescopic** asterism “Cýclops Aquárii” is the spiral galaxy NGC 7606 in the IAU constellation Aquarius. This was discovered in 1785 by William Herschel who listed it as “I 104”. John Herschel listed it as h 2228 and h 3982 and later as GC 4933 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “the dark spot at the northwestern side makes this giant galaxy look like a cyclops”.

Cygnus:

The stars of this constellation show up in the skies of 382 asterisms of the sky cultures of the world.

The IAU constellation Cygnus (IAU abbreviation Cyg) was one of Ptolemy’s 48 original constellations and in his *Almagest* (2nd century) was called ’΄Ορνις (“Órnis”- see “Hen” see below).

The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) depicts this constellation as a large bird in flight, resembling a swan.

The globe of the 2nd century Farnese Atlas depicts this constellation as a swan in flight as viewed from above (Stevenson 1921).

The *De ordine ac positione stellarum in signis* ("*On the order and position of the stars in the signs*") in the Salzburg compilation (810 – 818) of Abbot Arno of Salzburg (785 – 821) lists "Cygnus" and "Cignus".

Cygnus appears in the Leiden *Aratea* (816) as a swan in flight to our right (Katzenstein & Savage-Smith, 1988).

Cygnus appears in the 8th century *Revised Aratus Latinus*:

- In two editions (St Gall 250, St Gall 902) this looks more like a long-legged stork or heron walking to the right,
- In several editions (Paris BN 12597, Gottweig 7 (146), Siena L. IV. 25) Cygnus is standing to the right with extended wings,
- In the Dresden DC 183 and Vat Reg lat 1324 editions Cygnus is shown as a long-necked swan standing to the right
- In the Cologne 83 II edition Cygnus is moving to the left,
- In the Prague IX C 6 edition Cygnus is shown in a heraldic form.

The 9th century Berlin 130, Madrid 3307, Paris BN 8663 and Los Angeles Getty Ludwig XII 5, and Monza F.9/176 manuscripts of the *De ordine ac positione stellarum in signis* depict Cygnus facing to the front with its head turned to the right, while the Vat lat 645 manuscript shows Cygnus in profile with alongside a decorative heart. The Munich 210 and Vienna ÖNB 387 manuscripts of the *De ordine ac positione stellarum in signis* depict Cygnus set against a coloured square background. The Austin, TX, Ransom Ms 29, Paris BN, n.a. 1614, and St. Petersburg, Q.V. IX, no.2 manuscripts of the *De ordine ac positione stellarum in signis* depict Cygnus in flight. The Paris BN, 12117 and Vat Reg lat 309 manuscripts of the *De ordine ac positione stellarum in signis* depict Cygnus flying to the right.

The 11th century *De signis caeli ("of the signs of heaven*") lists "Cignus" and "Cygnus". The Oxford Laud 644, Padua 27 and Venice VIII 22 manuscripts of *De signis caeli* depict Cygnus standing as if about to take flight to the left. The Klosterneuberg 685, Paris BN 5239, Paris BN 5543, Vat lat 643, and Zwettl 296 manuscripts of *De signis caeli* depict Cygnus standing to the right biting its breast: The two Paris manuscripts Cygnus is raising his right foot, but in the Zwettl and Klosterneuberg manuscripts he does not.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi's son depicts Cygnus as a swan in flight as viewed from below.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Cygnus as a swan in flight as viewed from below.

Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) depicts Cygnus as a hen in flight as viewed from below and labels it "sūrat al-dajāja" ("picture of the chicken").

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Cygnus as a hen in flight as viewed from below.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.71v-72r depicts Cygnus as a bird in flight as viewed from below. It is not labelled and the drawing is poor.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Cygnus as a swan in flight as viewed from below. It is not labelled.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Cygnus as a swan standing on a rock. The swan is facing to our right with neck arched and wings raised as if in annoyance.

The *Germanicus Aratea* (Siciliensis, c. 1469) and the *Germanicus Aratea* with scholia Strozziana (c. 1475) depict Cygnus as a swan facing to our right with wings raised as if about to take flight.

De Astronomica ("the astronomy"), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. It lists both "Olor" (see Smell below) and "Cygnus" and depicts it as a swan standing with neck arched and wings raised as if in annoyance.

The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts "Olor aut Gallina" as a swan in flight as viewed from above.

The early 16th century Real Academia de Historia, manuscript D-97, f.101v depicts Cygnus as a swan in flight as viewed from below. It is not labelled. The Real Academia de Historia, manuscript D-97, f.104v – 105r depicts it in the same fashion.

The "Nuremburg Maps" *(Die Karte des Nördlichen Sternenhimmels* inv.-Nr. Hz 5576), a pair of celestial hemispheres made in 1503 by Conrad Heinfogel, depicts "Gallina" as a swan in flight as viewed from above.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) lists this constellation as "AVIS" and depicts it as a swan in flight as viewed from below.

The *Horoscopion generale* (1533) of Petrus Apianus (1495 – 1552) depicts Cygnus as a swan standing with its wings outstretched.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts "Cygnus" as a swan in flight to our left as viewed from below.

Dele Stelle Fisse ("Of the Fixed Stars") by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as "Del Cigno". The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as "Swan" and "Bird".

The Northern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Cygnus as a swan in flight as viewed from below.

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts “Cygnus” as a swan in flight as viewed from below.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts “le Cigne” as a swan in flight as viewed from above.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts “Cygnus: as an eagle in flight as viewed from below.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) depicts “Cygnus” as a swan taking flight to our right.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) depicts “Cygnus” as a swan in flight as viewed from below.

German uranographer Johann Bayer (1572 – 1625) depicts this as a flying swan as viewed from below in his *Uranometria* in 1603. Bayer lists these names for this constellation: “Cygnus, Olor seu Auis, Ouidio Miluius, Gallina, Vultur Cadens, Myrtilus, Ledae Adulter, Hirezem, Arided, Degige vel Adegige, Digegi, Adigegi vel Adigege, Rosa, redolens Lilium”.

“Cygnus: is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and depicted as a swan in flight as viewed from below.

Giovanni Paolo Gallucci’s *Theatrum Mundi, et Temporis* (1614) labels this constellation “Cisne” and “Galina” and depicts it as a swan in flight.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) list the names “Cygnus” and “Olor” for this constellation.

“Cygnus” is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a swan in flight as viewed from below.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts “Cygnus” as a swan in flight as viewed from below.

The huge *Gottorf Globe* (c1650) made for the Duke of Holstein, Frederick III, one of the world’s first planetariums, depicts Cygnus as a swan in flight as viewed from below.

Cygnus is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661: It is depicted as a swan in flight as viewed from below.

English uranographer John Seller’s *A coelestiall planisphere* (1678) depicts “Cygnus” as a swan in flight as viewed from below.

Dutch cartographer Frederik de Wit’s *Planisphaerium Coeleste* (1670) depicts Cygnus as a swan in flight as viewed from below.

The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678 by English uranographer James Clerk depicts “Cygnus” as a swan in flight viewed from below.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts “Cygnus” as a swan in flight as viewed from below.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this “Le Cyngne”, “Cygnus”, and “κύκνος” and depict it as a swan in flight as viewed from below.

A celestial pocket globe created by British uranographer Herman Moll in 1719 depicts “Cygnus” as a swan in flight.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley’s pirated catalogue of Flamsteed’s observations of 1712, depicts Cygnus as a swan in flight as viewed from below.

Cygnus is listed in English astronomer John Flamsteed’s *Atlas Coelestis* in 1729: This is depicted as a swan in flight as viewed from below.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts “Cygnus” as a swan in flight as viewed from below.

The *Atlas Coelestis* of German astronomer Johann Gabriel Doppelmayr (1742) depicts “Cygnus” as a swan in flight as viewed from below.

German engraver and cartographer Tobias Conrad Lotter’s *Planisphaerium Coeleste* (1750) depicts Cygnus as a swan in flight as viewed from below.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Cygnus as a swan in flight as viewed from below.

French uranographer Gabriel Phillipe de la Hire’s *Planisphere Celeste* (1760) depicts “Le Cigne” as a swan in flight as viewed from below.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts “Cygnus” as a swan in flight as viewed from above.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts “le Cigne” as a swan in flight as viewed from below, as does the 1778 edition. It also appears on French charts as “Cygne”.

Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists this constellation as ”Der Schwan” and depicts it as a swan in flight as viewed from below.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as “Cigno” in his *Della Specola Astronomica De’ Regj Studj Di Palermo* (1792).

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts “Cygnus” as a swan in flight as viewed from below.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts “Cygnus” as a swan in flight as viewed from below.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as "Schwan" and depicts it as a swan in flight as viewed from below.

American uranographer William Croswell (1760 – 1834) depicts "Cygnus the Swan" on his *Mercator Map of the Starry Heavens* in 1810 as a swan in flight as viewed from below.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Cygnus in his *Celestial Atlas* in 1822.

American uranographer Elijah Burritt's *The Constellations for each Month in the Year* (1835) depicts "Cygnus the Swan" as a swan in flight.

"Cygnus" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and is depicted as a swan in flight as viewed from below.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depict "Cygnus" as a swan in flight as viewed from below.

Cygnus is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on Jamieson's *Celestial Atlas*. Cygnus is depicted in *Urania's Mirror* as a flying swan viewed from below.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts "Cygnus" as a swan in flight as viewed from below.

"Cygnus" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It is depicted as a swan in flight as viewed from below.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this constellation as "Cygnus, the swan".

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Cygnus, The Swan" as an official constellation "recognized in the catalogue of the British Association".

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as "Cygnus, the Swan".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Cygnus" in his *Star Atlas* (1893) and describes it as "The Swan".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Cygnus" and describes it as a "Swan".

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Cygnus… the Swan".

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) redesigned the lines of Cygnus in his book *The Stars - A New Way to See Them* (1952). The standard IAU chart shows Cygnus as the Northern Cross asterism (see below). Rey adds lines connecting the tips of the "wings", Zeta (ζ) Cygni and Kappa (κ) Cygni, with Alpha (α) Cygni (Deneb) in the "tail". Lines from Deneb to Xi (ξ) Cygni and from Nu (ν) Cygni through Sigma (σ) Cygni to Tau (τ) Cygni have been added to form the "legs".

Sky and Telescope Magazine, founded in 1941, depicts Cygnus in their magazine and publications like this:

- The "head" and "neck" is a line from Beta (β) 1 Cygni (Albireo) to Gamma (γ) Cygni,
- The body and wings are formed by to interconnected pentagonal shapes:
    - One runs from Gamma (γ) Cygni through Delta (δ) Cygni to a "wing tip" at Iota (ι) Cygni then through Omicron (ο) 2 Cygni to Alpha (α) Cygni (Deneb) with a line running from Iota (ι) Cygni to Kappa (κ) Cygni at the "wing tip",
    - One runs from Gamma (γ) Cygni through Epsilon (ε) Cygni to a "wing tip" at Zeta (ζ) Cygni then through Nu (ν) Cygni to Alpha (α) Cygni (Deneb).

Italian astronomers call this constellation "Cigno", and the Spanish "Cisne".

Cygnus A:

This **telescopic** asterism is the galaxy PGC 63932 (3C 405, Cygnus A) in the IAU constellation Cygnus. It is also known as "Reber's of Cygnus" (see below).

Cygnus Box:

This **telescopic** asterism is in the IAU constellation Cygnus and is Leiter 7 on astronomer Frank Leiter's asterism list. This is made up of five stars, the brightest being magnitude 9.5, and is only2 arcseconds in size, so you'll need higher magnification to see it. Its size is 2' X 0.6'.

Cygnus Loop:

See Veil Nebula (below).

Cygnus Star Cloud:

This **telescopic** asterism is Sharpless SH 2-101 (LBN 168, Ced 173) in the IAU constellation Cygnus. Size 16' X 9'. It is also known as the Tulip Nebula.

Cyllarus:

This Latin asterism is the IAU constellation Equuleus. Cyllarus was the brother of Pegasus, given by the Goddess Juno to Pollux.

Cyllenius:

This Greek asterism is the IAU constellation Perseus. Johann Bayer's *Uranometria* (1603) lists "Cyllenius" for this constellation. R. H. Allen's *Star Names* in 1899 lists "Cyllenius" for this constellation. Cyllenius is a surname of the God Hermes.

Cylon Spaceship of Ophiuchus:

This **telescopic** asterism "Cylónia Ophiúchi" is the irregular galaxy NGC 6240 in the IAU constellation Ophiuchus. It was discovered by Édouard Stephan in 1871. It became GC 5833 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because to them it looked like "a Cyclon basestar spaceship as figuring in the well-known sf television series Battlestar Galactica".

Cymbal:

This German asterism “Azzango” was created from the stars of the IAU constellation Lyra by Wilhelm Schickard (1592 - 1635) according to Italian translator Giuseppe Simone Assemani (1687 – 1768). Compare this to Lyre, below.

Czar’s Cross:

This Belarussian asterism “Tsarou Krest” is the IAU constellation Cygnus (Avilin 2009). They also call it “Petrova Palka” (“Peter’s Stick”).

D:

There are three **telescopic** letter “D” asterisms:

- One is the open cluster NGC 1513 in the IAU constellation Perseus. This was discovered by English astronomer William Herschel in 1790 who listed it in his catalogue as “VII 60”. It is GC 809 in the *General Catalogue* of 1864. English Admiral Henry William Smyth described it as “in the form of a letter ‘D’” in his *Bedford Catalogue* in 1844. It is also known as the Knight’s Badge.
- One from *Pattern Asterisms* by American astronomer John A. Chiravalle is made up of eight stars in the IAU constellation Eridanus (including HIP 17017, 17079, and 17132), 6 degrees north of the Letter “F” asterism (see below). This is listed on American astronomer Jeffrey Corder’s list as Corder 565 and on Brazilian astronomer Bruno Alessi’s BDCC 7.6 catalogue. Size 45’.
- One, David’s D, is in the IAU constellation Triangulum, Collinder 21. It is made up of thirteen stars, the brightest being HIP 8545A. It is on the asterism list of English astronomer David Ratledge. Robert Zebahl lists it on his Faint Fuzzies site as a “semi circle”.

Da Huo:

This Chinese asterism “Da Huo” from the *Xiuyao jing* (宿曜經）(759 and revised 764) is the IAU constellation Scorpius (Kotyk 2017).

Da Liang:

This Chinese asterism “Da Liang” from the *Xiuyao jing* (宿曜經）(759 and revised 764) is the IAU constellation Taurus (Kotyk 2017).

Dabih:

See Auspice of the Slaughterer, above.

Dabih Major:

This star is Beta (β) 1 Capricorni in the IAU constellation Capricornus. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists this star.

Dabih Minor:

This star is Beta (β) 2 Capricorni in the IAU constellation Capricornus. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists this star.

Daddy of Boötes:

This **telescopic** asterism "Patérculus Boótis" is the starburst galaxy NGC 5930 (Arp 90) in the IAU constellation Boötes. William Herschel listed this as "II 651". John Herschel listed it as h 1925 and later as GC 4104 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "this rather small galaxy is accompanied by an even smaller one [the Seyfert galaxy NGC 5929], like a daddy strolling with his child".

Dagger:

This German star "Pugio" is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes as listed by German astronomer Johann Bayer (1572-1625).

There are two **telescopic** "Dagger" asterisms:

- One is in the IAU constellation Corona Borealis and is Corder 2817 on the observing list of American astronomer Jeffrey Corder. Size 35'. This is eight 5^{th} – 12^{th} magnitude stars including Omicron (o) Coronae Borealis, HIP 75060, 75005, and 74944. Corder describes this as forming "the shape of a 'Dagger' or 'Angel'".
- One is the Seyfert II galaxy IC 2461 in the IAU constellation Lynx. This was discovered in April 1900 by French astronomer Steven Javelle. This name was posted on the *Deep Sky Forum* by American astronomer Jimi Lowrey in February 2022.

Dagger of Leo:

This **telescopic** asterism "Púgio Leónis" is the spiral galaxy NGC 3495 in the IAU constellation Leo. It was discovered in 1786 by William Herschel who listed it as III 498". It became GC 2279 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Dagon:

This Syrian name "Dāgōn" is given for the IAU constellation Cetus in John Hill's *Urania* in 1754. Dagan or Dagon is an ancient Syrian God of prosperity. R. H. Allen associates it with Pisces in his *Star Names* in 1899.

This asterism is the IAU constellation Pisces as listed in an "Ancient Zodiac of Egypt" in *Hindu Astronomy* by W. Brennand in 1896. Brennand has labelled this illustration "from the Barberini Museum", which is probably a reference to the 17^{th} century Palazzo Barberini, which is now the Galleria Nazionale d'Arte Antica. This depicts a mermaid with a male figure in the palm of her left hand and a bent stick in her right hand and also gives the name "Ichthion" (see Ichthion, below). The stars of Pisces did not appear in any ancient Egyptian asterism and its stars appeared in the Seleucid asterisms "Tails" (see below) and "Swallow" (see below). Brennan attributes this name for this constellation to the 5^{th} century Roman author Macrobius Ambrosius Theodosius, who believed that the Egyptians created the signs of the zodiac and that they were later adopted by the Greeks. Brennand writes that Pisces was associated with "Nephlis, the Greek Venus". Of course, Venus is a Roman Goddess: The Greeks called her Aphrodite. The ancient Egyptians had several Goddesses associated with love, but the only Egyptian Goddess with a name similar to this was Nephthys, who was a funerary Goddess of grief and unrelated to Venus. Dāgōn

or Dagan was an ancient Syrian God of prosperity which the associated with the IAU constellation Cetus, not Pisces (see above).

Dalim:

See Ostrich, below.

Dam:

This English star is Theta (θ) Eridani in the IAU constellation Eridanus as listed in R. H. Allen's *Star Names* in 1899. Allen attributes it to English orientalist Thomas Hyde (1636 – 1703).

Damu:

This Chaldean asterism "mul da-mu" is listed in the *Great Star List* (Koch-Westenholz 1995) but the stars have not been identified. Damu was a Mesopotamian God of vegetation, later a God of healing.

Dance:

This Kiribati star "Batere" or "Nei Batere" is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga (Trussel and Groves 1978).

Dance of the Widows:

This Sardinian asterism "Su Ballu de sas Fiudas" is the IAU constellation Corona Borealis (Putzolu 2019).

Dancer:

There are two Arabic asterisms with this name:

- One is the star "'ar-Rāqiṣ", "Ar-Raaqis", or "Ar-Raaqiss" (الراقص) which is translated as "dancer" or as "trotting camel" is the star Mu (μ) Draconis:
  - This was later latinized to . "Arrakis", "Alrakis", or "Errakis".
  - It appears on a globe made by Mohammed ben Helal in 1275 in Mosul (Dorn 1829), based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283).
  - American uranographer Elijah Burritt's *The Constellations for each Month in the Year* (1835) lists this star as "El Rakis".
  - English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "al rákis, the trotter" as well as "El rákis, the dancer or leaper".
  - This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "er Rakis": The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822.
  - The IAU approved the name Alrakis for Mu (μ) Draconis A.
- One "Al-rāqes" is the IAU constellation Hercules as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

This Latin asterism "Saltator" is the IAU constellation Hercules. Johann Bayer's *Uranometria* (1603) lists "Saltator". English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists Saltator.

This Ainu Nociw ("asterism") "Upopo Keta" (ウポポ ケタ) is the Big Dipper asterism in the IAU constellation Ursa Major. This represents a dancing bearded male: His head is Beta (β) Ursae Majoris (Merak), his right elbow Alpha (α) Ursae Majoris (Dubhe), and his left elbow Gamma (γ) Ursae Majoris.

The line of stars Delta (δ) Ursae Majoris, Epsilon (ε) Ursae Majoris, Zeta (ζ) Ursae Majoris, and Eta (η) Ursae Majoris is his body down to his feet at Eta (η) Ursae Majoris.

Dancers:

This Iroquois asterism is the Pleiades cluster in the IAU constellation Taurus.

This Greek asterism "Choreutae" ("dancers" as listed in the *Scolia Basileensia* and by Hyginus), "Circenes" ("circuses" as listed in the *Aratus Latinus*), or by the Latin name "Saltatores", is a group of stars in the IAU constellation Ursa Minor: Alpha (α) Ursae Minoris (Polaris), Beta (β) Ursae Minoris (Kochab), Gamma (γ) 1 and 2 Ursae Minoris, Delta (δ) Ursae Minoris, and Epsilon (ε) Ursae Minoris. This is listed in Robert Hues' *A Learned Treatise of Globes* in 1659 and in R. H. Allen's *Star Names* in 1899. Compare this to Players, below.

Dancing:

This **telescopic** Trinidad and Tobago star "Dingolay" ("dance", "twist", or "turn") is HIP 54158 (HD 96063) in the IAU constellation Leo (magnitude 8.25). It was given the name Dingolay in the IAU NameExoWorlds campaign. It has an exoplanet named Ramajay ("sing" or "make music").

Dancing Girl of Canes Venatici:

This **telescopic** asterism "Orchéstris Cánum Venaticórum" is the barred spiral galaxy NGC 4145 in the IAU constellation Canes Venatici. William Herschel listed this as "I 169". John Herschel listed it as h 1105 and later as GC 2750 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Dancing Girl of Centaurus:

This **telescopic** asterism "Saltátrix Centaúri" is the intermediate spiral galaxy NGC 4947 in the IAU constellation Centaurus. It was discovered by John Herschel in 1834 who listed it in his *General Catalogue* of 1864 as GC 3388. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of its "elegant whirling spiral arms". NOTE: Lewis Swift observed this in 1898 and entered it in the Index Catalogue as IC 3974.

Dancing Master of Andromeda:

This **telescopic** asterism "Chorodidáscalus Andrómedae" is the interacting galaxy UGC 1810 (Arp 273) in the IAU constellation Andromeda. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). It is also known as the "Galactic Trainwreck".

Dancing One of Pegasus:

This **telescopic** asterism "Orchésis Pégasi" is the interacting galaxies UGC 12914 and UGC 12915 in the IAU constellation Pegasus. It was discovered by A. G. Wilson in the 1950s. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as "UGC 12914 and its companion UGC 12915 form a dancing pair". It is also known as the "Taffy Galaxies" (see below).

Dancing Pair of Pegasus:

This **telescopic** asterism "Orchésis Pégasi" is the interacting galaxies UGC 12914 and UGC 12915 in the IAU constellation Pegasus. It was discovered by A. G. Wilson in the 1950s. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as "UGC 12914 and its companion UGC 12915 form a dancing pair". It is also known as the "Taffy Galaxies" (see below).

Dancing Woman of Eridanus:

This **telescopic** asterism "Baccibállum Erídani" is the elliptical galaxy NGC 1395 in the IAU constellation Eridanus. It was discovered in 1784 by William Herschel who listed it as "I 58". It became GC 746 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They explain their name thus: Bacciballum is a hapax (a once-only non-recurring word) in ancient literature. It was once used by Petronius, indicating a lovely charming woman. The word is derived from bac(c)a, a berry, and ballare, to dance. The name emphasizes the beautiful round form of this galaxy."

Dandedare Pila:

This Kolam asterism is a spiral of stars believed to be the "tail" of the IAU constellation Scorpius (Vahia 2014).

Dandelion:

There are three **telescopic** "dandelion" asterisms:

- One is Vastagh 22, listed in 2009 by Hungarian astronomer László Vastagh, which is in the IAU constellation Cassiopeia. Its apparent diameter is 1° 50'. Vastagh describes it as a "'Dandelion' with a broken stem, with a long stem. His head is already small and thin. Cassiopeia must be bored: it was a toy, now it lies discarded on the velvet of the sky meadow. The number of its members is ~60, and its total brightness is high. Cascade type [asterism] that ends in a grouping… Appears with Berkeley 61 NY. Its surroundings are also interwoven with star trails. Towards the DRC, the head of the dandelion connects to another cascade of rare but bright members."
- One is the Cosmic Dandelion, NGC 6520 in the IAU constellation Sagittarius, which was initially discovered by English astronomer William Herschel in 1785 who listed it as "VII 7". It is GC 4358 in the *General Catalogue* of 1864. This is also known as the Dead Man's Chest (see below) and the Castaway Cluster (see above).
- One is nebulosity surrounding Wolf-Rayet star WR 134 in the IAU constellation Cygnus. This open cluster discovered by British astronomer John Herschel in 1828. Canadian astrophotographer Oleg Bouevitch, taking an SHO image of this cluster 17 August 2025, discovered a round nebula, likely a supernova remnant, in this cluster. His daughter named it "Dandelion" Size 35'.

Dandelion Puffball:

See Glowing Eye nebula, below.

Danger:

This Chinese star “Wei” from the Three Kingdoms to the Ming Dynasty is Zeta (ζ) Ursae Majoris (Mizar) in the IAU constellation Ursa Major.

Daniela Alejandra Ayala:

The location of this Northern Andes asterism is uncertain but is in the center of the sky at nightfall of the female equinox (Quinatoa 2018).

Daniel’s Lion:

This asterism is the IAU constellation Leo as listed in R. H. Allen’s *Star Names* in 1899. Allen attributed it to people “who figured Biblical characters throughout the heavens in place of the old mythology” but did not name a specific culture. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 attributes it to “Stower’s celebrated manuscript Almanac of 1386”.

Danu:

This Celtic (Irish) asterism may be the IAU constellation Aquarius. Danu was a mother-Earth Goddess who appears in various forms in Celtic mythology (Mosenkis, date N/K).

This Myanmar yathi (zodiac constellation) “Danu” (ဓနု) is the IAU constellation Sagittarius.

Dapi’chi:

This Toba asterism “Dapi’chi” is the Pleiades cluster in the IAU constellation Taurus (Gómez 2011). The meaning of this depends on the Toba community involved: The Tobas from Tartagal and Monte Caramelo see it as a “high Uranus God”, another community sees it as a big bonfire, another as some boys, and yet another as some carob flour spilled on the ground around a mortar. Many other Tobas identify it as an old man who is seen as being in charge of frost and cold.

Dark Camel:

This Arabic star is Epsilon (ε) Ursae Majoris in the IAU constellation Ursa Major. It is also known as The Oryx.

Dark Canopus:

“Il Canopo Fosco” is the name given to the Coal Sack Nebula (see Coal Sack Nebula above) by the by Italian merchant and navigator Amerigo Vespucci.

Dark Cigar:

This **telescopic** asterism “Dunkelzigarre” (“Dark Cigar”) is the dark nebula Barnard 168 in the IAU constellation Cygnus. Size 100’X 20’. René Merting describes it on the *Faint Fuzzies* website: “The dark nebula starts faintly in the west and then pulls east as a dark well-defined tube… south of the nebula a prominent star chain pulls from SW to NE and ends near Cr 470.” It is also known as the Caterpillar Nebula (see above) and the Asphalt Path (see above).

Dark Doodad:

This asterism is a dark nebula near the globular cluster NGC 4372 (Caldwell 108) in the IAU constellation Musca. It was discovered by James Dunlop and became h 3390 in John Herschel’s catalogue and later GC

2927 in the *General Catalogue* of 1864. It was named by American amateur astronomer and author Dennis di Ciccio in 1986.

Dark Dust Nebula:

This **telescopic** asterism is the HII region SH 2-63 (LBN 86) in the IAU constellation Sagittarius. This name appeared on the *Astrophotography* page of Facebook in a photo by Polish astrophotographer *Cmk Photo* on 23 August 2025. It is also known as the "Eagle Ray" or the "Cosmic Sailor".

Dark Green:

This Arabic star "al-akhdar" is from the rain star calendar of Qushayr (Adams 2016). The identity of this star is uncertain, but it must have set in the west after the Two Vultures (see below) and before the Cross Bar of the Well (see above).

Dark Horse Nebula:

This **telescopic** asterism is dark nebula the Dark Horse, Great Dark Horse, or the Prancing Horse is in the IAU constellation Ophiuchus. This contains the Pipe Nebula (see below).

Dark One:

This Greek star "Celaeno" or "Celeno" is 16 Tauri in the Pleiades cluster in the IAU constellation Taurus. This is the name of one of the Pleiades sisters and the daughter of the Titan Atlas and this star is part of the Pleiades cluster:

- Scottish uranographer Alexander Jamieson (1782 – 1850) list it as "Celino" in his *Celestial Atlas* in 1822.
- This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Celino": The author is unknown, but it is based on Jamieson's *Celestial Atlas*.
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists "Celaeno" for this star.
- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Celieno".
- The IAU approved the name Celaeno for 16 Tauri.

Dark Rift:

See Great Rift, below.

Dark River:

See Great Rift, below.

Dark River Clouds:

See Ophiuchus Nebula, below.

Dark Shark Nebula:

This **telescopic** asterism is dark nebula is LDN 1235 in the IAU constellation Cepheus. It is also known as the Shark Nebula (see below). LDN 1235 is the spot in the "shark's head". vdB 149 and 150 are two blue reflection nebula on either side of the "shark's neck". Spiral galaxy PGC 67671 appears behind the "dorsal fin".

Dark Skin:

This Mapuche asterism is a dark nebula in the Milky Way.

Dark Whale:

This **telescopic** asterism "Tenebrosus Céti" is the spiral galaxy NGC 45 in the IAU constellation Cetus. It was discovered by John Herschel in 1835. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as it has a low surface brightness.

Dark Wolf Nebula:

This **telescopic** asterism is dark nebula is Barnard 228 in the IAU constellation Lupus.

Darkening:

This Celtic (Gaulish) asterism "Dumanni Prinnios" ("arborescence/darkening/tree structure of darkening") is the IAU constellation Sagittarius and appears in the Coligny calendar (Boutet 2001, 2017). Compare to their asterism Month of Fumigations Guiding Star (below).

Darkness:

This Arabic star "al-Dhulaīm" is Alpha (α) Eridani (Achernar) in the IAU constellation Eridanus:

- "al-Dhulaīm" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- Edward Sherburne lists it as "Al Dalim" in his Sphere of Marcus Manilius in 1675 which he translates as "Agger" ("embankment").
- Italian astronomer Giuseppe Piazzi gave it the latinized name "Dalim" in his Palermo Catalogue in 1803.
- English Admiral Henry William Smyth's Bedford Catalogue in 1844 lists "Dhalim" but incorrectly translates it as "the ostrich" and attributes this to "Bedawi Arabs": The Arabic star Ostrich ("al Thalim" is Alpha (α) Piscis Austrini (Fomalhaut).

This **telescopic** Bengali star "Timir" is HIP 80687 (HD 148427) in the IAU constellation Ophiuchus (magnitude 6.89). It was given this name in the IAU NameExoWorlds campaign. It has an exoplanet named Tondra, which means "nap".

Darkness Stars:

This Yucatec asterism "Ekel Ek" may be the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper above) and represents a starry ball court.

Dart:

This **telescopic** asterism is the open cluster NGC 6400 in the IAU constellation Scorpius. It was discovered in 1826 by the Scottish astronomer James Dunlop who listed it as 'Dunlop 568". John Herschel listed it as h 3696 and later as GC 4313 in the *General Catalogue* of 1864. It was given this name by American astronomer Wayne Schmidt, who describes it as a dart 8 arcminutes long.

This Latin asterism "Jaculum" ("dart" or "javelin") is the IAU constellation Sagitta. The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch lists "Jaculum" as a name for Sagitta. John Hill

lists it simply as “Dart” in his *Urania* in 1754. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Jaculum”.

Darth Vader’s Starfighter:

This **telescopic** asterism is the galaxy NGC 936 in the IAU constellation Cetus. This was discovered by English astronomer William Herschel in 1785, who listed it as IV 23. It is listed as GC 544 in the General Catalogue of 1864. Stephen James O’Meara gave it this name in 2011 in his *Deep-Sky Companions*. It is also known as Darth Vader’s Galaxy. It is also known as the “Dish of Cetus” (see below).

Darts:

This Hawaiian asterism “Na Kao” is the belt of Orion in the IAU constellation Orion.

Date Clusters:

This Arabic asterism is a line of stars with three more branching off of it in the IAU constellations Centaurus, Crucis, and Hydra: The line starts at Xi (ξ) Hydrae and runs through HIP 57443 to HIP 57803, where two lines branch off:

- One line runs through Gamma (γ) Centauri, Epsilon (ε) Centauri, Beta (β) Centauri (Al-Muqil) and ends at Alpha (α) 1 Centauri (Rigil Kentaurus).
- One line runs to Delta (δ) Centauri and then splits again into two lines:
    - One line runs through Gamma (γ) Crucis to Beta (β) Crucis (Mimosa), and
    - One line runs through Delta (δ) and Epsilon (ε) Crucis to Alpha (α) Crucis (Acrux).

Date Palm Fruit:

This Persian asterism “Ihlilagji” is the IAU constellation Ursa Minor as listed by R. H. Allen in his *Star Names* in 1899.

This Latin asterism “Myrobalanum” is the IAU constellation Ursa Minor as listed by R. H. Allen in his *Star Names* in 1899. Allen notes that English orientalist Thomas Hyde (1636 – 1703) called it “Myrobalanaris”, describing it as a geometrical figure and that German astronomer Christian Ludwig Ideler (1776 – 1846) described it as consisting of stars in the IAU constellations Camelopardalis and Ursa Minor: Alpha (α) Ursae Minoris (Polaris), Delta (δ) Ursae Minoris, Epsilon (ε) Ursae Minoris, Zeta (ζ) Ursae Minoris, Eta (η) Ursae Minoris, Gamma (γ) Ursae Minoris, Beta (β) Ursae Minoris (Kochab), a Ursae Minoris, and b Ursae Minoris plus “stars in the head of Camelopardalis”.

Daughter of Minos:

This Italian asterism “la Figliuola di Minoi” is the IAU constellation Corona Borealis as described by Italian poet Dante Alighieri (1265 – 1321).

Daughter of the Elder:

See Bier of Lazarus, above.

Daughter of Ursa:

This French asterism “Filia Ursae” is the IAU constellation Ursa Major as listed by French astronomer Joseph Jérôme Lefrançois de Lalande (1732 – 1807).

Daughters of Na'sh:

This Bedouin asterism "Banāt Naʿš" (بنات نعش) is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper above). These seven daughters are carrying the bier of their father, the Arabic hero Al Na'ash, who was killed by Al-Jady or al-Ǧady (Polaris). It is related to their asterism Two Guards (see below):

- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Benat na'sch" and "Serir benat na'sch, throne of Benat na'sch".
- R. H. Allen writes in his *Star Names* in 1899 that the star Mizar is seen as holding an infant daughter (the star Alcor). Compare this to Daughters of the Bier, below.

This Arabic asterism "Bani Na'sh" is the Big Dipper asterism in the IAU constellation Ursa Major as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

Daughters of the Bier:

There are two Arabic versions of this asterism:

- One, "Banāt un-Naʿash" (بنات النعش) is Eta (η) Ursae Majoris (Alkaid) in the IAU constellation Ursa Major:
    - The star list of Abraham Bar Hiyya in 1104 (Goldstein 1985) lists the name "ha-me'ir mi-benot".
    - This appears on a globe made by Mohammed ben Helal in 1275 in Mosul (Dorn 1829), based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283).
    - German uranographer Johannes Stöffler's Constance Celestial Globe (1493) lists this star as "Bennetnatz".
    - This was later latinized to "Benetnash", "Benetnasch" and the "Benenas", "Benethasch", and "Beneath As" by John Chilmead (1899) and German orientalist Jakob Christmann (Christmannus- 1554 – 1613).
    - The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) lists "Bemaziz" for this star.
    - Johann Bayer's *Uranometria* (1603) lists the names "Benenaim", "Benenatz", and "Benetnasch" for this star.
    - Gores for a celestial globe Bibliothèque Nationale de France, Department Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius labels this star "Beneth As".
    - Robert Hues lists it as "Beneth As", "Benethasch", and "Benenas" in his *A Learned Treatise of Globes* in 1659 and translates this as "filium ursa" which means "bear's son".
    - This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 with the abbreviated label "Benet Aa".
    - German astronomer Johann Bayer (1572-1625) listed "Benenaim", "Bennenatz", "Benetenasch" and Benenacx".
    - The 1521 edition of the *Alfonsine Tables* lists "Bennenazc" (Kunitzsch 1986)
    - Italian astronomer Giovanni Batista Riccioli (1598 – 1671) lists "Benat Elnanschi", "Beninax", "Benenath", and "Benenatz".

- Dorn (1829) lists this as “Benat-nash” and attributes it to Persian cosmographer Zakariyya’ al-Qazwini (1203 – 1283).
- The rete of the 14th century Spanish astrolabe NMM AST0570 in the National Maritime Museum lists the name “Benena” (Dekkker 2000).
- The Sloane astrolabe BM SL 54 in the British Museum which dates to 1290 – 1300 lists “Benenaz” (Dekker 2000).
- American uranographer William Croswell (1760 – 1834) lists this star as “Benetnasch” on his *Mercator Map of the Starry Heavens* in 1810.
- German astronomer Johann Elert Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) as Benetnasch”. Compare this to Daughters of the Lesser Bier, below, and Daughters of Na’sh, above.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists “Benetnasch” in his *Celestial Atlas* in 1822.
- American uranographer Elijah Burritt’s *The Constellations for each Month in the Year* (1835) lists this star as “Benetnatsch”.
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich list this star as “Benetnasch”.
- *An Improved Moveable Planisphere* (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, lists this star as “Benetnasch”.
- This is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852 as “Benetnasch”: The author is unknown, but it is based on Jamieson’s *Celestial Atlas*.
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as “Benetnasch”.
- English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists this star as “Benetnasch”.
- The 1st edition (1910) and the 14th edition of British schoolmaster Arthur P. Norton’s *A Star Atlas* (1959) list “Benetnasch” for this star.

- One is the asterism “Banāt Naʿesh al-Kubra” (“great daughters of the bier or coffin”) or “Banāt Naʿash al Ḳubrā” and is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above) as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of Fixed Stars.* Compare this to Daughters of Na’sh, above.

This asterism was listed by German astronomer Petrus Apianus in 1533 in his *Horoscopion Apiani General*. It represents three female figures in front of a seated woman and is made up of stars between the IAU constellations Draco and Ursa Minor. The three women stretch between Alpha (α) Ursae Minoris (Polaris) and Zeta (ζ) Ursae Minoris. The “head” of the seated woman is the “bucket” of the Little Dipper and the “chair” she is seated on is the tail end of the constellation Draco. Although no translations of Persian astronomer 'Abd al-Rahman al-Sufi’s *Book of Fixed* stars were available to him at that time in history, it appears that Apianus was influenced by the *Book of Fixed Stars* in creating this asterism as this asterism earlier appeared in Arab sky lore (see Daughters of Na’sh and Daughters of the Bier, above).

John Hill lists the Latin name “Feretrum Majus” (“the bier”) in his *Urania* in 1754.

Daughters of the Lesser Bier:

This Arabic asterism “Banāt al Naʿash al Ṣughrā” is the IAU constellation Ursa Minor. Compare this to Daughters of the Bier, above.

Daughters of the Night:

This Ayt Xebbac asterism “Tintsḍiṣ” (Arabic “Ettṛeyya”) is the Pleiades cluster in the IAU constellation Taurus (Souag 2019).

Daughters of the Sky God:

This Nama asterism includes the Pleiades cluster in the IAU constellation Taurus, Alpha (α) Tauri (Aldebaran) in the Hyades cluster in the IAU constellation Taurus, and the IAU constellation Orion. Aldebaran was the husband of the daughters of the sky god: The Pleiades were the daughters of the Dawn or Sky God Tsui Goab. When the husband shot his arrow (Orion’s sword) at three zebras (the belt of Orion) it fell short. He didn’t recover his arrow as a lion (Alpha (α) Orionis (Betelgeuse)) was watching in ambush.

The San (Ju/Wasi) asterism is identical to the Nasa asterism above.

Daughters of the Tabernacle:

This Italian asterism “Filiae Tabernaculi” ” is the Pleiades cluster in the IAU constellation Taurus as listed by Italian astronomer Giovanni Battista Riccioli (1598 – 1671) and by R. H. Allen in his *Star Names* in 1899.

Dauntless of Cetus:

This **telescopic** asterism “Intrépida Céti” is the interacting galaxies NGC 1141 and 1143 (Arp 118) in the IAU constellation Cetus. These were discovered by German astronomer Albert Marth in 1864. They became GC 5287 and GC 5288 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

DAVe:

This asterism consists of stars from three different IAU constellations: Alpha (α) Cygni (Deneb- 19th brightest star) in the IAU constellation Cygnus, Alpha (α) Aquilae (Altair- 12th brightest star) in the IAU constellation Aquila, and Alpha (α) Lyrae (Vega- 5th brightest star) in the IAU constellation Lyra. The Halifax Centre of the RASC calls this “DAVe” (“Deneb, Altair, Vega”), a name attributed to Chris Young (Dave Chapman 2023).

David:

This German asterism “David” or “King David” is the IAU constellation Perseus as listed by German astronomer Wilhelm Schickard (1592 – 1635), who described it as “David with the head of Goliath”. “David” is listed as an alternate name for this constellation in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch. This constellation is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as “S. Rex David”. English Admiral Henry William Smyth lists Davic in his *Bedford Catalogue* in 1844, as does R. H. Allen in his *Star Names* in 1899: Both Smyth and Allen list Schickard and Italian humanist and poet Ambrogio Fracco, also known as Novidius (1480 - ?) as having used this name. Edward Sherburne lists “David with the Head of Goliath” in his Sphere of Marcus Manilius in 1675 and attributes it to Schickard. John Hill lists both Schickard and German uranographer

Julius Schiller as the source in his *Urania* in 1754. Stevenson (1921) writes that "King David" appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627).

This German asterism "Saint David" is the IAU constellation Canis Major as listed by German uranographer Julius Schiller (c. 1580 – 1627). This appears in Edward Sherburne's *Sphere of Marcus Manilius* in 1675.

This Italian asterism is the IAU constellation Lyra as depicted on the 1710 globe of Italian monk and uranographer Amantius Moroncelli (Stevenson 1921).

David with the Head of Goliath:

This asterism "Davides cum Capite Goliathi" is an alternate name for the IAU constellation Perseus and is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

David's Chariot:

This French asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Ottescu 2009). The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) lists "Chariot de David" for this constellation.

David's Crown:

This German asterism is the IAU constellation Corona Australis as listed in Edward Sherburne's Sphere of Marcus Manilius in 1675 and in John Hill's *Urania* in 1754. Both attribute it to "Hartsdorf" or "Harsdorfius", which would be German poet, jurist and translator Georg Philipp Harsdörffer (1607 – 1658). NOTE: "Corona Regis Davidis" is listed as an alternate name for Corona Borealis in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

David's Harp:

This German asterism is the IAU constellation Lyra as listed in John Hill's *Urania* in 1754. He attributes it to German astronomer Wilhelm Schickard (1592 – 1635). Edward Sherburne lists it in his Sphere of Marcus Manilius in 1675. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists this as the "harp of David".

David's Wife:

This asterism "Davidis Uxorem" is the IAU constellation Andromeda and is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

Dawn:

This Estonian star "Koit" is XO-4 in the IAU constellation Lynx. This has an exoplanet named Hāmarik, which is their word for "dusk".

Dawn Heart's Child:

This /Xam star "Kó-G!nuin-Tára" is Alpha (α) Leonis (Regulus) in the IAU constellation Leo (Dechend 1975, Alcock 2014). It is the child of Dawn's Heart (Venus). Dechend lists it as the child of Jupiter. See Dawn's Heart in Volume 5.

Dawn Star:

This Dëne Suhne star “yełká tthél” is unidentified at present (Cannon 2021).

Dawn’s Great Stars:

This Romanian asterism is made up of stars in the IAU constellations Canis Major, Orion, and Taurus (Ottescu 2009). This is Alpha (α) Tauri (Aldebaran), the belt of Orion, and Alpha (α) Canis Majoris (Sirius).

Day Star:

This Norse star “Dagstjarna” is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes (Persson 2022). This name, “Dagstjerne”, is still used in parts of Norway. Its rising in late winter and early spring indicated the return of the Sun. There is an old Swedish Christmas song which is sung when Arcturus is rising:

“There is no sign of dawn, Even if it seems to be, It is the shining star, Promising the day to come”

This Saxon star “Tagstern” is Alpha (α) Boötes (Arcturus) in the IAU constellation Boötes as depicted in the *Nördliche Sternhimmel* sky map of O. S. Reuters based on the work of German astronomer Johann Elert Bode (1747 – 1826). Reuter (1934) listed it as “Tag Stern”, coming from the Old High German “tagasterno”.

This Icelandic star “Morgun Stjarna” is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes as listed by Bender in 2020 and Cleasby and Vigusson in 1874.

De Mairan’s Nebula:

This **telescopic** asterism is HII region de Mairan’s Nebula or Mairan’s Nebula is Messier 43 (NGC 1982) in the IAU constellation Orion. It is named for French astronomer Jean-Jacques Dortous de Mairan, who discovered it before 1731. It is GC 1185 in the *General Catalogue* of 1864.

Dead:

This Estonian star “Surnu” is Zeta (ζ) Tauri in the IAU constellation Taurus and appears in the *Sky of Ests (Chudes)* by Aleksander Heintalu (Sass of Vigala) (Kuperjanov 2006). This is related to the Estonian mythical entity “Liiva Annus” or “Surm” which represents death.

Dead Horse:

This is one of the asterisms found on the cave ceiling in Armintxe, Spain, estimated to be between 12,000 and 14,000 years old. This is made up of stars of the IAU constellation Cygnus. The central star is HIP 102431, from which three lines of stars emerge:

- One runs through HIP 101164 to 26 Cygni,
- One runs to 33 Cygni, and
- One runs to HIP 103598.

Dead Man’s Chest:

This **telescopic** asterism is the open cluster NGC 6520 in the IAU constellation Sagittarius, which was discovered by English astronomer William Herschel in 1785 who listed it as “VII 7”. It is GC 4358 in the *General Catalogue* of 1864. This is a reference to the fictional song “*Fifteen Men on the Dead Man’s Chest*” from Robert Louis Stevenson’s 1883 novel *Treasure Island*, later expanded in Young E. Allison’s 1891 poem *Derelict*. Dead Chest is the name of one of the British Virgin Islands near Deadman’s Bay which Stevenson found in a book of island names by Charles Kingsley, who was writing in 1871. Although I do not know who assigned this name to this open cluster, it can’t predate Stevenson’s

novel. This is also known as the Cosmic Dandelion (see Dandelion, above), and the Castaway Cluster (see above).

Deaf:

This Weilwan star “Wumba” is Alpha (α) Carinae (Canopus) in the IAU constellation Carina.

Death:

This is the Mayan asterism “Kimi”, a triangle of stars in the IAU constellations Leo and Hydra: Xi (ξ) and 43 Leonis and Iota (ι) Hydrae.

Death Star:

This Akkadian asterism “Mulu Bat” is Iota (ι) Virginis in the IAU constellation Virgo as listed by German orientalist Fritz Hommel (1854 – 1936) and R. H. Allen in his *Star Names* in 1899.

Death’s Head Nebula:

This **telescopic** asterism is the HII region NGC 2467 (SH 2-311, RCW 16, LBN 1065, Cr 164, Ced 103) in the IAU constellation Puppis. This was discovered by English astronomer William Herschel in 1784 who listed it as “IV 22” in his catalogue. It is GC 1589 in the *General Catalogue* of 1864. This is O’Meara 39 in astronomer Stephen James O’Meara’s *Hidden Treasures Catalogue* (2007), where the names “Skull and Crossbones Nebula” and “Mandrill Nebula” are listed. On 2025 February 19, Denis Mainville listed it on the RASC Facebook page as the “Death’s Head Nebula”. It is also known as the Chained Broach Nebula (see above).

Deborah:

This German asterism is the IAU constellation Cassiopeia as listed in R. H. Allen’s *Star Names* in 1899, meant to depict Deborah sitting in judgement under a palm tree in Mount Ephraim.

Decacord:

This Latin asterism “Decachordum” is the IAU constellation Lyra. This was a ten stringed lyre.

Decayed Mortar:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a quadrilateral of stars in the IAU constellation Grus: Mu (μ) 2 Gruis (the determinative star), Alpha (α) Gruis, Beta (β) Gruis, and Rho (ρ) Gruis.

This Chinese xing guan “Bàijiù” (败臼) is a quadrilateral of stars in the IAU constellations Grus and Piscis Austrinus: Gamma (γ) and 19 Piscis Austrini and Gamma (γ) and Lambda (λ) Gruis. It is attached to the larger xing guan “Materials for Making Tents” (see below).

This Chinese Chenzhuo xing guan “Bàijiù” is a curved line of four stars in the IAU constellation Piscis Austrinus: Epsilon (ε) Piscis Austrinus, Beta (β) Piscis Austrinus, Nu (ν) Piscis Austrinus, and Iota (ι) Piscis Austrinus.

Deceptive of Virgo:

This **telescopic** asterism “Ludificátrix Vírginis” is the elliptical galaxy NGC 5576 in the IAU constellation Virgo. It was discovered in 1786 by William Herschel who listed it as “I 146”. It became GC 3851 in the

General Catalogue of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the redshift values of NGC 5576 and its northern neighbour NGC 5577 [GC 3855] differ less than the redshift values of NGC 5576 and the southern companion NGC 5574, it seems that NGC 5576 and NGC 5577 are the true couple, notwithstanding the larger apparent distance. However, close inspection of high quality pictures show that there is a physical connection between NGC 5576 and NGC 5574 [I 145, GC 3850]; so it is to be concluded that they form a real couple. Hence, NGC 5576 is an enigmatic partner, deceiving the honest observer."

Decorated With a Star of Leo:

This **telescopic** asterism "Astridecórus Leónis" is the spiral galaxy NGC 3338 in the IAU constellation Leo. It was discovered in 1784 by William Herschel who listed it as "II 77". It became GC 2175 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to a foreground star.

Deep Beginning:

This Dagon asterism "To Polo" is the IAU constellation Canis Major. They viewed these stars as eight seeds created by their creator God Amma, and these represented the eight brightest stars in Canis Major. The star Beta (β) Canis Majoris (Mirzam) was the first to rise.

Deep Space in a Reef:

This Kiribati star "Mataro" is currently unidentified (Trussel and Groves 1978).

Deeply Cut of Virgo:

This **telescopic** asterism "Incisus Vírginis" is the barred spiral galaxy NGC 5020 in the IAU constellation Virgo. It was discovered in 1784 by William Herschel who listed it as "II 129". It became GC 3450 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the large, sharp-edged empty region at the western side of this galaxy".

Deer:

This Egyptian asterism is one of the paranatellonta of the decans of Pisces as listed in *the Sphaera Barbarica* described by Teucros (Mosenkis, date n/k) and is the IAU constellation Camelopardalis.

This asterism "Cerua" is the IAU constellation Cassiopeia. This name is listed in Johann Bayer's *Uranometria* (1603) and attributed to Arab sources and the bishop Synesius (373 – 414 C.E.).

This Indian asterism "Mriga", described in the *Rigveda*, is the IAU constellation Orion. The acronical rising of Orion (or specifically the "deer's head" or "śīrṣa") corresponded to the Vedic month "Mārgaśīrṣa" (Ivanković 2021). R. H. Allen lists it as "Mrigaçiras" in his *Star Names* in 1899 (see Deer's Head, below). The deer is pursuing the roe "Rohini" (see Red One, below) that is the star Alpha (α) Tauri (Aldebaran). In this version of the story, Prajapati (an aspect of Brahman) takes the form of a male deer to pursue Rohini, who is his daughter Ushas in the form of a female deer. Prajapati's good twin Rudra is a hunter pursuing them (see Rudra, below). The stars of the belt of the IAU constellation Orion represent three other Gods:

- Agni (“fire”): the God Rudra, who is another aspect of Prajapati (see Rudra, below) is Zeta (ζ) Orionis (Alnitak),
- Soma (“moon” or “celestial drink”) is Epsilon (ε) Orionis (Alnilam), and
- Vishnu is the star Delta (δ) Orionis (Mintaka).

This Greek lunar mansion is listed in the *Magical Papyrus 121*, preserved in the British Museum, and dated to the 3rd century C.E. (Mosenkis, date n/k). Mosenkis describes this as “Sextans, Crater, or Coma Berenices”.

This Kolam asterism “Mekam” is made up of stars between the IAU constellations Centaurus and Hydra (Vahia 2014). The Kolam used the brightness of these stars, each of which represented a different animal, to determine the intensity of the approaching monsoon. The animals included a peacock, a buffalo, a frog, a deer, a horse, and in some regions, a pig.

This Banjara asterism “Halni”, “Halini”, or “Harini” is the IAU constellation Orion (Vahia et al 2014).

This Tupi Guarani asterism, “Veado” is made up of the stars of the IAU constellations Carina, Crux, Musca, and Vela:

- The “tail and hind quarters” is the IAU constellation Crux,
- The “head” is an oval of stars: Lambda (λ), d, e, Gamma (γ), B, A, C, D, and c Velorum,
- The “ears” are lines that run up from Lambda (λ) Velorum to the stars Psi (ψ) and k Velorum,
- The “neck” is the triangle of stars Kappa (κ) and Delta (δ) Velorum and Iota (ι) Carinae, and
- The “feet” are the stars Beta (β) Carinae (Miaplacidus) and I Carinae, and Gamma (γ) and Delta (δ) Muscae.

NOTE: The hindquarters of Veado overlaps the “head” of their asterism “White Ostrich” (see below).

This asterism “Cervus” is the IAU constellation Monoceros and was given this name by English astronomer Richard A. Proctor in 1870 as he believed that shortening the name would make more room on astronomical charts. Proctor’s *A New Star Atlas* (1887) lists it under the original name “Monoceros”.

This Lithuanian asterism “Elnias” is the IAU constellation Scorpius (Vairkünas 1999).

This Ikoots asterism “Šikwïw” is five stars in the IAU constellation Sagittarius.

This Tepehuán asterism is the belt of Orion in the IAU constellation Orion.

This Skidi Pawnee asterism is the belt and sword of Orion in the IAU constellation Orion.

This Mayan asterism is made up of the stars of the IAU constellation Sagittarius and is mentioned in the Paris Codex. The K’iche name for Scorpius is “under the deer’s leg”, which suggests this asterism, although it is uncertain exactly which stars where involved (Sokol 2022).

This early Celtic (Gaulish) asterism “Sidos” is made up of stars of the IAU constellations Virgo and Libra (Boutet 2017). Compare this to their asterism Fawn (see below) and Livestock (see below).

This Carib asterism “Awoyoyuman” or “Awoyo” represents the deer (Cervidae). Its present location is unknown (Magaña, and Jara, 1982).

Deer and Arrow:

This Kazakh, Kyrgyz, Tibetan, Tuvan, Altai, Khakas, Teleut, Telengit, Tofalar, Buryat, and Mongol asterism is the belt and sword of the IAU constellation Orion (Berezkin 2005). The three stars of the belt are a

deer (or antelope in some versions) and the “sword” an arrow (in later versions a bullet) shot at the animal.

This Mohave, Kumeyaay, Cocopah, Seri, Ivilyuqaletem, Payómkawichum, Kuupangaxwichem, Western Apache, Mescalero, Lipan, Southern Ute asterism is the IAU constellation Orion (Berezkin 2005). The stars Alpha (α) Orionis (Betelgeuse) and Beta (β) Orionis (Rigel) are the hunters, the sword of Orion their arrow, and the belt of Orion a single animal.

Deer Horn:

This Sardinian asterism “su corru 'e chervu” is the IAU constellation Perseus (Putzolu 2019).

Deer Horns:

This Palikur asterism “Gituw” is the “tail” of the IAU constellation Scorpius (Green and Green 2011). This deer is being hunted by their asterism Two Jaguars (see below).

Deer Hunter:

There are two Vedic asterisms with the name “Mrgavyadha” or “Mrigavyadha”:

- One is the IAU constellation Canis Minor.
- One is the star Alpha (α) Canis Majoris (Sirius). R. H. Allen lists this as “Mrigavyadha” in his *Star Names* in 1899 and translates this as “hunter” and Holberg (2007) also lists this translation. Compare this to “Lubdhaka” (see Deer Slayer, below).

Deer Lick Group:

This **telescopic** asterism is a group of galaxies in the IAU constellation Pegasus. It is centered on the spiral galaxy NGC 7331 (Caldwell 30), with four other galaxies around it:

- Lenticular galaxies NGC 7335 and 7336,
- Barred spiral galaxy NGC 7337, and
- Elliptical galaxy NGC 7340.

Deer Sisters:

This Paiute asterism is the Pleiades cluster in the IAU constellation Taurus. The Deer Sisters play with the Grizzly sisters (see below) which is the IAU constellation Aries.

Deer Skull:

This **telescopic** asterism is the open cluster NGC 2527 in the IAU constellation Puppis. It was discovered by English astronomer William Herschel in 1784 who listed it as “VIII 30” in his catalogue. It is GC 1624 in the *General Catalogue of 1864*. It was given this name by American astronomer Wayne Schmidt, who describes it as a wedge-shaped deer skull.

Deer Slayer:

This Vedic star “Lubdahka” is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Holberg 2007). This was discovered by English astronomer William Herschel in 1785. It is part of their asterism Deer Hunter (see above). W. Brennand lists it as “Lubdaca” in his *Hindu Astronomy* in 1896.

Deer’s Head:

This Vedic nakshatra (lunar mansion) "Mrigashira" ("Mṛgaśiraṣa", "Mārgaśīrṣa", "Mṛgaśira", Devanagari: मृगशीर्ष, Tamil: மிருகசீரிடம், Sinhalese: Muwasirasa, Kannada: ಮೃಗಶಿರ, Malayalam: മകയിരം), from the 4th to 3rd millennium B.C.E., also known as "Agrahayani" or "āgrahāyaṇī", is in the IAU constellation Orion and is the stars Lambda (λ) and Phi (ϕ) 1 & 2 Orionis (Bhagwath 2019). The maharshi Parasara lists it as Lambda (λ) and Phi (ϕ) 1 & 2 Orionis (Leitz 2019). It is related to the deity Chandra or Soma who challenged Prajipati for Rohini (see Red One, above). It appears in the *Atharveda* and on the nakshatra list of the scholar Varahamihir as "Mrigasira" (Leitz 2019). Leitz unfortunately describes it as "the star Orion" or the star "Orionis", indicating he doesn't understand that this is a suffix which could be applied to any star in Orion. The acronical rising of the "deer's head" corresponded to the Vedic month "Mārgaśīrṣa". R. H. Allen lists it as "Mrigaçiras" in his *Star Names* in 1899 and translates it as "deer". Ivanković notes that some Indian lexicographers list this under the feminine form "Mrgaśira" and "Mrgaśirsa" and that it is also known as "Invakās" (see Lords, below). Ivanković associates this asterism with the lunar God Soma. W. Brennand lists this as "Mrigasiras" in his *Hindu Astronomy* in 1896 and translates this as "head of an antelope".

This Myanmar nekkhat (lunar mansion) "Migathi" (မိဂသီ) is in the IAU constellation Orion and is the stars Lambda (λ) and Phi (ϕ) Orionis.

This Tibetan gyukar (lunar house) "Mgo" or "Go" is in the IAU constellation Orion and is the star Lambda (λ) Orionis (Johnson-Groh 2013).

Defective Cat:

This Celtic (Gaulish) asterism "Cat Palug" is the Hyades cluster in the IAU constellation Taurus (Boutet 2017). It was also known as "Catosđirai" ("cat stars") or "Cattos Pallucos" ("customary cat").

Defective Star:

This Latin asterism "Defectum Sidus" is the IAU constellation Hercules. It relates to this constellation's original Greek name, which meant "kneeler" but was often given names meaning "falling down" (see Kneeler, below). A variation of this was "Effigies defecta labore" ("portrait of defective wear").

Deformed of Aries:

This **telescopic** asterism "Distórtus Aríetis" is the barred galaxy IC 196 (Arp 290) in the IAU constellation Aries. It was discovered by American astronomer Lewis Swift in 1889, who recorded it in his list IX. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "this galaxy is seriously deformed by its close neighbour."

Deformed of Cetus:

This **telescopic** asterism "Defórmis Céti" is the barred spiral galaxy NGC 337 in the IAU constellation Cetus. It was discovered by English astronomer William Herschel in 1785. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to its "fragmented and deformed spiral arms".

Deibui:

This Mabuiag asterism is the Large Magellanic Cloud.

Deified Judge of Disaster:

This Chinese star from the Three Kingdoms to the Ming Dynasty “Sizhong” is Theta (θ) Ursae Majoris in the IAU constellation Ursa Major and is part of their asterism “Wénchāng” (文昌) - see Administrative Centre, above.

This Chinese Chenzhuo xing guan “Sizhong” is the star Nu (ν) Ursae Majoris in the IAU constellation Ursa Major. It is part of their xing guan “Administrative Centre”.

Deified Judge of Disaster and Good Fortune:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of two stars in the IAU constellation Equuleus: Gamma (γ) Equulei (the determinative star) and Delta (δ) Equulei.

This Chinese xing guan “Sīwēi” (司危) is a line of two stars in the IAU constellation Equuleus: Beta (β) and 9 Equulei.

This Chinese Chenzhuo xing guan “Sīwēi” is a line of two stars in the IAU constellation Pegasus: 1 and 5 Pegasi.

Deified Judge of Life:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of two stars in the IAU constellations Pegasus and Aquarius: d Aquarii (the determinate star) and 11 Pegasi.

This Chinese star from the Three Kingdoms to the Ming Dynasty “Siming” is 15 Ursae Majoris in the IAU constellation Ursa Major and is part of their asterism “Wénchāng” (文昌) - see Administrative Centre, above.

This Chinese xing guan “Sīmìng” (司命) is a line of two stars in the IAU constellation Aquarius: 24 and 26 Aquarii.

This Chinese Chenzhuo xing guan “Simming” is a line of two stars in the IAU constellation Equuleus: Beta (β) Equulei and 3 Equulei.

Deified Judge of Rank:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of two stars in the IAU constellation Pegasus: 4 Pegasi (the determinate star) and 7 Pegasi.

This Chinese xing guan “Sīlù” (司禄) is a line of two stars in the IAU constellation Aquarius: 25 and 27 Aquarii.

This Chinese star from the Three Kingdoms to the Ming Dynasty “Silu” is Theta (θ) Ursae Majoris in the IAU constellation Ursa Major and is part of their asterism “Wénchāng” (文昌) - see Administrative Centre, above.

This Chinese Chenzhuo xing guan “Silu” is a line of two stars in the IAU constellation Equuleus: Delta (δ) Equulei and Gamma (γ) Equulei.

Deified Judge of Right and Wrong:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of two stars in the IAU constellation Pegasus: 9 Pegasi (the determinate star) and 13 Pegasi.

This Chinese xing guan “Sīfēi” (司非) is a line of two stars in the IAU constellation Equuleus: Gamma (γ) and Delta (δ) Equulei.

This Chinese Chenzhuo xing guan “Sīfēi” is a line of two stars in the IAU constellation Pegasus: 2 and 12 Pegasi.

Deity in Charge of Monsters:

There are two Chinese xing guans from the Three Kingdoms to the Ming Dynasty called “Siguai”:

- One is 15 Ursae Majoris in the IAU constellation Ursa Major and is part of their asterism “Wénchāng” (文昌）- see Administrative Centre, above.
- One is made up of four stars in the IAU constellations Gemini, Orion, and Taurus: 136 and 139 Tauri, 1 Geminorum, and Chi (χ) 2 Orionis (the determinate star).

This Chinese xing guan “Sīguài” (司怪) is made up of four stars in the IAU constellations Gemini, Orion, and Taurus: 139 Tauri, 1 Geminorum, and Chi (χ) 1 and 2 Orionis.

There are two Chinese Chenzhuo xing guans by this name:

- One, “Siguan” is the star Theta (θ) Ursae Majoris in the IAU constellation Ursa Major. It is part of their xing guan “Administrative Centre”.
- One is a line of four stars in the IAU constellations Gemini, Orion, and Taurus: 136 Tauri, 139 Tauri, 1 Geminorum, and Chi (χ) 1 & 2 Orionis.

Deity of Two Birds:

The Chinese translation of the Sūryagarbha-parivarta from 585 describes the IAU constellation Gemini as “Shuāng niǎo zhī shén” (雙鳥之神) or “deity of two birds” (Kotyk 2017).

Deleter:

This Babylonian asterism from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) “MUL.KA.MUS.I.KU.E” (Hunger 1992) and in the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period as “mul ka.mus.i.nag.a” or “mul ka.mus.i.gu” (Koch-Westenholz 1995) is part of the IAU constellation Andromeda.

This Chaldean asterism “mul.ka.mus.i.gu” from the Great Star List (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period is part of the IAU constellation Andromeda.

This Akkadian asterism “Pasittu” (Hunger 1992) from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) is part of the IAU constellation Andromeda.

This Persian (Achaemenid, 539 – 331 B.C.E.) asterism “ka-mus-ni-ku-e” as listed by Ernst Weidner’s *Fixsterne* in 1971 is Alpha (α) Cassiopeiae (Shedar) in the IAU constellation Cassiopeia.

Delicate Natured of Boötes:

This **telescopic** asterism “Leptóphyes Boótis” is the barred spiral galaxy NGC 5754 (Arp 297) in the IAU constellation Boötes. It was discovered in 1787 by William Herchel who listed it as “III 687”. It became GC 3992 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of “the thin, delicate aspect of the long outer arm and the gentle way it seems to touch its companion NGC 5752”. NOTE: NGC 5752 was first recorded by astronomer William Parsons, 3rd Earl of Rosse.

Delicate of Cetus:

This **telescopic** asterism "Ténuis Céti" is the barred spiral galaxy NGC 1073 in the IAU constellation Cetus. This was discovered by William Herschel, who listed it as "III 455". It became GC 602 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name because of the "delicate structure of arms and central bar".

Delicate of Virgo:

This **telescopic** asterism "Téner Vírginis" is the spiral galaxy NGC 4939 in the IAU constellation Virgo. It was discovered in 1786 by William Herschel who listed it as II 561. John Herschel listed it in his catalogue as 3458. It is 3381 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the delicate aspect of the thin arms of this galaxy".

Delle Caustiche:

This asterism is the open cluster Messier 24 (NGC 6603) in the IAU constellation Sagittarius, otherwise known as the Small Sagittarius Star Cloud. It was discovered by French astronomer Charles Messier in 1764. Irish astronomer Agnes Mary Clerke (1842 – 1907) gave it this name when describing it as "visible to the naked eye as a dim cloudlet near Mu Sagittarii and named by Fr. Secchi as 'Delle Caustiche' from the peculiar arrangement of its stars in rays, arches, caustic curves and intertwined spirals." Delle Caustiche is an Italian lace pattern of six-sided stars in three arcs. John Herschel's *General Catalogue* of 1864 lists this as GC 4397.

Delphin:

See Dolphin, below.

Delphinus:

None of the stars of this constellation are brighter than 3rd magnitude, but its stars do appear in 141 of the asterisms listed in this handbook.

This IAU constellation "the dolphin" (IAU abbreviation Del) was one of Ptolemy's 48 original constellations and is related to the Greek myths about the God Poseidon and Amphitrite. Ptolemy (c.100 – c.170) listed it as "Δελφίς" ("Delfis" or "Delphis") in his *Almagest* (see Dolphin, below). The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) depicts this constellation as a dolphin.

Delphinus is one of the paranatellonta of the decans of Gemini as listed in *the Sphaera Barbarica* described by Teucros (Mosenkis, date n/k). French astronomers call it "Dauphin", the Italians "Delfino", and the Germans "Delphin".

The Mainz Globe from the eastern end of the Roman empire (c. 150 – 220 C.E.) depicts this constellation as a classical dolphin.

The globe of the 2nd century Farnese Atlas depicts this constellation as a dolphin (Stevenson 1921).

"Delphinus" appears in the Leiden *Aratea* (816) as a classical dolphin swimming to our left.

This constellation appears in editions of the 8th century *Revised Aratus Latinus*:

- In the St Gall 250 and St Gall 902 editions Delphinus is shown with a dog-like face and pointed ears,
- In the Paris BN 12597 and Dresden DC 183 it is shown as a dolphin with a curvy body,
- In the Prague IX C 6 version it is depicted as a dolphin with an odd concertina-like body,
- In the Cologne 83 II edition it is a curvy fish swimming left with a beard and a fin on its head.

The Paris BN, 12117 and Vat Reg lat 309 manuscripts of the *De ordine ac positione stellarum in signis* depict Delphinus with a very large horn on top of its head. The Paris BN lat 8663 manuscript of the *De ordine ac positione stellarum in signis* depicts two horns in the mouth of Delphinus. The 12th century Vienna ÖNB Vindob 12600 manuscript of the *De ordine ac positione stellarum in signis* depicts a single horn in the mouth of Delphinus.

The 11th century *De signis caeli (“of the signs of heaven*”) lists “Delphinus” and “Delfinus”. The Oxford Laud 644, Padua 27, and Venice VIII 22 manuscripts of *De signis caeli* depict Delphinus with a horn on his head, swimming to the left. The Dijon 448 manuscript of *De signis caeli (“of the signs of heaven*”) depicts Delphinus with an odd facial structure. The Klosterneuberg 685, Paris BN 5239, Paris BN 5543, Vat lat 643, and Zwettl 296 manuscripts of *De signis caeli* depict a classical dolphin. The Laon 422 and Rouen 26 manuscripts of *De signis caeli* depict Delphinus with a Pharaonic beard. The Durham Hunter 100 manuscript of *De signis caeli* depicts Delphinus as a fish. The Montecassino 3 manuscript of *De signis caeli* depicts Delphinus with a dog’s face.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Delphinus as a large fish.

Shams al-Dīn Muhammad B. Mu’ayyad al-‘Urdī’s inlaid celestial globe (1288) depicts Delphinus as a dolphin.

English author Geoffrey Chaucer (c.1340s – 1400) named it “Delphyn” in his *Hous of Fame* and others of that era “Dolphyne”.

The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.168v-169r depicts “Delphin” as a classical dolphin.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.71v-72r depicts Delphinus as some sort of fish. It is poorly drawn and not labelled.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Delphinus as a curving fish. It is not labelled.

De Astronomica (“the astronomy”), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This depicts “Delphin” as a dolphin with a pointed snout.

The *Germanicus Aratea* (Siciliensis, c. 1469) and the *Germanicus Aratea* with scholia Strozziana (c. 1475) depict Delphinus as a fish with teeth swimming to our left.

The Constance Celestial Globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts “Delphin” as a classical dolphin with sharp teeth.

The early 16th century Real Academia de Historia, manuscript D-97, f.101v depicts Delphinus as a fish swimming to our right. It is not labelled. The Real Academia de Historia manuscript D-97, f.104v – 105r depicts it in the same fashion.

The “Nuremburg Maps” *(Die Karte des Nördlichen Sternenhimmels* inv.-Nr. Hz 5576), a pair of celestial hemispheres made in 1503 by Conrad Heinfogel, depicts “Delphin” as a classical dolphin.

The *imagines coeli septentrionales cum duodecint imaginibus zodiaci* (“images of the northern sky with twelve images of the zodiac”), commonly known as the *Northern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius (Dekker & Lippincott, 1999) lists Delphinus and depicts it as a classical dolphin.

Gores for a celestial globe by German polymath Johann Schöner (1477 – 1547) from 1515 list “Delphinus” and from 1534 and 1535 “DELPHINUS” (Dekker & Lippincott, 1999).

Celestial globe gores (1517) of Johann Schöner (1477 – 1547) depicts “Delphinus” as a classical dolphin.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts “DELPHINVS” as a classical dolphin.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts Delphinus in the same manner as Dürer et al.

The celestial globe depicted in Hans Holbein’s *Double Portrait of Jean de Dinteville, the Bailly of Troyes, and Georges de Selve, Bishop of Lavaux* (more commonly known as “*The Ambassadors*”) from 1533 lists the abbreviated “DEL” (Dekker & Lippincott, 1999).

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) labels this asterism “Delphin” and depicts it as a fish.

Dele Stelle Fisse (“Of the Fixed Stars”) by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as “Del Delfino”. The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as the “Dolphin”.Fequuleus

The Northern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Delphinus as a classical dolphin.

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists Delphinus in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

The *Globus Coelestis* chart (1584) of Swiss German artist Jost Amman (1539 – 1591) depicts “Delphin” as a classical dolphin.

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicted “Delphinus” as a classical dolphin.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts “le Delfin” as a classical dolphin.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts “Delphinus” as a classical dolphin.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) depicts “Delphin” as a dolphin.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) depicts “Delphin” as a classical dolphin.

Delphinus is listed in Danish astronomer Tycho Brahe’s *Astronomiae Instauratae Progymnasmata* (1602).

German Uranographer Johann Bayer (1572 – 1603) depicts it in his *Uranometria* in 1603 as a classical dolphin. Bayer lists these names for Delphinus: “Delphinus, Delphin, Amphitrites, Vector Arionis, Smon nautis, Hermippus, Musicum Signum, Currus”.

“Delphinus” is listed on the *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) and depicted as a classical dolphin facing to our right.

“Delphinus” is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and depicted as a classical dolphin.

Giovanni Paolo Gallucci’s *Theatrum Mundi, et Temporis* (1614) depicts “Delphinus” as a classical dolphin facing to our right.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the name “Delphinus” for this constellation.

The *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) depicts “Delphin” as a classical dolphin.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts “Delphinus” as a classical dolphin.

The huge *Gottorf Globe* (c1650) made for the Duke of Holstein, Frederick III, one of the world’s first planetariums, depicts Delphinus as a classical dolphin.

Robert Hues lists this constellation’s “Arabic” name as “Aldelphin” in his *A Learned Treatise of Globes* in 1659.

Delphinus is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 and depicted as a classical dolphin.

Dutch cartographer Frederik de Wit’s *Planisphaerium Coeleste* (1670) depicts Delphinus as a classical dolphin.

The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678 by English uranographer James Clerk depicts “Delphinus” as a classical dolphin.

English uranographer John Seller’s *A coelestiall planisphere* (1678) depicts “Delphinus” as a classical dolphin.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts “Delphinus” as a classical dolphin facing to our left.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, depicts Delphinus as a classical dolphin.

Delphinus is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729: It is depicted as a classical dolphin.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts Delphinus as a classical dolphin.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts "Delphinus" as a classical dolphin.

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) depicts Delphinus as a classical dolphin.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Delphinus as a classical dolphin.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) depicts "Le Delfin" as a classical dolphin.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts "Delphinus" as a classical dolphin.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "le Dauphin" ("the dolphin") as a classical dolphin, as does the 1778 edition.

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "der Delphin" and depicts it as a classical dolphin facing to our left.

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts "Delphinus" as a classical dolphin.

American uranographer William Croswell (1760 – 1834) depicts "Delphinus the Dolphin" on his *Mercator Map of the Starry Heavens* in 1810 as a classical dolphin.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists "Delphin" for this constellation and depicts it as a classical dolphin.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Delphinus in his *Celestial Atlas* in 1822: It is depicted as a classical dolphin. Jameison's *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822) labels it "Delphin".

"Delphinus" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicts it as a classical dolphin.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depict "Delphinus" as a classical dolphin.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts "Delphinus" as a classical dolphin.

Delphinus is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on Jamieson's *Celestial Atlas*.

"Delphinus" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It is depicted as a dolphin.

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as "Delphinus, the Dolphin".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Delphinus" in his *Star Atlas* (1893) and describes it as "The Dolphin".

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this on its charts as the "Dolphin".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Delphinus" and describes it as a "Dolphin".

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Delphinus… the Dolphin".

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) redesigned the lines of Delphinus in his book *The Stars - A New Way to See Them* (1952). The standard IAU chart shows this constellation as a quadrilateral of the stars Beta (β) Delphini (Rotanev), Delta (δ) Delphini, Gamma (γ) 2 Delphini, and Alpha (α) Delphini (Sualocin) with a single line running from Rotanev to Epsilon (ε) Delphini. Rey's version expands this to a "body" bounded by the stars Iota (ι) Delphini, Theta (θ) Delphini, Delta (δ) Delphini, Gamma (γ) 2 Delphini, Alpha (α) Delphini (Sualocin), Beta (β) Delphini (Rotanev) and Eta (η) Delphini. A triangle of the stars Iota (ι) Delphini, Epsilon (ε) Delphini, and Kappa (κ) Delphini forms the "tail".

Delphinus Minor:

See Mini Delphinus, below.

Delta:

This Greek asterism "Δελτωτόν" ("Deltoton") is the original name for the IAU constellation Triangulum as it resembled their upper-case letter Delta (Δ). Roman astronomers later Latinized this to Deltotum:

- "Deltoton" appears in editions of the 8th century *Revised Aratus Latinus*: In the Cologne 83 II edition it is depicted as two concentric triangles.
- The *De ordine ac positione stellarum in signis* ("*On the order and position of the stars in the signs*") in the Salzburg compilation (810 – 818) of Abbot Arno of Salzburg (785 – 821) lists "quem Graeci deltoton vocant" ("whom the Greeks call deltoton").
- The BAV *Astronomia* text, Vatican. lat. 3110 - Florence, ca. 1370; owned by Coluccio Salutati (1331-406) and the Madrid texts (Bibl. Nacional, Matritensis 1983, fol. 116v and Vatican, BAV, Vat. lat. 3121, fol. 12r., Bibl. Nacional, Matritensis 1983, fol. 115v and Vatican, BAV, Vat. lat. 3121, fol. 10v.) depict the triangle of Deltoton on the head of Aries Mc Gurk, Patrick (1966).

- The “Nuremburg Maps”, a pair of celestial hemispheres made in 1503 by Conrad Heinfogel depicts Deltoton as a single triangle.
- The *imagines coeli septentrionales cum duodecint imaginibus zodiaci* (“images of the northern sky with twelve images of the zodiac”), commonly known as the *Northern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius (Dekker & Lippincott, 1999) lists “Deltoton” and depicts it as a single triangle.
- The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) lists “Deltonon” as a single triangle.
- The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al lists Deltoton and depicts in the same manner as Dürer et al.
- The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts “Deltoton” as a single triangle.
- Jesuit German mathematician Christopher Clavius (1538 – 1612) lists “Trianulum, sive Deltoton” for this constellation in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).
- The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts “Deltoton” as a single triangle.
- In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicts “Triangulum siue Deltoton” (“Triangulum or Delta”) as a single triangle.
- The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) depicts “Deltoton” as a single triangle.
- Danish astronomer Tycho Brahe’s *Astronomiae Instauratae Progymnasmata* (1602) lists “Deltonton” for this constellation.
- “Deltoton” is listed as a name for the IAU constellation Triangulum in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
- Giovanni Paolo Gallucci’s *Theatrum Mundi, et Temporis* (1614) labels this constellation “Deltoton o Triangulo” and depicts it as a single triangle.
- The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) list the names “Triangulus” and “Deltoton” for this constellation.
- John Hill lists “Deltoton” as a name for this constellation in his *Urania* in 1754.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Deltoton” as a name for Triangulum.
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists “Deltoton” as a alternate name for this constellation.

This Arabic asterism “al-Dāl” is the Hyades cluster in the IAU constellation Taurus as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

Kauffmann’s translation of the *De ordine ac positione stellarum in signis* in 1888 lists “quem Graeci eltoton vocant” (“whom the Greeks call eltoton”).

There are two **telescopic** “delta” asterisms:

- One is in the IAU constellation Canis Minor and is listed as Corder 1368 on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Corder attributes it to John

Raymond. It resembles the Greek letter Delta (δ). It includes the stars Delta (δ) 2 and 3 Canis Minoris, HIP 36879, 36882, and 36869. Size 30'.

- One is in the IAU constellation Ursa Minor and is on the observing lists of John A. Chiravalle. Jeffrey Corder lists it as Corder 3351. It resembles the Greek letter Delta (Δ). This consists of the four stars Delta (δ) Ursae Minoris, 24 Ursae Minoris, HIP 89465 and HIP 87663.

Deltas:

This **telescopic** asterism is made up of stars of the IAU constellation Taurus: Delta (δ) 1, 2, and 3 Tauri. *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), labels these the "Deltas".

Deltoton:

See Delta, above.

Deltotum:

See Delta, above.

Demeter:

This Greek asterism "Demeter" is the IAU constellation Virgo as listed in R. H. Allen's *Star Names* in 1899. Demeter is a Greek Goddess of agriculture and the mother of Persephone, who is also identified with this constellation (see Persephone, below).

Demeter of Cetus:

This **telescopic** asterism "Deméter Céti" is the lenticular galaxy NGC 545 (Arp 308) in the IAU constellation Cetus. It was discovered in 1785 by English astronomer William Herschel who listed it as "II 448". It became GC 322 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010). This galaxy is near NGC 547, which they named "Persephone of Cetus".

Dementor Nebula:

This **telescopic** asterism is the HII region LBN 420 in the IAU constellation Lacerta. American astrophotographer Jeff Lesperance listed it by this name on the *Astrophotography* Facebook page on Facebook on 26 August 2025. This is also known as the Galileo's Finger (see below).

Demon:

This Babylonian asterism from the MUL.APIN tablets "Ukadua" or "Udkadua" is made up of stars from the IAU constellations Andromeda, Cepheus, Cygnus, Lacerta, and Vulpecula:

- One "heel" is Lambda (λ) Andromedae and the other Zeta (ζ) Cephei,
- Its five-sided "body" is made up of the star Alpha (α) Cygni (Deneb- which they call "the breast of Ukadua"), Gamma (γ) Cygni, Epsilon (ε) Cygni, Rho (ρ) Cygni, and 1 Lacertae,
- One "arm" runs from Epsilon (ε) Cygni to Zeta (ζ) Cygni,
- The other "arm" arcs over the demon's "upper body" from Gamma (γ) Cygni to Zeta (ζ) Cygni to 15 Vulpeculae, and
- From 15 Vulpeculae two lines of stars to 39 and 41 Cygni form "pincers".

This Persian asterism “UT.KA.DU.A” from the list of Lumasi Stars from the Persian (Achaemenid) Period (539 – 331 B.C.E.) is made up of stars of the IAU constellations Cygnus and Lacerta (Jeremias 1929).

This Sumerian asterism “Humbaba” or “Huwawa” is made up of the stars of the IAU constellations Cygnus and Cepheus. It is part of the story about Gilgameš of Uruk.

This “Hebrew” asterism “Daemon” is the IAU constellation Sagitta. “Daemon” is listed by German astronomer Johann Bayer (1572-1625) in his Uranometria (1603). In his *Urania* (1754), John Hill cites German astronomer Athanasius Kircher (1602 – 1680) as identifying this as a Hebrew name for this constellation. R. H. Allen’s *Star Names* in 1899 lists “Daemon” for this constellation.

This star “Demon” or “Demon Star” is Beta (β) Persei (Algol) in the IAU constellation Perseus:

- *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists this star as “Algol, the Ghoul, or Demon Star”.
- The 1st edition of British schoolmaster Arthur P. Norton’s *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) calls this the “Demon Star”.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., refers to this star as the “Demon Star” or the “Winking Demon Star”.
- Robert Burnham lists this in his *Burnham’s Celestial Handbook* in 1978. This German asterism

Deneb:

See Tail of the Hen, below.

Deneb Algedi:

See Tail of the Goat, below.

Deneb Kaitos Schemali:

See Northern Tail of the Sea Monster, below.

Denebola:

See Tail of the Lion, below.

Denevýr:

This Kaykavian asterism is the IAU constellation Hydra.

Dentist’s Chair:

This **telescopic** asterism PGC 49560 is a galaxy in the IAU constellation Hydra.

Deprived:

This Māori asterism “Pipiri” is the IAU constellation Aries.

This Polynesian asterism “Pipiri” is the IAU constellation Scorpius.

This Rapanui asterism “Pipiri” is the stars Lambda (λ) Scorpii (Shaula) and Upsilon (υ) Scorpii (Lesath) in the IAU constellation Scorpius (Edwards and Edwards 2016, Edwards et al 2018). Compare this to the Tahitian and Cook Islands asterism Pipiri and Rehua (see below).

Derceto:

This Latin asterism is the IAU constellation Cetus as listed in John Hill's *Urania* in 1754. The Greeks called the Syrian fertility Goddess Atargatis by the name "Derketo" (see below) and the Romans "Derceto".

This Latin asterism "Derceto" or "Syrorum Dea" ("Syrian Goddess") is the IAU constellation Virgo as listed in R. H. Allen's *Star Names* in 1899. Allen attributes this to "classical Latin writers". "Syrorum Dea" is listed as an alternate name for Virgo on the *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638).

Derketo:

This Syrian asterism "Derketo" or "Derke" is made up of stars of the IAU constellation Pisces. Eratosthenes (d.194 B.C.E.) wrote that it was named for this Syrian fertility Goddess in his time, although he used the Greek name "Derketo" for this Goddess: The Syrian name is Atargatis ("Ἀτάργατις"). Later Latinizations include "Dea Syria" ("Syrian Goddess"), "Dii Dyrii" ("the gods of the Syrians"), "Deasura", "Dercis", "Dercetis", "Dercete", "Proles Dercia" ("child of Dercia"), and "Phacetis". 4th century Roman writer Postumius Rufius Festus Avienius called it "Bambycii Hierapolitani" which relates to the name of the city Bambyce where Atargatis was worshipped, later known as Hierapolis. Johann Bayer's *Uranometria* (1603) lists the variants "Proles Dercia", "Derce", "Derceto", "Dercetis", "Phacetis", and "Dea Syria".

Dervish's Platter:

This Persian asterism "Kāsah Darwishān" is the IAU constellation Corona Borealis. Compare this to Dish of the Poor People, below.

Desanaus:

This asterism "Desanaus", "Desanes", "Dosanes", or Dorsanes" is the IAU constellation Hercules and is listed in R. H. Allen's *Star Names* in 1899. Allen identifies it as a Hindu name.

Desert Birds:

This Arabic asterism "Al Ṣuradain" is the stars Alpha (α) Sagittarii (Rukbat) and Beta (β) 1 and 2 Sagittarii (Arkab Prior and Arkab Posterior) as listed by Persian astronomer Zakariyya' al-Qazwini (1203 – 1283) and in R. H. Allen's *Star Names* in 1899.

Desert Garden:

See Two Lines, below.

Deserter of Ursa Major:

This **telescopic** asterism "Tránsfuga Úrsae Majóris" is the spiral galaxy NGC 4157 in the IAU constellation Ursa Major. It was discovered in 1788 by William Herschel who listed it as "I 208". It became GC 2761 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They call it this because "this galaxy is situated exactly on the border between the constellations of Canes Venatici and Ursa Major, the eastern part of it lying in the former, the western part in the latter".

Deserving to be Seen of Virgo:

This **telescopic** asterism "Conspicábilis Vírginis" is the lenticular galaxy NGC 5122 in the IAU constellation Virgo. It was discovered by American astronomer Lewis Swift in 1887. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it is "difficult to observe because of the proximity of Spica." It is also known as Swift's Polar Ring.

Desirous of Aries:

This **telescopic** asterism "Cúpidus Aríetis" is the interacting galaxy IC 1801 (Arp 276) in the IAU constellation Aries. It was first recorded by French astronomer Stéphane Javelle (1864 – 1917). This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called its interaction with its partner NGC 935 as "avid, desiring grasping". They named NGC 935 "Avid of Aries" (see above).

Desk of Woman:

This Korean asterism "Yeojaui Chaegsang" (여자의 책상) is a bent line of three stars in the IAU constellation Hercules: Rho (ρ), 69, and Eta (η) Herculis.

Destroyed of Reticulum:

This **telescopic** asterism "Ruinósus Retículi" is the irregular field galaxy NGC 1313 in the IAU constellation Reticulum. It was discovered by Scottish astronomer James Dunlop in September 1826. It is listed in the *General Catalogue* of 1864 at GC 695. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as "two strong arms spring from the ends of the bar of this galaxy". It is also known as the Topsy Turvy Galaxy (see below).

Deucalion:

This Greek asterism is the IAU constellation Aquarius Deucalion was the son of Prometheus in Greek mythology:

- Johann Bayer's *Uranometria* (1603) lists "Deucalion" as a name for Aquarius.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Deucalion".
- "Deucalion" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
- Edward Sherburne's *Sphere of Marcus Manilius* in 1675 lists Deucalion.
- Deucalion is listed in John Hill's *Urania* in 1754.

Devil's Chariot:

This Romanian asterism "Carul Dracului" is the IAU constellation Perseus (Ottescu 2009). Romanian legend describes this as the chariot the Devil will use to take sinners to Hell.

Devil's Head Nebula:

This **telescopic** asterism is the emission nebula and open cluster NGC 7822 (Sh 2-171) in the IAU constellation Cepheus. John Herschel listed this as h 2302 and later as GC 5051 in his *General Catalogue* of 1864. It is also known as the Question Mark (see below).

Devil's Mask:

This telescopic asterism is a triplet of galaxies in the IAU constellation Pavo:

- The intermediate spiral galaxy NGC 6769, forming one "eye" of the mask,
- The barred spiral galaxy NGC 6770, forming the other "eye" of the mask, and
- The edge-on barred lenticular galaxy NGC 6771, forming the "mouth".

These were discovered by John Herschel in 1836

Devil's Tower:

This **telescopic** asterism is the emission nebula RCW 85 in the IAU constellation Centaurus, between Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar).

Devilus Dustia:

This American asterism is made up of stars of the IAU constellation Lacerta and was created by Brad and Kathryn Templeton for *The Vault of Heaven* star map for the 2004 Burning Man event held in Black Rock Desert in Nevada (Kuperjanov 2006).

Devoted Virgin:

This asterism "Virgo Deuota" is the IAU constellation Andromeda. This name is listed in Johann Bayer's *Uranometria* (1603).

Devourer of the Sacrifice:

This Hindu star "Hutabuj" is Beta (β) Tauri in the IAU constellation Taurus as listed in R. H. Allen's *Star Names* in 1899.

Devouring of Centaurus:

This **telescopic** asterism "Vórax Centaúri" is the lenticular galaxy NGC 5128 (Caldwell 77, Arp 153) in the IAU constellation Centaurus. This was discovered by Scottish astronomer James Dunlop in 1827 who listed it as h 3501. It is GC 3525 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "this spectacular system is generally interpreted as a lenticular galaxy devouring a dust-rich spiral galaxy". It is also known as the "Hamburger" (see below). As a prominent radio source, it is known as Centaurus A.

Devout Virgin:

This Latin asterism "Virgo Devota" is the IAU constellation Andromeda and was given this name by the popular Roman general Caesar Germanicus (15 B.C.E. – 19 C.E.). "Virgo Devota" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as a name for Andromeda. This is listed in English Admiral Henry William Smyth's *Bedford Catalogue* in 1844.

Dhanus:

This Vedic rashi "Dhanus" as listed in the Vedic *Candragarbha-parivarta* (Kotyk 2017, Rath 2022), "Dhanu", or "Dhanasu" is the IAU constellation Sagittarius. W. Brennan lists it as "Dhanus" in his *Hindu Astronomy* in 1896. Bhagwath (2019) lists it as "Dhannus" and writes that it represents the energy of the God Anshuman.

This Tamil zodiac asterism "Dhamsu" is the IAU constellation Sagittarius.

Dhogay Ii:

This Mabuiag star is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra.

Dhruvam:

This Vedic star "Dhruvam" or "Druvaloka" is Alpha (α) Draconis (Thuban) listed in the Ramayana (Bhagwath 2019). Bhagwath notes that this refers to when Thuban was the pole star c 2800 B.C.E. Dhruva is the son of Uttānapāda.

Dhungagil:

This Dharug asterism is the belt of Orion in the IAU constellation Orion as listed by Collins in 1798 and Mathews in 1903.

Diabolo Nebula:

This asterism is the planetary nebula Messier 27 (NGC 6853) in the IAU constellation Vulpecula. It was discovered by French astronomer Charles Messier in 1764. It was listed in John Herschel's General Catalogue of 1864 as GC 4532. It is also known as the Dumbbell Nebula (see below), the Double Headed Shot (see below) and the Apple Core Nebula (see above). The name diabolo is a reference to a juggling or circus yo-yo prop called a diabolo, which is spun with two batons or wands. It was derived from an hourglass-shaped Chinese yo-yo dating back to the Ming Dynasty, and first reported to Europeans by missionary Father Amiot in 1782. Belgian engineer Gustave Philippart developed the modern diabolo in the early twentieth century. Although I do not know who assigned this name to this planetary nebula, whose shape certainly resembles a diabolo, the name cannot predate Amiot's report and probably does not predate the beginning of the twentieth century.

Diadem:

This Greek star "diadēma" is Alpha (α) Comae Berenices in the IAU constellation Coma Berenices. The name obviously relates to the name of the constellation. The IAU Working Group on Star names approved the name Diadem for the star Alpha (α) Comae Berenices A.

Diadem is an alternate translation of the Arabic asterism Crown of the Forehead (see above).

This Norwegian asterism "Diademet" is the circle of stars forming the western "fish" of the constellation Pisces: Gamma (γ), Kappa (κ), Lambda (λ), TX, Iota (ι), and Theta (θ) Piscium. Compare this to the Circlet asterism (see above).

Diadem of Crater:

This **telescopic** asterism "Diadúmenus Cratéris" is the lenticular galaxy NGC 3497 in the IAU constellation Crater. It was discovered in 1790 by William Herschel who listed it as III 824. It became GC 2281 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named*

Galaxies by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as the dust lanes look like the headband "in the famous sculpture by Polykleitos of an athlete attaching a band around his forehead." NOTE: This galaxy also appears in the NGC catalogue as NGC 3525, NGC 3528, and IC 2624.

Diadem of Pegasus:

This **telescopic** asterism "Diadéma Pégasi" is the elliptical galaxy NGC 7742 in the IAU constellation Pegasus. This was discovered by William Herschel in 1784 who listed it as "II 255". It is GC 5005 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the beautiful bright ring in the central region". This is also known as the "Fried Egg" (see below).

Diadem of Solomon:

This was a name given to the IAU constellation Corona Australis by the 17th-century German uranographer Julius Schiller (c. 1580 – 1627). This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "Diadema Salomon Vel Corona Australis".

Diagonal Cross of Pisces:

This **telescopic** asterism "Decussátus Píscium" is the polar ring galaxy NGC 660 in the IAU constellation Pisces. William Herschel listed this as "II 253" in his catalogue. This became GC 390 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): The dark lanes of this galaxy resemble a Saint Andrew's cross or crux decussata.

Dial of Horologium:

This **telescopic** asterism "Diális Horológii" is the barred spiral galaxy NGC 1433 in the IAU constellation Horologium. It was discovered by James Dunlop in 1826. This became GC 767 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): The name refers to a square of foreground stars at the southeast side of this galaxy.

Diameter of Lepus:

This **telescopic** asterism "Diametráta Léporis" is the barred spiral galaxy NGC 1730 (IC 2113) in the IAU constellation Lepus. It was discovered by American astronomer Francis Leavenworth in 1885. Edward Barnard observed it in the 1890s and added it to the Index Catalogue as IC 2113. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name because of its "narrowly wound spiral arms".

Diametrical of Virgo:

This **telescopic** asterism "Diamétricus Vírginis" is the barred spiral galaxy IC 1067 in the IAU constellation Virgo. It was discovered by French astronomer Stéphane Javelle in 1891. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the bar which divides the inner circle in two equal parts."

Diamond:

This **telescopic** Malay star "Intan" is HIP 15578 (HD 20868) in the IAU constellation Fornax (magnitude 9.94). It was given this name in the IAU NameExoWorlds campaign. It has an exoplanet named Balduri ("opal").

There are fourteen **telescopic** "diamonds":

- One is the Virgo Diamond, which is found in the IAU constellation Virgo 2.2 degrees west northwest of the star Gamma (γ) Virginis (Porrima). Its size is 1' X 1'. This asterism was listed by astronomer Noah Brosch (Tel Aviv University) in *Monthly Notices of the Royal Astronomical Society* on December 1, 1991. American astronomer Tom Lorenzin lists it as Lorenzin 20.
- One, also known as the Southern Beehive, the Christmas Tree, and the Sprinter, is the open cluster NGC 2516 (Caldwell 96) in the IAU constellation Carina. It was discovered by French astronomer Abbé Nicolas Louis de Lacaille in 1751 who listed it as "Lac II 3". It is GC 1619 in the *General Catalogue* of 1864.
- One is the Diamond Cluster, which is found in the IAU constellation Delphinus. It is a triangle of 7^{th} magnitude stars (including the stars HIP 101967 and HIP 101943) plus the 6^{th} magnitude star Theta (θ) Delphini.
- One is the planetary nebula NGC 3242 (Caldwell 59) in the IAU constellation Hydra. It was discovered in 1785 by English astronomer William Herschel who listed it as "IV 27". John Herschel included it in his catalogue as h 3248 and later as GC 2102 in his *General Catalogue* of 1864. It is also known as the Ghost of Jupiter due to its similar size and appearance to the planet when viewed in a telescope eyepiece. It is also known as the Eye Nebula.
- One is Cseh 33 listed by Hungarian astronomer Viktor Cseh which is in the IAU constellation Pictor. Cseh describes it as a "15' X 10' regular diamond shaped group of stars. One of the members is TYC 8080-594 at magnitude 8.3."
- One is "Chi 1, 2, 3" in the IAU constellation Fornax. This is listed as Corder 539 on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Corder attributes it to John Raymond. It has this name as it includes Chi (χ) 1, 2, and 3 Fornacis. The other stars in this "diamond" are HIP 16289 and 16167. Size 45' X 30'.
- One is Corder 2119 in the IAU constellation Ursa Major and is listed on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 25'. This is the stars 51 Ursae Majoris, HIP 54210, 54235, and 54178A.
- One is Corder 4085 in the IAU constellation Pavo and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 4'. This includes HIP 99626.
- One is in the IAU constellation Andromeda and is Corder 402 on the observing list of American astronomer Jeffrey Corder. Corder describes it as "a small, diamond-shaped group of 5 faint stars of 9^{th} and 10^{th} magnitude." Size 10'.
- One is in the IAU constellation Ursa Major and is Corder 1960 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is four 8^{th} – 9^{th} magnitude stars including HIP 49731, 49661, and 49629.
- One is in the IAU constellation Sculptor and is Corder 220 on the observing list of American astronomer Jeffrey Corder. Size 6'. This is six 6^{th} – 10^{th} magnitude stars including HIP 6477 and the double star HIP 6478.

- One is in the IAU constellation Cetus and is Corder 352 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is four 7th – 8th magnitude stars including HIP 10545, 10511, and 10502.
- One is in the IAU constellation Pictor and is Corder 739 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is five 7th – 10th magnitude stars including HIP 22323 and the double star HIP 22359A.
- One is in the IAU constellation Hydra and is Corder 1932 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is four 9th magnitude stars.
- One is in the IAU constellation Vela and is Corder 2029 on the observing list of American astronomer Jeffrey Corder. Size 12'. This is four 6th – 9th magnitude stars including HIP 51387, 51412, and the double star HIP 51379A.

Diamond Cross:

This Western asterism is made up of four stars: Beta (β) Carinae (Miaplacidus), Upsilon (υ) Carinae, Theta (θ) Carinae, and Omega (ω) Carinae in the IAU constellation Carina. It appears on the SAC database and is Corder 1936 on Jeffrey Corder's list. Size 10° X 6°.

Diamond Head:

This asterism is a small diamond of stars in the IAU constellations Draco and Hercules. Gamma (γ) Draconis (Eltanin), Xi (ξ) Draconis (Grumium), Beta (β) Draconis (Rastaban), and Iota (ι) Herculis. It is also known as the Lozenge.

Diamond of Virgo:

This English asterism is made up of four stars of the IAU constellations Boötes, Canes Venatici, Cygnus, and Virgo: Alpha (α) Virginis (Spica), Alpha (α) Cygni (Denebola), Alpha (α) Boötis (Arcturus), and Alpha (α) Canum Venaticorum (Cor Caroli). This name appears in *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886). It also appears in *The Facts on File Dictionary of Astronomy, 2nd edition*, 1985.

Diamond Ring:

See Ring, below.

Diamond Ring Nebula:

See Ring, below.

Diamond Starburst:

This **telescopic** asterism is the open cluster Messier 37 (NGC 2099) in the IAU constellation Auriga. It was discovered by Italian astronomer Giovanni Battista Hodierna before 1654 and listed by French astronomer Charles Messier in 1764. The 1864 General Catalogue lists it as GC 1295. John Herschel listed it as h 369. It was given this name by American astronomer Charles Edward Barns (1862 – 1937) in his *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931): 19th century English astronomer William Parsons, 3rd Earl of Rosse, listed this name in his observation notes and described it as a "virtual cloud of glittering stars", describing one of a magnitude 9.5 red giant in this cluster as "like a ruby on a field of diamonds". English astronomer William Henry Smyth (1788 – 1865) described it as "a magnificent object, the whole field being strewed as it were with sparkling gold-dust". It is also known as the "Cartwheel" (see above), and the "Skull" (see below).

Diana:

This Latin asterism "Diana" is the IAU constellation Virgo as listed in R. H. Allen's *Star Names* in 1899. Diana was the Roman equivalent of the Greek Goddess Artemis.

Diana's Count:

There are two Latin asterisms with the name "Dianae Comes":

- One is the IAU constellation Orion.
- One is the IAU constellation Ursa Major.

Diana's Star:

This Latin asterism "Dianae Sidus" is the IAU constellation Sagittarius as listed in R. H. Allen's *Star Names* in 1899.

Diaphragm:

This German star with the Greek name "Υπόζωμα" ("Ypózoma") is Epsilon (ε) Ursae Majoris in the IAU constellation Ursa Major as listed by German astronomer Johann Bayer (1572-1625).

Digger:

This asterism "Pastinator" ("digger" or "trencher") is the IAU constellation Boötes as listed in R. H. Allen's *Star Names*. Allen attributes this name to English orientalist Thomas Hyde (1636 – 1703) and describes it as the "rendering of a supposed Arabic title".

Digging Stars:

Several African peoples call the Pleiades cluster in the IAU constellation Taurus "the digging stars" as their appearance marks the beginning of their agricultural season. Here are the peoples along with their name for this cluster:

- The Xhosa: "Eyesilimela" or "isiLimela" (Slotegraaf 2013, Holt and Slotegraaf 2022))
- San, Ndebele, and Zulu: "IsiLimela" (Hold and Slotegraaf 2022)),
- Nyabungu, Nyae Nyae !Kung: "Kelemera" (Slotegraaf 2013),
- Nyasa: "Lemila" (Slotegraaf),
- Sotho, Tswana: "Selemela" (Slotegraaf 2013),
- Tlôkwa: "Selemela se setsehali",
- Tswana: "Shirimela" (Slotegraaf 2013),
- Tsonga: "shirimelo" ("one which announces the tilling season"),
- Venda":"Tshilimela", "Tshilimo" (Slotegraaf 2013),
- Tabwa: "Bulimina", and
- Kiswahili: who call them the "digging stars" or the "ploughing stars" (Slotegraaf 2013).

Digging Stick:

This Asháninka asterism is the dark nebula Barnard 44 near the star Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius (Urton 2016). This digging stick is used to pry open the Beehive (see above).

This /Xam star is Alpha (α) Eridani (Achernar) in the IAU constellation Eridanus (Dechend 1975, Alcock 2014). They also call it “stone of the digging stick”. Dechend lists it as “stone of the tombstone” and “stone of the star grave”.

This !Kung star is Alpha (α) Carinae (Canopus) in the IAU constellation Carina. It is also known as the Ant Egg Star (see Bush Food, above).

This Anmatyerre asterism “Anem” is the Hyades cluster in the IAU constellation Taurus (Clarke 2014).

Dignity:

This Babylonian asterism from the MUL.APIN tablets “Bastum”, “BAL.TÉSH.A” or “kakkab balti” (Anthony 1996) also known as “the vizier of the God Tispak”, is the IAU constellation Corona Borealis. This appears in later Seleucid sky lore.

Dignity of King:

This Korean asterism “Gaak” is a cross of four stars in the IAU constellation Virgo: Alpha (α) Virginis (Spica), Zeta (ζ), 74, and 66 Virginis.

Dilmun:

This Bahrainian star “Dilmun” is the F6V type star WASP-121 in the IAU constellation Puppis (magnitude 10.4). It received this name in the IAU’s NameExoWorlds competition in 2022. Dilmun was the Sumerian name of an ancient civilization in the eastern Arabian Peninsula. It has an exoplanet WASP-121b, “Tylos” (Τύλος), which is the ancient Greek name for the Bahrain island.

Dim One of Lynx:

This **telescopic** asterism “Sublústris Lýncis” is the spiral galaxy NGC 2541 in the IAU constellation Lynx. William Herschel listed this as “VII 11”. It became GC 1630 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name due to its “low surface brightness and faint absolute magnitude”.

Dimmer of the Two Calves:

This Arabic star “’akhfā al-farqadayn” (أخفى الفرقدين) or “Alifā‘ al Farḳadain”, later latinized to “Akfa Farkadain” is Zeta (ζ) Ursae Majoris in the IAU constellation Ursa Major. It is part of their asterism Two Calves (see below). English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Anpha al Pherkadein”.

Dindima:

This Wiradjuri asterism is the Pleiades cluster in the IAU constellation Taurus (Mathews 1904, Grant & Rudder 2010). Variations include “Malanydyang” and “Gibirgin”.

Dingo Father:

This Kokatha or Ngalea star “Babba” is either Beta (β) Tauri (Elnath) or the star Zeta (ζ) Tauri.

Dingo Mother:

This Kokatha or Ngalea star “Ngurunya” is Alpha (α) Eridani (Achernar) in the IAU constellation Eridanus (Leaman, Hamacher, and Carter 2016).

Dingo Puppies:

This Kokatha and Ngalea asterism, also known as "Mingarri's Dogs", is a row of stars in the IAU constellation Orion. The line starts at Pi (π) 1, 2, 3, 4, and 5 Orionis, Omicron (ο) 2 Orionis, and 6, 11, and 15 Orionis. These are puppies deployed before Nyeeruna (see Hunter of the Seven Mingarri Sisters, below) to stop his advances on the Seven Mingarri Sisters (see Seven Young Sisters, below). One dog, "Babba", is the father of the puppies (Hamacher 2017).

Dingolay:

See Dancing, below.

Dining Table:

This Macedonian asterism "Sofra" ("circular dining table") is the IAU constellation Corona Borealis (Cenev 2004).

Dinosaur:

This **telescopic** asterism from the asterism list of the American astronomer John Davis is basically an expansion of the **telescopic** asterism Sweat of Ophiuchi (see below) made up of the stars of the IAU constellations Hercules and Ophiuchus:

- The "head" is the stars around HIP 84036 and 60 Herculis.
- The "neck" is the double star 33/34 Ophiuchi and 32 Ophiuchi,
- The "body" is an oval of stars between 32 Ophiuchi and HIP 82372, and
- The "tail" runs from HIP 82372 through HIP 82028 to 81707.

Dionysus' Altar:

This Greek asterism "Thymele" is the IAU constellation Ara.

Dioscuri:

This Greek asterism "Dioscuri" is the IAU constellation Gemini. Johann Bayer's *Uranometria* (1603) lists "Ledaeiiuuenes Dioscuri". John Hill's *Urania* n 1754 lists this name. The ancient Greeks called Castor and Pollux the Dioscuri, which means sons of Zeus.

Diota:

This asterism "Diota" ("two handled wine jar") is the IAU constellation Aquarius as listed by R. H. Allen in his *Star Names* in 1899. Allen writes that Julius Caesar's foe Vercingetorix used this symbol on his "stateres" (a type of coin).

Diotima of Virgo:

This **telescopic** asterism "Diotíma Vírginis" is the grand design spiral galaxy NGC 5364 in the IAU constellation Virgo. It was discovered in 1786 by William Herschel who listed it as "II 534". John Herschel listed it as h 1705 but later it became GC 3704 and GC 3705 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They named this for "Diotima, the priestess of Mantinea who taught Socrates about the theory of love, as narrated in the *Symposium* by Plato".

Diphda:

See Second Frog, below.

Diphrelates:

This Greek asterism "Diphrelates" is the IAU constellation Auriga as listed in John Hill's *Urania* in 1754.

Dipper:

This Chinese xiù (lunar mansion) "Dǒuxiù" (斗宿) is a "dipper" in the IAU constellation Sagittarius. The "bowl" is the stars Zeta (ζ), Tau (τ), Sigma (σ) and Phi (ϕ) Sagittarii (the determinative star). The "handle" runs from Phi (ϕ) through Lambda (λ) to Mu (μ) Sagittarii. Each has been assigned a name:

- Mu (μ) Sagittarii: "Qisha" ("Seven Assistants") or "Jiang" ("General"),
- Lambda (λ) Sagittarii: "Tianxiang" ("Celestial Premier") or "Yin" ("Stamp"),
- Phi (ϕ) Sagittarii: "Tiantong" ("Celestial Collaborators") or "Fu" ("Blessing"),
- Sigma (σ) Sagittarii: "Tianji" ("Celestial Secret") or "Shan" ("Kindness"),
- Tau (τ) Sagittarii: "Tianliang" ("Celestial Beam") or "Yin" ("Shade") and
- Zeta (ζ) Sagittarii: "Tianfu" ("Celestial Official") or "Ling" ("{Command").

In the *Han shu*, a history of the early Han dynasty that was finished in 111 C.E. this xiù was associated to matters concerning the Jiang and Hu territories. This xiù appears in the Tang Dynasty (618 – 907 C. E.) as "Dǒu" (斗) and was compared to the Vedic nakshatra Uttara Ashadha (Kotyk 2017, see Second of the Asadha, below). This xing guan is sometimes referred to as "Nan Dou" ("southern dipper"). Compare to the 3 Kingdoms/Ming Dynasty xiù Dipper for Liquids (below).

This Japanese sei shuku or lunar station "Hikitsu Boshi" ("dipper" or "measure") is a quadrilateral of stars in the IAU constellation Sagittarius: Phi (ϕ), Zeta (ζ), Sigma (σ), and Tau (τ) Sagittarii.

R.H. Allen describes a dipper made up of the stars of the IAU constellations Andromeda and Pegasus in his *Star Names* in 1899. The "handle" is Gamma (γ) Andromedae and Beta (β) Andromedae (Mirach) and the Great Square of Pegasus (see Great Square below) is the dipper, but doesn't identify the culture involved.

This asterism is in the IAU constellation Cassiopeia and is Corder 272 on the observing list of American astronomer Jeffrey Corder. The dipper bowl is 40, 42, 48, and 50 Cassiopeiae. The handle is the stars 31, Phi (ϕ) 43, and Omega (ω) Cassiopeiae. Size 300' X 90'.

This asterism is in the IAU constellation Orion and is Corder 770 on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 320' X 90'. The "handle" is 15 and 11 Orionis. The "bowl" is the double star HIP 23161 and Omicron (o) 1 and 2 Orionis.

There are two **telescopic** "Dipper" asterisms:

- One is in the IAU constellation Carina and is Corder 1387 on the observing list of American astronomer Jeffrey Corder. Size 45' X 30'. This is eight 7^{th} – 8^{th} magnitude stars. The "dipper bowl" is five stars including HIP 36860, 36833, 37063, and the double star HIP 37013A. The handle is three stars including HIP 37186.
- One is in the IAU constellation Carina and is Corder 2109 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is six 7^{th} – 8^{th} magnitude stars.

Dipper Bowl:

This **telescopic** asterism is found in the Pleiades Cluster in the constellation Taurus:

- Four stars form the "bowl": Eta (η) Tauri (Alcyone), 23 Tauri (Merope), 17 Tauri (Electra) and 19 Tauri (Taygeta), and
- One star forms the "handle": 27 Tauri (Atlas).

Dipper for Liquids:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a quadrilateral of stars in the IAU constellations Hercules and Ophiuchus: 25 and Kappa (κ) Ophiuchi, and 43 and 47 Herculis. Note: This xing guan shares stars with the Korean asterism "Cereal Measure Regulation" (see above). It was later known as Dipper for Solids (see below).

This Chinese xiù (lunar mansion) "Dǒu" (斗) or "Dǒuxiù" is a bent line of stars in the IAU constellation Hercules and Serpens: Omega (ω), 13, 29, and 33 Herculis, and 49 Serpentis. Compare to the xiù Dipper (above).

This Chinese Chenzhuo xing guan "Dǒuxiù" is stars in the IAU constellations Hercules and Ophiuchus: The "handle" of the dipper is two stars: 45 and 47 Herculis. The "dipper" is 47 Herculis, 43 Herculis, Iota (ι) Ophiuchi, and Kappa (κ) Ophiuchi.

Dipper for Solids:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is made up of stars from the IAU constellations Hercules and Ophiuchus: Sigma (σ) Ophiuchi, U Ophiuchi, 16 Ophiuchi (the determinative star), and m Herculis.

This Chinese xing guan "Hú" (斛) is a quadrilateral of stars in the IAU constellations Hercules and Ophiuchus: 25 and Kappa (κ) Ophiuchi, and 43 and 47 Herculis. Note: This xing guan shares stars with the Korean asterism "Cereal Measure Regulation" (see above). In the 3 Kingdoms to the Ming Dynasty era, it was known as Dipper for Liquids (see above).

This Chinese Chenzhuo xing guan "Hú" is a curved line of four stars in the IAU constellations Hercules and Ophiuchus: Sigma (σ) Ophiuchi, HIP 83601, 21 Ophiuchi, and 28 Herculis.

Direction:

This Arabic star "Qibla" (قِبْلَة), later latinized to "Qiblah" or "Al Kiblah" is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor. It was used to locate the direction to the Kaaba in Mecca. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Al Kiblah".

Direction Star:

This Okinawan star "niinufabushi"(ニーヌファブシ) is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor. This is derived from the older older 子の方星 or ne = no fau boshi (1st earthly.branch = GEN.IANI direction GEN\star| 'the North Star').

dIš-tar MUL.MEŠ:

This Akkadian asterism "dIš-tar MUL.MEŠ" from the Ura = hubulla XXII lists (Block, Yigal, and Horowitz 2015) is unidentified currently. The Sumerian name is mul dnin-si-an-na.

Discordant of Canes Venatici:

This **telescopic** asterism "Discors Cánum Venaticórum" is the dwarf barred irregular galaxy NGC 4228 (4214) in the IAU constellation Canes Venatici. It was discovered in 1785 by English astronomer William Herschel who listed it as "I 95". It was subsequently listed twice in the General Catalogue of 1864 as GC 2804 and GC 2818. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the tumultuous star formation activity at one side of the central region." Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) lists this as O'Meara 59.

Discordant Quasar:

This American **telescopic** asterism the quasar [HB89]0156+187 in the IAU constellation Aries. It is located near the core of ARP 78. This name was posted on the *Deep Sky Forum* in November 2014 by Mark Friedman.

Discus of Eridanus:

This **telescopic** asterism "Discus Erídani" is the spiral galaxy NGC 1386 in the IAU constellation Eridanus. It was discovered by Johan Friedrich Julius Schmidt in 1865. This became GC 5321 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Disease:

This Inca asterism "Oncoy" or "Onqoy" is the Pleiades cluster in the IAU constellation Taurus (Gamarra & Gamarra 2009). They also called it "Colla" or "Qollqa" (see Storehouse, below), "Larilla", "Fur", and "Pugllairuuaico".

Dish Cluster:

This **telescopic** asterism is the open cluster NGC 2539 in the IAU constellation Puppis. It was discovered by English astronomer William Herschel in 1785 who listed it as "VII 11" in his catalogue. It is GC 1630 in the *General Catalogue* of 1864. A "rim" of brighter stars forms an oval around the cluster, giving the impression of a "dish". Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) lists this as O'Meara 41.

Dish of Cetus:

This **telescopic** asterism "Catínus Céti" is the spiral galaxy NGC 615 in the IAU constellation Cetus. This was discovered in 1785 by William Herschel who listed it as "II 282". It became GC 363 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Dish of the Poor People:

This Bedouin asterism "as qaṣʿat al-masākīn" (قصعة المساكين), later latinized to "Ḳasʿat al Sālik", and "Ḳasʿat al Masākīn", is the IAU constellation Corona Borealis. Compare this to Bowl of the Poor, above.

Disk of Virgo:

This **telescopic** asterism "Discoídes Vírginis" is the spiral galaxy NGC 4380 in the IAU constellation Virgo. It was discovered in 1826 by John Herschel who listed it as h 1241 and later as GC 2944 in his *General*

Catalogue of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Disk Thrower of Pegasus:

This **telescopic** asterism "Discobolus Pégasi" is the barred lenticular galaxy NGC 7753 (Arp 86) in the IAU constellation Pegasus. William Herschel listed this as "II 213". John Herschel listed it as h 2268 and later as GC 5011 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the spiral galaxy NGC 7753 is connected to the disk-like galaxy NGC 7752 [GC6226] by its long arm" which reminded them of "the famous sculpture of a disk throwing athlete by Myron".

Disorder Outside of Tucana:

This **telescopic** asterism "Exotaráche Túcanae" is the barred spiral galaxy NGC 7329 in the IAU constellation Tucana. This was discovered in 1835 by John Herschel who listed it as h 3951 and later as GC 4814 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the inner structure of this galaxy is well-ordered with a bar and an inner ring, while outside the ring, a complex structure of multiple fragments of overlapping spiral arms is prevalent."

Disordered of Eridanus:

This **telescopic** asterism "Incónditus Erídani" is the unbarred spiral galaxy NGC 1337 in the IAU constellation Eridanus. It was discovered by American astronomer Lewis Smith in 1885. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as it "looks like an ancient Roman shield in oblique view".

Disordered of Hydra:

This **telescopic** asterism "Tarachódes Hýdrae" is the barred spiral galaxy IC 2995 in the IAU constellation Hydra. It was discovered by Lewis Swift in 1898. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the rather disordered shape of this late type galaxy".

Disordered of Virgo:

This **telescopic** asterism "Atáctus Vírginis" is the spiral galaxy UGC 8041 in the IAU constellation Virgo. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They named it this because of "the disordered state of the disk of this very late type galaxy".

Dispersed Fire:

This K'iche' asterism is the IAU constellation Orion (Milbrath 1999).

Dissembling Anger of Hydra:

This **telescopic** asterism "Crypsíchola Hýdrae" is the elliptical galaxy NGC 2986 in the IAU constellation Hydra. It was discovered in 1785 by William Herschel who listed it as "II 311". It became GC 1913 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by

astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to its bright center "hiding the violent activity that is probably taking place in its core".

Dissolved of Ursa Major:

This **telescopic** asterism "Solútus Úrsae Majóris" is the intermediate spiral galaxy NGC 2805 in the IAU constellation Ursa Major. It was discovered in 1791 by William Herschel who listed it as "III 878". It became GC 1790 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to its "very dissolved appearance".

Distaff:

This Latin asterism "Colus" or "Fila et Stamina" ("Distaff, Thread, and Woof") is Alpha (α) Virginis (Spica) in the IAU constellation Virgo. Compare this to Ear of Grain, below.

This Greek asterism "Colus" is the IAU constellation Coma Berenices as listed by Edward Sherburne in his *Sphere of Marcus Manilius* in 1675.

Distant Bird of Tucana:

This **telescopic** asterism "Teleórnis Tucánae" is the galaxy ESO 148-2 in the IAU constellation Tucana. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because this galaxy resembles a flying bird.

Distant Neighbour of Sextans:

This **telescopic** asterism "Televicínus Sextántis" is the irregular galaxy UGC 5373 (Sextans B) in the IAU constellation Sextans. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "UGC 5373 is one of the most distant members of the Local Group." The earliest known reference to this galaxy is from a 1954 paper by Edison Pettit in the *Astrophysical Journal*, where it was listed as the "Wilson Dwarf".

Distinguished Premier:

This Chinese star from the Three Kingdoms to the Ming Dynasty "Guixiang" is Phi (ϕ) Ursae Majoris in the IAU constellation Ursa Major and is part of their asterism "Wénchāng" (文昌) - see Administrative Centre, above.

Distorted of Ursa Major:

This **telescopic** asterism "Diástrophus Úrsae Majóris" is the Magellanic spiral galaxy NGC 3998 in the IAU constellation Ursa Major. It was discovered by Prussian astronomer Heinrich d'Arrest in 1864. John Herschel listed it as JG 1031 and later as GC 2637 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to its tidal distortion.

District Driver:

This Hungarian asterism "Okörz hajtó" is the IAU constellation Boötes. The celestial map of Hungarian uranographer Sandor Nagy (1915) depicts this asterism as men with staffs and whips herding steer

Disturbed of Coma Berenices:

This **telescopic** asterism "Turbátus Cómae Bereníces" is the lenticular galaxy NGC 4382 (Messier 85) in the IAU constellation Coma Berenices. It was discovered by Pierre Méchain in 1781. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as "this galaxy is seriously disturbed in its outer envelope".

Disturber of Coma Berenices:

This **telescopic** asterism "Turbátor Cómae Bereníces" is the barred spiral galaxy NGC 4394 in the IAU constellation Coma Berenices. It was discovered in 1784 by William Herschel who listed it as "II 55". It became GC 2957 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as it is a close companion of NGC 4382 (see Disturbed of Coma Berenices, above).

Diti:

This Vedic star is Beta (α) Geminorum (Castor) in the IAU constellation Gemini.

Diverse:

This Greek asterism "ποικίλος" or "poikílos" is the IAU constellation Canis Major as described by Aratus (315 – 240 B.C.E), who was describing the variability of the magnitudes of its stars.

Divider:

This Kazakh asterism "Urker" is the Pleiades cluster in the IAU constellation Taurus. The Turkic and Mongol peoples used the rising and setting of the Pleiades to divide their year. Some sources spell this "Yrker" and translate it "scared" (Jaambayeva 2019) and relates it to a myth describing seven girls who flee into the sky to avoid seven thieves".

Divine Lion:

See Lion, below.

Diving Tower:

This **telescopic** asterism is Hay-Merting 6 in the IAU constellation Cepheus. This was discovered by German astronomers Christopher Hay and René Merting in 2106 and listed in Robert Zebahl's *Faint Fuzzies* website. Its size is 10' X 5'. Zebahl describes it thus: "Approximately 10' north of the cluster King 10 is an orange star of 9th magnitude, which is interpreted as the leading edge of the 5 m board on a diving tower. Between this star and King 10 a prominent triple chain of 10 [magnitude] bright stars forms the 3 m board. King 10 is the splashing water directly after a jump".

Diwo:

See Sun, below

Diya:

This **telescopic** Mauritian star is WASP 72 in the IAU constellation Fornax (magnitude 10.96). It was given this name in the IAU NameExoWorlds campaign. A Diya is an oil lamp used for special occasions,

including Diwali. It has an exoplanet named Cuptor: This is a thermally insulated baking or drying chamber.

Djurt-djurt:

This Kulin Nations star "Djurt-djurt" is Alpha (α) Centauri (Rigil Kentaurus) in the IAU constellation Centaurus (Massola 1968, Hamacher 2011).

dLAMMA:

This Babylonian star "dLAMMA" as listed in Anthony Hope's *A Guide to Ancient Near Eastern Astronomy* in 1996 is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra.

DNA Strand:

This **telescopic** asterism is a twisting helix of stars in the IAU constellation Aquarius starting with the star Psi (ψ) Aquarii and running down to 98 Aquarii.

Dnoces:

This star is Iota (ι) Ursae Majoris in the IAU constellation Ursa Major. This is the word "second" spelled backwards, and is a name given to this star by American astronaut Gus Grissom as it was his nickname for fellow astronaut Edward H. White. It is believed that Grissom was influenced by the stars Sualocin and Rotanev (see below) which were reversed Latinized names of Giuseppe Piazzi's assistant Nicolo Cacciatore and decided to name some other stars in this area with reversed names.

Doctor:

This Chinese star "Boshi" from the Three Kingdoms to the Ming Dynasty is Upsilon (υ) Geminorum in the IAU constellation Gemini and is part of their xing guan Five Feudal Kings (see below).

Dodonides:

This Greek asterism is the Pleiades cluster in the IAU constellation Taurus as listed by as listed by Mosenkis in his *Mycenaean Oecumene* (date n/k). The Pleiades were also known as the Atlantides (see below).

Dofida:

See Our Star, below.

Dog:

This Greek asterism "Κύων" ("Kýon") or "Kuon" is the IAU constellation Canis Major as it appeared in Homer's *Iliad and Odyssey* (8th century B.C.E.) and in Hesiod's poem *Works and Days* (late 8th century B.C.E.). It was mentioned in Aratus' poem *Phaenomena* (270 B.C.E.) and described in Ptolemy's *Almagest* (2nd century):

- The "body" of the dog starts at the "mouth", Alpha (α) Canis Majoris (Sirius) and then runs around the "head" through the stars 11 Canis Majoris, to the "tip of the ear" at Theta (θ) Canis Majoris, then down along the back through Gamma (γ) Canis Majoris and Tau (τ) Canis Majoris to the "tip of the tail" at Eta (η) Canis Majoris. The lower "body" runs from here through Omega (ω), Sigma (σ), Omicron (ο) 1 Canis Majoris, and 19 Canis Majoris to 20 Canis Majoris.

- One “front leg” is a line from 17 Canis Majoris to a “knee” at Xi (ξ) 1 and 2 Canis Majoris and a “foot” at HIP 29843.
- The other “front leg” is a line that runs from 15 Canis Majoris through Nu (ν) 2 Canis Majoris to a “foot” at Beta (β) Canis Majoris and then back through Nu (ν) 3 Canis Majoris to HIP 33077.
- The “back leg” starts at Omicron (ο) 2 Canis Majoris, runs to a bend at Omicron (ο) 1 Canis Majoris, then another bend at HIP 31870, then to a “foot” at Zeta (ζ) Canis Majoris, then back to a bend at Kappa (κ) Canis Majoris, then through Epsilon (ε) Canis Majoris to Delta (δ) Canis Majoris.

NOTE: Ptolemy (c.100 – c.170) used “Kýon” to refer to both this asterism and to just the star Sirius. Sirius was listed as “al-Kalb” (“the dog”) by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

This asterism “Canis” is the IAU constellation Cassiopeia. This name is listed in Johann Bayer’s *Uranometria* (1603) and attributed to Arab sources.

This is listed as a Greek lunar mansion made up of stars of the IAU constellation Canis Major or Canis Minor and is listed in the *Magical Papyrus 121*, preserved in the British Museum, and dated to the 3rd century C.E. (Mosenkis, date n/k). A dog or jackal appears alongside the Greek asterism Bull (see above) in the *Daressy Zodiac* of the Roman Imperial Period. It also appears as a paranatellonta of the decans of Sagittarius as listed in *the Sphaera Barbarica* described by Teucros (Mosenkis, date n/k).

This Babylonian asterism “ur-gi” is made up of stars of the IAU constellation Hercules. The “body” is the oval of stars Beta (β) Herculis (Rasalgethi), Zeta (ζ) Herculis, Eta (η) Herculis, HIP 83947, 67 Herculis, Epsilon (ε) Herculis, and 51 Herculis. Several lines run out:

- A “tail” (“kun mul ur gi”) listed in the *Great Star List* (Kock-Westenholz 1995) runs from Rasalgethi to Gamma (γ) Herculis,
- One “leg” runs from Epsilon (ε) Herculis to Delta (δ) Herculis, and
- One “leg” runs from 67 Herculis to Mu (μ) Herculis.
- NOTE: The “dog’s head” (“mul sag ur.gi” or “mul.min”) is listed in the *Great Star List* (Koch-Westenholz 1995) but the precise stars are uncertain.

This Sumerian asterism “mulur-gir” from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is identical to the Babylonian asterism “ur-gi” (above).

This Akkadian asterism “kal-bi” from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is identical to the Babylonian asterism “ur-gi” (above).

This Seleucid asterism is identical to the Babylonian asterism “ur-gi” (above).

This Arabic star “al-Kalb” is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

This Hebrew star “kelev gadol”.is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major:

- “Kelev gadol” is listed on the star list of Abraham Bar Hiyya in 1104 (Goldstein 1985). Goldstein believes that “ha-kelev” (“the dog”) “seems to be related to a Latin miscopying of orionis as canis (…Kunitzsch 1966)”.

- An anonymous Hebrew star list from 1392 (Goldstein 1985) lists the Arabic name "al-'abur kalb" and the Hebrew name "kelev gadol".

This Quechua asterism "Perro" or "Perrito" is dark nebulosity in the Milky Way (Ciancia 2018).

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of two stars in the IAU constellation Sagittarius: 52 Sagittarii (the determinative star) and Chi (χ) 1 Sagittarii.

This Chinese xing guan "Gǒu" (狗) is a line of two stars in the IAU constellation Sagittarius: 52 and 48 Sagittarii. Their xing guan "Territory of Dog" (see below) is nearby.

This Chinese Chenzhuo xing guan "Gǒu" is the two stars HIP 93134 and 93667 in the IAU constellation Sagittarius.

This Korean asterism "Gae" (개) is a line of two stars in the IAU constellation Sagittarius: HIP 93667 and 93134.

This English asterism "Canis, the Dog" is the IAU constellation Canis Major. English astronomer Richard Anthony Proctor gave it this name in 1873 as he believed that shortening the name would make more room on astronomical charts. "Canis" is listed in Proctor's *A New Star Atlas* (1887) as an official constellation "recognized in the catalogue of the British Association".

In his *Urania* in 1754 John Hill lists the Latin name "Canis" for the star Pi (π) Cephei in the IAU constellation Cepheus. Hill is influenced here by the Arabic asterism Shepherd and the Sheep (see below): This star is their Shepherd Dog or Northern Shepherd Dog. Hill incorrectly claims in his explanation that a nearby star in this constellation is "psti, signifying a shepherd". This Arabic star, now called Cebalrai, is in the IAU constellation Ophiuchus and is nowhere near Cepheus. In the Shepherd and the Sheep, the "shepherd" is the star Gamma (γ) Cephei.

The Evenk, Udege and Oroch in eastern Siberia see the three stars of the handle of the Big Dipper asterism in the IAU constellation Ursa Major as hunters (see Hunters, below) and the star 80 Ursae Majoris (Alcor) as the hunter's dog (Berezkin 2005).

This Pawnee star is 80 Ursae Majoris in the IAU constellation Ursa Major and is part of their asterism Two Stretchers, with Medicine Man, Wife, Errand Man, and Dog (see below).

This Salish, Chinookan, Lenape, Iroquois, and Meshkwahkihaki star is 80 Ursae Majoris (Alcor) in the IAU constellation Ursa Major (Berezkin 2005).

This Romanian asterism "Câinele" is the IAU constellation Canis Major (Ottescu 2009). It is also known as the Mastiff (see below).

There are four **telescopic** "dog" asterisms:

- Davis' Dog is a **telescopic** asterism found in the IAU constellation Taurus. Size 210' X 150'. Omega (ω) Tauri forms the nose, 51, 53 and 56 Tauri the "head and ears", and Kappa (κ) 1 & 2 Tauri are the dog's "backside" with Mu (μ) Tauri and 72 Tauri for the "tail". This was created by c. 2003 by American astronomer John Davis in Massachusetts. Davis passed away in 2018 at 86 years of age. This is Harrington 16 on the list of Astronomer and author Phil Harrington. NOTE: These stars were known to the ancient Arabs as the dogs of Al Dabaran, Alkalbain. René Merting describes it on the *Faint Fuzzies* website as "Geist der Hyaden" ("spirit of the Hyades").

- One is Ennis 21 on the observing list of Canadian astronomer Charles Ennis and is in the IAU constellation Andromeda. Size 150' X 110':
  - The double star HIP 365A is the dog's "Nose",
  - The dog's "head" is a quadrilateral of HIP 365A HIP 300, HIP 30, and HIP 137
  - The tip of the dog's "ear" is HIP 254.
  - The dog's "back" is the star HIP 118071 and a line of 8^{th} – 9^{th} magnitude stars running to one side of it.
  - The dog's "front leg" runs from HIP 118083 through HIP 118099 to a "foot" at HIP 118251 and 118269.
  - The dog's "rear leg" runs from the double star HIP 117646B to the double star HIP 117769.
  - The dog's "tail" runs through HIP 117672 to a curve of four stars forming the "tip" including the double star HIP 117565A, HIP 117620, and the double star HIP 117695A.
- One is in the IAU constellation Eridanus and is Ennis 65 on the observing list of Canadian astronomer Charles Ennis. Size 30' X 12'. The dog's "head" is a ring of 7^{th} – 12^{th} magnitude stars (Ennis 64) including HIP 22301 and Gaia DR# 3187668003459498368. The dog's "back" is HIP 22369 (7^{th} magnitude). The "front paw" is 9.05 magnitude star HD 20536. The "back leg" is HD 30664 and HD 30665. The "body" is a scattering of 10^{th} – 12^{th} magnitude stars.
  - One is the Double Cluster, NGC 869 and NGC 884 (C 14) in the IAU constellation Perseus. A "leash" is formed by the line of stars Chi (χ) Persei, 8 Persei, HIP 10690, HD 13744, and HIP 10379. This was posted on *Cloudy Nights* by American astronomer Fiske Miles in October 2023. Fiske describes this as a "person walking a dog – the dog being the Double Cluster".

Dog and Stick:

This **telescopic** asterism is from *Pattern Asterisms: A New Way to Chart the Stars* by John A. Chiravalle. It is in the IAU constellation Draco and resembles the head of a dog with jaws open to grab a stick. This includes stars of Corder 3303 and 3306. Size 100':

- The dog's "nose" is the star Omega (ω) Draconis,
- The dog's "head" is roughly a heart shape that runs around through DZ Draconis, 27 Draconis, HIP 85483, HIP 85678, to a 8.4 magnitude star and then back to the nose, and
- The "stick" is the line of stars HIP 85742, 86184, 86481, 86775, and 87237.

Dog Bone:

This **telescopic** asterism is in the IAU constellation Pisces and Corder 47 on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 60' X 30'. Corder describes it as being oriented north-south and "contains about 12 stars, magnitudes 9.5 to 10.5." It includes the stars HIP 1130 and 1095A.

Dog Chasing Cariboo:

This Northern Tutchone star "Tlin hudzi nana" is unidentified at present (Cannon 2021).

Dog Face:

This Blackfoot star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major.

Dog Following Mountain Sheep:

This Seri, Osage, and Tonono O'odham asterism is the IAU constellation Canis Major.

Dog Head:

The Egyptian decan "Isu" is a dog-headed man covered in wrappings from chest to heels, made up of stars of the IAU constellation Aquarius. Variations include "Epikhnaus". It has been depicted as a masked man with a flask in his right hand and a needle in his left.

Dog of Al Dabaran:

This Arabic asterism "Kalb al Dabarān" is stars in the IAU constellation Taurus as listed by Iranian scholar and astronomer Abu Rayhan Muhammad ibn al-Biruni (973 – c.1050). R. H. Allen lists this in his *Star Names* in 1899 and describes it as "the comparatively vacant space westward towards the Pleiades", though he does note that Al Biruni mentions "Kappa and Upsilon". However, another Arabic asterism is placed here: "al-kalbān" or "two dogs (of Al Dabaran)", see Two Dogs, below: This is the stars Kappa (κ) 1 and 2, Upsilon (υ), Phi (ϕ), and Chi (χ) Tauri in the IAU constellation Taurus (Alkalbain I, II, III, IV, & V) and is associated with their asterism Camel Herder (see above). I'm listing under the location for Kappa (κ) Tauri (Alkalbain III) since this is clearly a variation of Two Dogs and Kappa is clearly indicated. Compare this to Davis' Dog (see above).

Dog of the God Gula:

The Babylonian asterism "Kalbu" or "Kal-bu"from the MUL.APIN tablets, which later appears in Seleucid sky lore, is the dog of the God Gula:

- The "body" is made up of the "Keystone" of the IAU constellation Hercules (see Keystone below) extending out to a backside at Beta (β) Herculis (Kornephoros), and
- The dog's "feet" are Delta (δ) and Mu (μ) Herculis and the end of the "tail" is Gamma (γ) Herculis.

Compare to the Babylonian asterism "Kakab-lik-u" (see Dog Star, below).

Dog of the Giant:

This Arabic asterism "Al Kalb al Jabbār" is the IAU constellation Canis Major as listed by the Iranian astronomer Abu Rayhan Muhammad ibn Ahmad al-Biruni (973 – c. 1050).

This Persian asterism "Kelbo Gavoro" is the IAU constellation Canis Major.

Dog of the Wild:

This asterism "Auensrae Canis Iatrans" is the IAU constellation Boötes. This name is listed in Johann Bayer's *Uranometria* (1603).

Dog of Tobias:

This star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major. "Canis Tobias" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch. "Dog of Tobias" is listed as a name for Canis Major in R. H. Allen's *Star Names* in 1899. Allen attributes it to Italian humanist and poet Ambrogio Fracco, also known as Novidius (1480 - ?), "who imagined Biblical significance in every starry group".

This star is Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor as listed by German poet Philipp von Zesen (1619 – 1689) and German uranographer Wilhelm Schickard (1592 – 1635). Edward Sherburne lists this in his *Sphere of Marcus Manilius* in 1675.

Dog of Typhon:

This is the IAU constellation Ursa Major as listed by French philologist Jean-François Champollion (1790 – 1832). English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 writes "my intelligent friend, Professor Leemans, says 'Ursa Major, quae secundum Champollionem dicebatur Canis Typhonis'" ("Ursa Major, which according to Champollion was called the Dog of Typhon").

Dog Pack:

This Sami asterism "Rougot" ("dog pack") or "Miese-cora" ("calf pack") is the Pleiades cluster in the IAU constellation Taurus (Lundmark 1982).

Dog Sister:

This Tse'khene star is possibly Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus (Cannon 2021).

Dog Star:

This Babylonian star "Kakab-lik-u" or "the star of the dog" is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Holberg 2007). Compare to their asterism "Kalbu" (see Dog of the God Gula, above).

This Greek star "Κύων ἀστήρ" ("Kýon astír"), "Αστροκύων" ("Astrokýon") is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major. This name was in used before the 7th century B.C.E. when Hesiod named it "Seirios" (see Glowing, below). The ancient Greeks though that dogs were affected by the annual heliacal rising of Sirius, indicated by their panting, which led to them calling Sirius the "Gaper" (see below). The earliest mention of Sirius as a dog star is in Homer's *Iliad* (8th century B.C.E.), where Homer called it "midsummer's purest flaming star", "a baleful summer star", and "Orion's dog" (Holberg 2007). The heliacal rising of Sirius marked the arrival of the heat of late summer to the Greeks. Hesiod wrote of this in his poem *Works and Days*, Aratus (315 – 240 B.C.E) wrote of this in his *Phaenomena*, and Hippocrates warned of the effects of Sirius. This ultimately led to the Roman expression "dies caniculares" ("days of the dog star"), which is the origin of the expression " dog days of summer".

- This star appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as the "Dog Star".
- Johann Bayer's *Uranometria* (1603) lists this star as "Canis" ("Dog").
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this as "Sirius" and as the "Dog Star".
- The 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) refers to this star as the "Dog Star".
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists Sirius as the "Dog Star".

There are two Lithuanian stars by this name:

- One, “Szunis zwayzdie“ is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major.
- One, “Šuva žvaigždė” is Alpha (α) Leonis (Regulus) in the IAU constellation Leo.

This Icelandic star “Hunda Stjarna” is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Cleasby and Vigfusson 1874).

Dog Stars:

This Ininew asterism “Atima Atchakosuk” is the Little Dipper asterism in the IAU constellation Ursa Minor (Buck 2016). They call the star Alpha (α) Ursae Minoris (Polaris) “Keewatin Anung” (see Going Home Star, below) and some describe this as the anchor for a leash for the “dog”, which is the “handle” of the Little Dipper, while the “dipper” is the “dog”. One version of the story (Buck 202) has the brothers Wolf, Coyote, and Fox holding a council and deciding to send pups to mankind so that they may have dogs:

- Polaris is the Wolf Star (see below),
- Delta (δ) Ursae Minoris is the Coyote Star, and
- Epsilon (ε) Ursae Minoris is the Fox Star.

Another version of this Ininew asterism “Ahtimah Atchakosuk” is made up of the stars of the IAU constellations Camelopardalis and Ursa Minor. The triangle of Camelopardalis is the “head” and the stars of Ursa Minor the hind quarters.

This Cherokee asterism is the stars Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major and Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius. They viewed them as guardian dogs at either end of the Path of Souls (Milky Way).

Dog Tooth of Time:

This Arabic star “nab al-dahr” is Beta (β) Leonis (Denebola) in the IAU constellation Leo. This is a nickname for their manzil Al-Sarfah (see Weather Change, below).

Dog Who Courts Someone:

This Tsilhqot’in asterism “Lhìn Nìts’én Nánàyídásh” may be cognate with the Gwich’in asterism “Yahdii” (see Traveler, below (Cannon 2021)).

Dogs:

This Greek and Minoan asterism is the IAU constellations Canis Major and Canis Minor. Lithuanian archaeologist Marija Gimbutas (1996) identified the IAU constellation Orion as the Greek huntress Goddess Artemis and her Minoan equivalent A-ti-me-te, accompanied by her two hunting dogs represented by the IAU constellations Canis Major and Canis Minor. Gimbutas has also associated these constellations with Hecate (see Hecate’s Dogs, below).

This Inuit asterism “Qimmiitt” is the Hyades cluster in the IAU constellation Taurus (MacDonald 1998). The star Alpha (α) Tauri (Aldebaran) is called “Nanurjuk” (see Spirit of a Polar Bear, below) by the Inuit. The bear Nanuk chased the dogs off the edge of the world where they became stars.

This Inuit (Greenlandic) asterism “Qillugtussat” (‘baying dogs”) is the Pleiades cluster in the IAU constellation Taurus. R. H. Allen lists this as “Killukturset” in his *Star Names* in 1899 and translates it as “dogs baiting a bear”, and attributes it to Norse missionary Hans Egede, who was in Greenland between 1721 – 1734.

This Celtic (Gaulish) asterism “Cunes” is the IAU constellations Canis Major and Canis Minor (Boutet 2017).

This Mocoví asterism is the Pointer Stars Alpha (α) Centauri (Rigil Centaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus (see Pointers below). They are chasing their asterism “Mañic” (see Rhea, below).

This Portuguese asterism “Cães” is the IAU constellation Canis Major.

Dogs Are Chasing:

There are two versions of this Gwich’in asterism “Łąjj Ch’ihiił’oh” (Cannon 2021):

- One is the Little Dipper asterism in the IAU constellation Ursa Minor,
- One is the Pleiades cluster in the IAU constellation Taurus.

Dog’s Head:

This asterism is made up of the stars of the IAU constellations Centaurus and Crux by German astronomer Erhard Weigel (1625 – 99) who produced his *Astrocopium Orbi Europaeo Sacrum* chart in 1661, 1681 and 1688 in which he tried to replace existing constellations a new system based upon the heraldry of the nation states and principalities of seventeenth century Europe, as well as of its principal hierarchies and social classes. The label on his chart appears to read “Œsingia” and depicts a bust of a dog’s head facing to our right with a golden cross (Crux) on its ear.

This Lithuanian asterism “Šunio galva” is currently unidentified.

Dog’s Star:

This German star “Hunds Sterm” is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major as listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch

Dogs Strung Together:

This Gwich’in asterism “L’énatlla” or “Łaii Atł’yaa” is the belt of Orion in the IAU constellation Orion (Cannon 2021).

Dog’s Tail:

This Greek asterism “Κυνοσούρα” (“Kynosoúra”) is the name that the Greek poet Aratus (315 – 240 B.C.E) used for the IAU constellation Ursa Minor in his *Phaenomena* in 270 B.C.E., which became latinized to “Cynosura”, with the Roman poet Ovid (b. 43 B.C.E.) and the Roman general Germanicus (15 B.C.E. – 19 C.E.) later calling it “Cynosuris”. There are several interpretations of this, as Cynosura was the name of a nymph given a place in the sky by Zeus:

- The *De ordine ac positione stellarum in signis* (“*On the order and position of the stars in the signs*”) in the Salzburg compilation (810 – 818) of Abbot Arno of Salzburg (785 – 821) lists “Cynosura” and “Cinosura” as names for Ursa Minor.
- *Dele Stelle Fisse* (“Of the Fixed Stars”) by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542, lists “Cinosura”. The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

- This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as “Cynosura” and “Ursa Minor”.
- Danish astronomer Tycho Brahe’s *Astronomiae Instauratae Progymnasmata* (1602) lists “Cynosura” as a name for Ursa Minor.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Cynosura” as an alternate name for Ursa Minor.
- Johann Bayer’s *Uranometria* (1603) lists “Cynosura” for Ursa Minor and “Cynosuris” for Ursa Major.
- English poet John Milton (1608 – 1674) calls it “Tyrian Cynosure” and “Cynosure” in his *L’Allegro*. Other variations include “Cinosura” which appeared in the 17th and 18th centuries.
- “Cynosurae” and “Cynosura” are listed as names for the IAU constellation Ursa Minor in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
- The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists both “Ursa Minor” and “Cynosura” for this constellation.
- In a collection of Marian poetry published by Nicolaus Lucensis (Niccolo Barotti de Lucca) in 1655, Polaris is called “Cynosura seu Mariana Stella Polaris” (“Cynosure, or the Marian Pole Star”).
- Robert Hues lists this as “dog” in his *A Learned Treatise of Globes* in 1659 and attributes this name to the 6th century B.C.E. mathematician Thales.
- Edward Sherburne lists “Cynosura” as “the bright one in the Shoulder” in his *Sphere of Marcus Manilius* in 1675.
- Johann Elert Bode‘s *Vorstellung Der Gestirne* (1782) lists the star Polaris as “Cynosura“.
- American uranographer Elijah Burritt’s *The Constellations for each Month in the Year* (1835) calls Alpha (α) Ursa Minoris (Polaris) “Cynosura vel Alruccaba”.
- American astronomer Winslow Upton’s *Star Atlas* (1896) lists Alpha (α) Ursae Minoris as “Cynosura” and describes it as a “dog’s tail”.
- Robert Brown in his *Researches Into the Origin of the Primitive Constellations of the Greeks, Phoenicians and Babylonians* (1899) wrote: “in the case of some Kretan coin-types, Ursa Maj. is represented as a Cow, hence Boôtês as 'the Herdsman', and Ursa Min. as a Dog ('Chienne' cf. Kynosoura, Kynoupês), a Zeus-suckler."
- R. H. Allen notes in his *Star Names* in 1899 that the name “Κυνόσουρις” (“Kynósouris”) was occasionally assigned to Ursa Major and that by his time “Cynosure” was only used in reference to Polaris.

This Latin asterism “Canis Cauda” is the Little Dipper asterism in the IAU constellation Ursa Minor as listed in the 11th century *De signis caeli (“of the signs of heaven*”) and in Edward Sherburne’s *Sphere of Marcus Manilius* in 1675.

This asterism is the Pointer stars Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus as listed by R. H. Allen in his *Star Names* in 1899, which he describes as “Cynosura of the Southern Hemisphere”.

Dok:

This Wotjobaluk, Mara, and Moporr asterism is Alpha (α) Crucis (Acrux) in the IAU constellation Crux (Clarke 2009). She is the mother of the twins Bram-bram-bult (see above) which are the Pointer stars. Hamacher (2011) lists the Wotjobaluk asterism as Delta (δ) Crucis.

Dolphin:

This Greek asterism "Δελφίς" ("Delfís") is the IAU constellation Delphinus as mentioned in Aratus' poem *Phaenomena* (270 B.C.E.) and as described in Ptolemy's *Almagest* (2nd century). It is a five-sided figure attached to a triangle:

- The triangle is the stars Epsilon (ε), Kappa (κ) and Iota (ι) Delphini.
- The five-sided figure is the stars Epsilon (ε) Delphini, Eta (η) Delphini, Zeta (ζ) Delphini, Alpha (α) Delphini (Sualocin), Gamma (γ) Delphini, Delta (δ) Delphini, and Theta (θ) Delphini with the star Beta (β) Delphini (Rotanev) inside.

This Vedic asterism "Shisumara" or "Śhiśumāra" is the circumpolar constellations, Draco, Lyra, Cygnus, Cepheus, Ursa Minor, and Ursa Major, also known as Kundalini-cakra (Bhagwath 2019). It is specifically associated with the IAU constellation Draco and the God Vishnu. Bhagwath notes that this is referred to as a crocodile in the Śivapurāna which he relates to the crocodile cults in Gujarat and Bastar.

This Arabic asterism "Aldalafayn" (الدلفين) is the IAU constellation Delphinus.

This Hawaiian asterism "Nai'a" ("dolphin" or "porpoise") is the IAU constellation Delphinus.

This asterism "Delphin" is the IAU constellation Delphinus. English astronomer Richard Anthony Proctor gave it this name in 1873 as he believed that shortening the name would make more room on astronomical charts. However "Delphinus" is the name that appears in Proctor's *A New Star Atlas* (1887) as an official constellation "recognized in the catalogue of the British Association".

Dolphin Head Nebula:

This **telescopic** asterism is the emission nebula SH 2 – 308 (RCW 11, LBN 1052) in the IAU constellation Canis Major. It surrounds the star EZ Canis Majoris. NOTE: Stellarium lists two names, one being "Dolphin Head" and the other being "Dolphin", this second name being more commonly used for SH 2-188 (see below).

Dolphin Nebula:

This **telescopic** asterism is planetary nebula Sh 2-188 in the IAU constellation Cassiopeia. It is listed under this name as well as the names "Shrimp Nebula" and "Prawn Nebula" on RASC member Ron Brecher's *Astro Doc* website.

Dolphin's Diamonds:

This **telescopic** asterism is found in the IAU constellation Delphinus, consisting of thirteen magnitude 8 – 11 stars with the spiral galaxy NGC 7205 on one side. The name Dolphin's Diamonds is of course a reference to the name of the constellation. It is also known as the Toadstool (French 1, see Toadstool, below) and is Harrington 27 on the asterism list of American astronomer Phil Harrington.

Dolphin's Tail:

This Arabic star "Danab ad-Dulfīn" (ذنب الدلفين), shortened to "al Dulfīm" (ذيل الدلفين) is Epsilon (ε) Delphini in the IAU constellation Delphinus:

- "Dhanab al-Dulfin" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- This was later latinized to "Deneb Dulfim,", "Aldufin" or "Al Dhanab".
- Sloane astrolabe BM SL 54 in the British Museum which dates to 1290 – 1300 lists "Delfin" , although it makes it a name of Gamma (γ) Delphini (Dekker 2000).
- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists "dhanab al-dulfīn".
- The rete of the 14th century Spanish astrolabe NMM AST0570 in the National Maritime Museum lists "Delfin"
- The IAU has approved the name Aldufin for Epsilon (ε) Delphini.

Dombay:

This Russian star is HAT-P-3 in the IAU constellation Ursa Major and was given this name in the IAU NameExoWorlds campaign. It was named after the Dombay resort region in the North Caucasus. It has an exoplanet named Teberda, which is the name of a mountain river in that region.

Dome Like Tent:

This Arabic asterism is an oval of stars in the IAU constellation Corona Australis: Starting at Alpha (α) Coronae Australis (Meridiana) it runs through Beta (β) Coronae Australis, Delta (δ) Coronae Australis, Zeta (ζ) Coronae Australis, Eta (η) Coronae Australis, HIP 91494, Theta (θ) Coronae Australis, HIP 90759, HIP 90887, Lambda (λ) Coronae Australis, Epsilon (ε) Coronae Australis, and Gamma (γ) Coronae Australis.

Domesticated Animals:

This Latin asterism "Pecudes" is listed in John Hill's *Urania* in 1754 as "a cluster of stars upon the hands of Cepheus" and gives it the Arabic name "Al Agh'nam, Sheep". This is clearly a reference to the Arabic asterism Flock of Sheep (see below), which is the stars Kappa (κ) and Pi (π) Cephei in the IAU constellation Cepheus (I and II Al Aghnam). This is probably also influenced by the Arabic asterism Shepherd and the Sheep (see below) and Apianus' asterism Shepherd, Dogs, and Sheep (see below).

Dōnghǎi:

This Chinese star "Dōnghǎi" from the 3 Kingdoms and Ming Dynasty Period is the star Eta (η) Serpentis in the IAU constellation Serpens and is and is part of their xing guan Heavenly Market East Wall (see below).

Dongou:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is made up of stars of the IAU constellations Antlia and Vela and consists of a line of three stars with a "fork: at one end:

- The line of stars consists of I Velorum, Iota (ι) Antliae, and HIP 50888.
- From HIP 50888 two lines run out:
    - One goes to the star q Velorum (the determinative star), and
    - One goes to the star n Antliae.

This Chinese Chenzhuo xing guan is a bent line of five stars in the IAU constellations Centaurus and Vela: Mu (μ) Velorum, HIP 54746, Pi (π) Centauri, Delta (δ) Centauri, and HIP 57803.

Donkey:

This asterism "Asina" is the IAU constellation Hydra. This name is listed in Johann Bayer's *Uranometria* (1603).

This Latin star "Asinus" is Gamma (γ) Cancri in the IAU constellation Cancer as listed in the Basil 1551 edition of the *Almagest*. Compare this to Donkeys, below.

A donkey or ass appears next to the Greek asterism Lion (see below) on the *Daressy Zodiac* of the Roman Imperial Period (Mosenkis, date n/k).

Donkey Colts:

This Latin asterism "Aselli" ("little asses" or "donkey colts") or "Asini" ("ass") is made up of three stars in the IAU constellation Boötes:

- Theta (θ) Boötis: Asellus Primus ("first donkey colt")
- Iota (ι) Boötis: Asellus Secundus ("second donkey colt"), and
- Kappa (κ) Boötis: Asellus Tertius ("third donkey colt").

The *De ordine ac positione stellarum in signis* ("*On the order and position of the stars in the signs*") in the Salzburg compilation (810 – 818) of Abbot Arno of Salzburg (785 – 821) lists "Asini".

The 9th century Berlin 130, Madrid 3307, Monza F.9/176 and Vat lat 645 manuscripts of the *De ordine ac positione stellarum in signis* list "Aselli" and depict a square manger.

The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists "Due asini".

Johann Bayer's *Uranometria* (1603) lists "Asellus Primus" for Theta (θ) Boötis, "Asellus Secundus" for Iota (ι) Boötis, and "Asellus Tertius" for Kappa (κ) Boötis.

This asterism is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as "Aselli".

Edward Sherburne lists this as "Aselli" in his *Sphere of Marcus Manilius* in 1675. Compare this to "Two Asses", below.

English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Aselli" as Gamma (γ) and Delta (δ) Cancri.

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), refers to Delta (δ) and Gamma (γ) Cancri as "the Aselli, or the Ass's Colts".

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) mentions this asterism as "three small stars in the left hand of Boötes… near Benetnasch" but does not name it.

Donkeys:

This Greek asterism "Ὄνοι" or "Ónoi" is the stars (Delta (δ) Cancri (Asellus Borealis- "northern donkey colt") and Gamma (γ) Cancri (Asellus Australis- "southern donkey colt") in the IAU constellation Cancer.

It is part of their asterism “Praesepe” (“manger”) or “Asselli and Praesepe” (see Manger, below) which includes the open cluster Messier 44 (see Beehive, above). The ancient Greeks saw it as a manger from which two donkeys are eating. Aselli is Latin for “little asses” or “little donkey colts” and Asellus is Latin for “ass”.

Door Bolt:

This Chinese xing guan “Jiànbì” (键闭) is the star 14 Scorpii in the IAU constellation Scorpius and is related to their nearby xing guan “Room” (see below). This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Jianbi” is the star 14 Scorpii in the IAU constellation Scorpius.

Door Lock and Key:

This Korean asterism “Do-eologgwa Yeolsoe” (도어록과 열쇠) is a line of two stars in the IAU constellation Scorpius: Omega (ω) 1 and 2 Scorpii and Beta (β) 1 Scorpii (Acrab). This asterism is attached to the longer asterism “Royal Hall” (see below) at Beta (β) 1 Scorpii.

Doradinal Pole:

“Polus Doradinalis” This is the name given to the IAU constellation Dorado by German poet Philipp von Zesen (1619 – 1689) as its “head”, the stars Beta (β) Doradus, Delta (δ) Doradus, and HIP 27890, mark the south pole of the ecliptic.

Dorado:

Although none of its stars of this constellation are brighter than 3rd magnitude, they do show up in 116 asterisms in this handbook, principally because the Large Magellanic Cloud is located here.

This IAU constellation (IAU abbreviation Dor), “the swordfish”, was named with the Spanish word for “golden” (“Piscis auratus”) and was one of twelve constellations identified by the Flemish astronomer Petrus Plancius (1552 - 1622) based on the observations of Dutch navigator and uranographer Pieter Dirkszoon Keyser (1540 – 1596) and Dutch navigator Frederick de Houtman (1571 – 1627). De Houtman called it “Den Dorado” (“the Dorado”). Dutch historian Paulus Merula (1558 – 1607) listed the Latin names “Dorado” and “Aurata” (“golden”), as well as “Zee Braesum” (“sea bream”) and “Vleigende Visch”, the latter being a name for Volans (see below).

A celestial globe (late 1597) of Flemish astronomer Petrus Plancius published by Amsterdam cartographer Jodocus Hondius the Elder depicts “Dorado”.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) depicts “Dorado” as a fish.

German uranographer Johann Bayer (1572 – 1625) depicts “Dorado” in his *Uranometria* of 1603 as a fish.

German astronomer Johannes Kepler (1571 – 1630) in his *Tabulae Rudolphinae*, a new edition of Brahe’s catalogue, in 1627, listed this constellation as “Dorado” and “Xiphias”.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts “Dorado” as a fish swimming to our right.

"Dorado" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as well as the alternate names "Xiphias" and "Gladius" and the local name "Schwert Fisch".

"Dorado" is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a fish swimming to our left.

Dorado is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661.

Edward Sherburne lists "Dorado", "Piscis Auratus" and "Chrysophris" (a variety of snapper) in his *Sphere of Marcus Manilius* in 1675.

English astronomer Edmond Halley in his *Catalogus Stellarum Australium* in 1679 lists this constellation as "Dorado" and "Xiphias".

The 1688 celestial globe of Italian priest and uranographer Vincenzo Maria Coronelli (1650-1718) includes this constellation (Stevenson 1921).

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, labels this fish "Dorado" on one chart page and "Xiphias" on another.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this "La Dorade" and "Dorado" and depicts it as a fish with its face pointing toward celestial south.

Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) labels this constellation "Dorado al Xiphias" and depicts it as a fish.

This is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729 as "Dorado".

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts "Xiphias" as a fish.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts "Dorado Xiphias" as a fish.

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) depicts Dorado as a fish.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Dorado as a fish.

French astronomer Abbé Nicolas Louis de Lacaille's *Planisphère des Étoiles Ausralea* (1756) labels this "Dorade" and depicts a fish.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts "Xiphias" as a fish.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "la Dorade" as a fish, as does the 1778 edition.

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts "Dorado" as a fish.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts “Xiphias” as a fish.

American uranographer William Croswell (1760 – 1834) depicts “Dorado Xiphias the Swordfish” on his *Mercator Map of the Starry Heavens* in 1810 as a swordfish.

“Dorado” is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875): He indicates the borders of this constellation on the chart but offers no illustration of it.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Doradot in his *Celestial Atlas* in 1822.

American uranographer Elijah Burritt’s *Southern Circumpolar Map for each Month in the Year* (1835) depicts “Dorado the Swordfish” as a swordfish.

The French call it “Dorade” but French astronomer Camille Flammarion (1842 – 1925) called it “Doradus” in his *Astronomie Populaire*.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this constellation on its charts as “Dorade”.

English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists “Dorado, The Sword-Fish” as an official constellation “recognized in the catalogue of the British Association”.

American astronomer Winslow Upton’s *Star Atlas* (1896) lists this constellation as “Dorado” and describes it as a “Sword Fish”, incorrectly attributing it to Bayer.

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children’s book *Curious George* (1941) redesigned the lines of Dorado in his book *The Stars - A New Way to See Them* (1952). The standard IAU chart depicts this constellation as the triangle of stars Beta (β) Doradus, Delta (δ) Doradus, and HIP 27890, with a line running from Beta (β) Doradus through Alpha (α) Doradus to Gamma (γ) Doradus. Rey adds the star Zeta (ζ) Doradus to create an additional line connecting Beta (β) and Alpha (α) Doradus to create a “body”.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Dorado in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* as a line of stars running from Delta (δ) Doradus through Beta (β) Doradus and Alpha (α) Doradus to Gamma (γ) Doradus.

Sky and Telescope Magazine, founded in 1941, depicts Dorado in their magazine and publications like this:

- Its “tail” is the triangle of stars Delta (δ) Doradus, HIP 27890, and Beta (β) Doradus,
- Its “body” is the triangle of stars Beta (β) Doradus, Zeta (ζ) Doradus, and Alpha (α) Doradus, and
- Its “sword” is a line from Alpha (α) Doradus to Gamma (γ) Doradus.

Dormouse:

This **telescopic** asterism is the open cluster NGC 7510 in the IAU constellation Cepheus, which was discovered by English astronomer William Herschel in 1784. It is also known as the Arrowhead (see above). The main stars of the cluster are the body with a line of four 11^{th} – 12^{th} magnitude stars forming a “tail”.

Doró botó:

This Karajá asterism is the Pleiades cluster in the IAU constellation Taurus (De Freita Mourão 2009). Doró botó is a hunter chasing "A-onidurarú" (see Tapir, below).

Dostár kellöse:

This Hungarian asterism "Dostár kellöse" appears on the celestial map of Hungarian uranographer Sandor Nagy (1915), who depicts this asterism as two people stretched out on the ground looking at something. NOTE: Nagy's 1915 chart is beautifully illustrated, but some of the labels are hard to make out and I find it difficult to match the hand drawn stars on his chart with actual star patterns in the sky. The stars are currently unidentified.

Dotted of Horologium:

This **telescopic** asterism "Punctatus Horológii" is the spiral galaxy IC 1933 in the IAU constellation Horologium. It was discovered by American astronomer DeLisle Stewart in 1898. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the HII regions of this galaxy provide it with a dotted appearance".

Double Barbed of Antlia:

This **telescopic** asterism "Bihamátus Ántliae" is the barred spiral galaxy NGC 3347 in the IAU constellation Antila. John Herschel listed it as h 3291 and later as GC 2181 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Double Bubble Nebula:

See Peanut Nebula, below.

Double Cluster:

This asterism is two open clusters side by side in the IAU constellation Perseus: NGC 869 and 884. The Greek astronomer Hipparchus (190 – 120 B.C.E.) noted them in 130 B.C.E., describing them as a "νεφελοειδής" ("nefeloeidís": "cloudy spot" or "nebular"). Ptolemy (c.100 – c.170) called it "συστροφή" ("systrofí": "dense mass" or "twisted") and it appeared in Abd al-Rahman al-Sufi's *Book of Fixed Stars* in 964. S. Raab described them in the Meddelanden Fran Lunds Astronomiska Observatorium Series II, 28, 1, as forming a "double cluster in Perseus".

- German astronomer Johann Bayer (1572-1625) described them as h Persei and Chi (χ) Persei in his *Uranometria* in 1603.
- Sherburne Wesley Burnham (1838 – 1921) listed it as the Double Cluster in *Burnham's Celestial Handbook.*
- It was English astronomer William Herschel who first recognized them as open clusters in the and listed NGC 869 and NGC 884 as VI 33 and VI 34in his catalogue.
- John Herschel lists NGC 869 as h 207 and NGC 884 as h 212.
- The 1864 General Catalogue lists NGC 869 as GC 512.
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) mentions "a beautiful star cluster visible to the naked eye" between Perseus and Cassiopeia which is probably this asterism but does not name it.

- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), calls this the "Great Cluster" and describes it as "a double swarm of stars".
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this as the "Double Cluster" and the "Sword Handle".
- NOTE: NGC 869 is also referred to as the h Persei Cluster or Caldwell 14, and NGC 884 as the Chi Persei Cluster.

Double Dark Nebula:

See Barnard's E, above.

Double-Double:

This asterism is the side-by-side double stars Epsilon (ε) 1 Lyrae and Epsilon (ε) 2 Lyrae. English Admiral Henry William Smyth describes this as a "double-double" in his *Bedford Catalogue* in 1844. *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), describes these as a "quadruple". R. H. Allen listed them as "celebrated" in his *Star Names* in 1899. English astronomer William Herschel discovered them. *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists it as a "Double Double".

Double-Double and a Doughnut:

This Canadian **telescopic** asterism is in the IAU constellation Lyra. Canadians will be familiar with the Tim Hortons Double Double, which is two shots of cream and two shots of sugar in their original brewed coffee. RASC Halifax member Tony Schellinck noted that the double double asterism (see above) is next to Messier 57 (NGC 6720), the Ring Nebula, so he calls this the "double double and a doughnut". M 57 and Epsilon (ε) 1 and 2 Lyrae are 6° 46' apart.

Double Hair of Leo:

This **telescopic** asterism "Diplóthrix Leónis" is the intermediate spiral galaxy NGC 3626 (Messier 65) in the IAU constellation Leo. It was discovered by Charles Messier in 1780. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Double-Headed Eagle:

This asterism "Aquila Biceps" was made up of the stars of the IAU constellation Orion by German astronomer Erhard Weigel (1625 – 99) who produced his *Astrocopium Orbi Europaeo Sacrum* chart in 1661, 1681 and 1688 in which he tried to replace existing constellations a new system based upon the heraldry of the nation states and principalities of seventeenth century Europe, as well as of its principal hierarchies and social classes. This represents the coat of arms of the Austro-Hungarian empire and is depicted as a double headed eagle topped with a crown holding a sword in his left claws and a sceptre in his right claws. It is listed as a "Two Headed Eagle" in R. H. Allen's *Star Names* in 1899.

Double-Headed Shot:

This **telescopic** asterism is the planetary nebula M 27 (NGC 6853), discovered by French astronomer Charles Messier in 1764 in the IAU constellation Vulpecula. It is GC 4532 in the *General Catalogue* of 1864. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists it as "the double-headed shot". It is also known as the Dumbbell (see below), the Diabolo Nebula (see above) and the Apple Core Nebula (see above). NOTE: A double-headed shot, sometimes known as an "angel", was a cannon

projectile with two balls or half balls connected with a bar, which was used to slash through the rigging and sails of enemy ships.

Double Falcons:

This proposed Egyptian asterism nṯrwi̯ from the Old Kingdom (3100 B.C.E.) is the name of the 5th nome (district) of Upper Egypt, also known as "two gods" and represented by the IAU constellation Gemini (Berio 2014). The Temple of Khnum at Esna has a Latopolitan zodiac on the ceiling of the pronaos dating to the age of Ptolemy II Euergetes (246 – 221 B.C.E.) depicts a bird-like figure with a crocodile head and an extra pair of wings above Orion and next to Gemini (Bullinger 1882, Seiss 1882).

Double Horse:

This is one of the asterisms found on the cave ceiling in Armintxe, Spain, estimated to be between 12,000 and 14,000 years old. It is made up of the stars of the IAU constellation Aquila:

- The "body" is a triangle of the stars Theta (θ) Aquilae, 71 Aquilae and Phi (ϕ) Aquilae,
- The "front leg" runs from Theta (θ) Aquilae to Eta (η) Aquilae, and
- The "back leg" runs from Phi (ϕ) Aquilae to Gamma (γ) Aquilae.

Double Little Wing of Aries:

This **telescopic** asterism "Diptérium Aríetis" is the barred spiral galaxy IC 167 (Arp 31) in the IAU constellation Aries. It was discovered by French astronomer Guillaume Bigourdan in 1891. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "its long straight tail looks like a little sword, just as the leaf of the well-known gladiolus flower". They also described it as "a smaller copy of NGC 1365" (see Two Wings of Fornax, below).

Double Man:

This Anutan asterism "Te Rua Tangata" is the Pointer Stars Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus (see Pointers below). These stars form the "handle" of Te Rakau Tapu ("the Net"- see below).

Double Mane of Virgo:

This **telescopic** asterism "Bícomis Vírginis" is the intermediate spiral galaxy NGC 4079 in the IAU constellation Virgo. It was discovered in 1828 by John Herschel who listed it as h 1077 and later as GC 2703 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to "the to long curly arms extending from this 'grand design' galaxy like graceful manes".

Double Mint Cluster:

This asterism is the open cluster NGC 2343 in the IAU constellation Monoceros. It was discovered by English astronomer William Herschel in 1785 who listed it as "VIII 33" in his catalogue. It is GC 1498 in the *General Catalogue* of 1864. The Double Mint trademark belongs to the Wrigley Company, which created this brand in 1914, so the name cannot predate this.

Double of Cetus:

This **telescopic** asterism "Dúplex Céti" is the dumbbell galaxy NGC 1128 in the IAU constellation Cetus. It was discovered by American astronomer Lewis Swift in 1886. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name because of its twin nuclei.

Double of Coma Berenices:

This **telescopic** asterism "Diplásia Cómae Bereníces" is the barred lenticular galaxy NGC 4245 in the IAU constellation Coma Berenices. It was discovered in 1785 by William Herschel in who listed it as "I 74". It became GC 2832 in the *General Catalogue* of 1864.This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name because of "the double rings of this galaxy: a nuclear one and an inner one".

Double Ring of Coma Berenices:

This **telescopic** asterism "Bianuláta Cómae Bereníces" is the barred spiral galaxy NGC 4274 in the IAU constellation Coma Berenices. It was discovered in 1785 by William Herschel who listed it as "I 75". It became GC 2851 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name because "both spiral arms of this galaxy nearly overlap and form an almost perfect ring. A fainter outer ring can also be seen".

Double Star Curve:

This **telescopic** asterism is the open cluster Elosser 3 in the IAU constellation Orion. René Merting describes it on the Faint Fuzzies website: "At 29x, a very flat, gently curved double star curve extends from north to south through the surrounding area - towards the south, the stars become brighter and the distances larger, the brightest star is 72 Ori - the pattern is formed by seven stars, or nine if you include the two faint companions along the line." The line of stars is HIP 29637, 72 Orionis, HIP 29694, HD 43096, and HIP 29665.

Double Triangle:

This **telescopic** asterism in the Hyades star cluster in the IAU constellation Taurus contains six stars that form a double triangle. This was listed by Troy Stratton of the Salt Lake Astronomical Society.

Double V:

This telescopic asterism is the open cluster NGC 6716 in the IAU constellation Sagittarius, discovered by English astronomer John Herschel in 1830. It is GC 4443 in the *General Catalogue* of 1864. It was given this name by American astronomer Wayne Schmidt, who describes it as a double-v of geese.

Double Wedge:

This **telescopic** asterism is the open cluster NGC 2232 in the IAU constellation Monoceros. This was discovered by English astronomer William Herschel who listed it as "VIII 25" in his catalogue. It is GC 1415 in the *General Catalogue* of 1864. This open cluster forms a double wedge shape.

Doubled of Virgo:

This **telescopic** asterism "Gemináta Vírginis" is the barred spiral galaxy NGC 4999 in the IAU constellation Virgo. It was discovered in 1786 by William Herschel who listed it as "II 537". It became GC

3432 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the spiral arms of this galaxy show remarkable double lanes in some places [which] brings to mind the so-called geminations of the Mars canals".

Doubling of Iota of Grus:

This **telescopic** asterism "Jotacísmus Grúis" is the barred spiral galaxy NGC 7496 in the IAU constellation Grus. This was discovered in 1834 by John Herschel who listed it as h 3973 and later as GC 4897 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it "has the shape of the Greek letter iota (ι). By coincidence the star Iota (ι) Gruis is situated only two degrees south of the galaxy."

Doubtful Two Headed of Cetus:

This **telescopic** asterism "Ánceps Céti" is the lenticular galaxy IC 1575 (Arp 231) in the IAU constellation Cetus. It was discovered by American astronomer Lewis Swift in 1896. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because some sources describe it as a galaxy with a concentric ring while others see it as a pair of intersecting galaxies.

Doubting Thomas:

This asterism is the IAU constellation Leo as listed in R. H. Allen's *Star Names* in 1899. Allen attributed it to people "who figured Biblical characters throughout the heavens in place of the old mythology" but did not name a specific culture or uranographer.

Doughnut (Cut in Half):

This **telescopic** asterism is planetary nebula NGC 2371-2 in the IAU constellation Gemini. It was discovered by English astronomer William Herschel in 1785, who described it as "Two. Sp-nf, distance 1', chevelure mixed. Both faint, small, equal, having a nucleus". Herschel listed it as "II 316 and II 317" in his catalogue. It is GC 1519 and 1520 in the *General Catalogue* of 1864. It seemed to English astronomer John Louis Emil Dreyer (1852 – 1926) to be two objects and so was entered as NGC 2371 and 2372 in the *New General Catalogue* in 1888. It is actually a single planetary nebula. It is also known as the Double Bubble Nebula, the Ant Nebula, the Figure Eight, the Mini Dumbbell, or the Gemini Nebula. Size 1' X 1'. American astronomer Ken Reeves of the Saguaro Astronomy Club described it in the SACNEWS On-line, February 1997, as "a donut cut in half with the two bright spots being the cut ends of the donut".

Doughnut with a Bite Taken Out of It:

This **telescopic** asterism is NGC 4038 and NGC 4039 (Caldwell 60/61), a pair of colliding galaxies in the IAU constellation Corvus. These galaxies were discovered by English astronomer William Herschel in 1785 who listed them as "IV 28.1" and "IV 28.2". They are GC 2670 and GC 2671 in the *General Catalogue* of 1864. It was given this name by American astronomer John Sanford in his 1989 *Observing the Constellations.* This is also known as the Antennae Galaxies (see above), the Ring Tail Galaxy (see below), the Snorter (see below), the "Little Shrimp", and the Mosquito Larvae (see below). It is Arp 244 in Arp's *Atlas of Peculiar Galaxies.*

Dove:

This Arabic star "(al-)Fākhitah" (فاخثة) is Alpha (α) Columbae in the IAU constellation Columba and is related to the original name of this constellation (see Columba, above):

- This name was later latinized to "Phact", "Phaet", "Phakt", or "Phad".
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as "Phaet".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Phact".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists this star as "Phakt" and "Phact" but his 14th edition (1959) onlylists this star as "Phakt".
- The IAU approved the name Phact for Alpha (α) Columbae.

This German asterism "Taube" is the IAU constellation Columba.

This Banjara asterism "Kamedi" is stars of the IAU constellation Taurus (Vahia 2014). It was used as an indicator of the rainy season.

This Quechua asterism from Yucay, "Urpi", is the Coal Sack Nebula (Urton 1981).

Dove with the Olive Branch:

This asterism "De Dyve med den Okijftack" is the name Dutch navigator Frederick de Houtman (1571 – 1627) gave to the IAU constellation Columba (see Columba, above) and which influenced the name this constellation acquired.

Downward Bend:

This Bedouin asterism is the stars Xi (ξ) Geminorum and Gamma (γ) Geminorum in the IAU constellation Gemini. NOTE: Dorn (1829) translates this as "a mark burnt in on the Camel's neck" and describes it as "the pair [of stars] in the foot of the second Twin": This would be these two stars. There are two versions of the Arabic asterism Mark on the Horse's Hide (see below), none of which involve the stars of Gemini, but one of which involves the nearby constellation Orion.

Dowsing Rod:

This **telescopic** asterism Ferrero 31 is in the IAU constellation Centaurus near HIP 54467.

Draco:

Draco's brightest star, Gamma (γ) Draconis (Eltanin) is only number 69 on the list of brightest stars, but its stars appear in 329 of the asterisms in this handbook. From the 4th to the 2nd millennium B.C.E. Alpha (α) Draconis (Thuban) was the northern pole star. The French call this constellation "Dragon", the Germans "Drache", and the Italians "Dragone".

This IAU constellation (IAU abbreviation Dra), known to Eratosthenes (d.194 B.C.E.) and described by Hipparchus (190 – 120 B.C.E.) in his *Star Catalogue* as"Ὄφις" or "Ophis" ("serpent") was first mentioned in Aratus (240 – 315 B.C.E.) in his poem *Phaenomena* (Gysembergh et al 2022). It was one of the 48 original constellations of Ptolemy (100 – 170), which he adopted from a list created by Eudoxus of Cnidus (4th century B.C.E.). The modern name comes from another old Greek name for this constellation: "Δράκων" ("Drákon"). Greek myths have the Goddess Athena or the hero Hercules slaying this serpent and casting it into the sky.

The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) depicts Draco as a snake winding between Ursa Major and Ursa Minor but does not place its head under the foot of Hercules (who is supposed to be crushing it).

The Mainz Globe from the eastern end of the Roman empire (c. 150 – 220 C.E.) depicts Draco as a snake winding between Ursa Major and Ursa Minor

The globe of the 2nd century Farnese Atlas depicts this constellation as a snake (Stevenson 1921).

Draco is depicted in the Leiden *Aratea* (816) as a snake winding between Ursa Major and Ursa Minor (Katzenstein & Savage-Smith, 1988).

This constellation appears in the 8th century *Revised Aratus Latinus*:

- In two editions (St Gall 250, St Gall 902) Draco is depicted as a dragon with long ears,
- In the Paris BN 12957 the snake's head is shown from above while all other editions show this head in profile,
- In the Paris BN n.a. 1614 edition Draco is shown with four curves.

The 9th century Berlin 130, Madrid 3307, Monza F.9/176 and Vat lat 645 manuscripts of the *De ordine ac positione stellarum in signis* depict Draco with four bends and with a comb and beard. In the Munich 210 and Vienna ÖNB 387 manuscripts of the *De ordine ac positione stellarum in signis* the comb and beard are omitted.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi's son depicts Draco as a serpent with a dragon's head and two coils.

The 11th century *De signis caeli ("of the signs of heaven*") lists "Draco, qui continent utrosque Arcturos" ("Draco, which contains both Arcturus"). The Oxford Laud 644 and Padua 27 manuscripts of *De signis caeli* depict Draco as a flat snake slithering to the left, while the Venice VIII 22 manuscript shows him as a two-legged dragon with bird-like feet. The Rouen 26 manuscript of *De signis caeli* depicts a winged dragon with a cock's comb. The Klosterneuberg 685, and Zwettl 296 manuscripts of *De signis caeli* depict Draco as a dragon with two feet and a small pair of wings and an arrow shaped tongue.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Draco as a dragon headed serpent with two coils circling celestial north.

Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) depicts Draco as a horned serpent with one coil and labels it "sūrat al-tinnīn" ("picture of the dragon").

The mid 15th century Wein, Oesterr. National Bibl., manuscript Lat 5415, ff.168v-169r depicts "Draco" as a dragon headed serpent with four coils.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscripts CLM 14583, ff.70v-71r and 71v-72r both depict Draco as a dragon headed serpent with two coils. It is not labelled as these charts seem to be intended to illustrate primarily the asterisms of the zodiac.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Draco as a serpent with two coils, but is not labelled.

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Draco as a dragon headed serpent with three coils as does the German Bayerische Staatsbibliothek Clm 826 manuscript and the Czech Památnik Národního Písemnictiví Strahoviensis D.A. II. 13 manuscript.

The vault of the Old Sacristy of the Basilica di S. Lorenzo in Firenze, Italy (1442) depicts Draco as a dragon headed serpent.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Draco as a serpent completely circling Ursa Major with its forward half and Ursa Major with its lower half, its tail completely closing the loop around Ursa Major.

The *Germanicus Aratea* (Siciliensis, c. 1469) depicts Draco as a serpent winding between Ursa Major and Ursa Minor.

The *Germanicus Aratea* with scholia Strozziana (c. 1475) depicts Draco as a serpent winding between Ursa Major and Ursa Minor.

De Astronomica ("the astronomy"), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This depicts "Draco" as a dragon headed serpent winding between Ursa Major and Ursa Minor.

The Constance Celestial Globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts "Draco" as a serpent.

The early 16th century Real Academia de Historia, manuscript D-97, f.102v – 103r depicts Draco as a serpent with a coil around celestial north. It is not labelled.

The "Nuremburg Maps" *(Die Karte des Nördlichen Sternenhimmels* inv.-Nr. Hz 5576), a pair of celestial hemispheres made in 1503 by Conrad Heinfogel, depicts "Draco" as a dragon-headed serpent with four coils.

The "Nuremburg Maps", a pair of celestial hemispheres made in 1503 by Conrad Heinfogel depicts Draco as a dragon headed serpent with pointed ears and two coils.

Gores for a celestial globe by German polymath Johann Schöner (1477 – 1547) from 1515 list "Draco" and from 1535 list "DRACO" (Dekker & Lippincott, 1999). Celestial globe gores (1517) of Schöner depicts "Draco" as a dragon headed serpent with three coils, as does his 1522 globe.

The *imagines coeli septentrionales cum duodecint imaginibus zodiaci* ("images of the northern sky with twelve images of the zodiac"), commonly known as the *Northern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius (Dekker & Lippincott, 1999) lists Draco and depicts it as a dragon headed serpent with pointed ears with four coils.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts "Draco" as a dragon headed serpent with pointed ears and three coils.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts Draco in the same manner as Dürer et al.

The celestial globe depicted in Hans Holbein's *Double Portrait of Jean de Dinteville, the Bailly of Troyes, and Georges de Selve, Bishop of Lavaux* (more commonly known as "*The Ambassadors*") from 1533 lists "DRACO" (Dekker & Lippincott, 1999).

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts "Draco" as a dragon-headed serpent with four coils.

Dele Stelle Fisse ("Of the Fixed Stars") by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as "Del Drage". The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as "Dragon".

The Northern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Draco as a dragon-headed serpent with four coils.

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists "Draco" in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

German astronomer Johann Bayer (1572 – 1625) depicts Draco in his *Uranometria* in 1603 as a dragon-headed serpent with four coils and lists the following names: "Drakon, Draco, Serpens, Anguis, Hesperidum Custos, Palmes Emeritus, Coluber Arborem Conscendens, Python, Monstrum Germanico, Azophi Arabi, Quinque Dromedarii, Douque Lupi, Aben, Taben, Etabin, In Mappa Turcica, Etanin."

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts "Draco" as a dragon-headed snake with no coils.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts this constellation as a dragon-headed serpent with no coils.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts "Draco" as a serpent with no coils slithering around the north celestial pole and between Ursa Major and Ursa Minor.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts "Draco" as a dragon headed serpent with no coils.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) depicts "Draco" as a dragon-headed serpent with no coils.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) depicts "Draco" as a dragon-headed winged serpent with one coil.

Draco is listed in Danish astronomer Tycho Brahe's *Astronomiae Instauratae Progymnasmata* (1602).

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts "Draco" as a dragon-headed serpent with four coils and lists the alternate name "Serpens".

"Draco" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and depicted as a dragon-headed serpent with no coils. Batsch lists the alternative names "Serpens", "Anguis", "Atanin sue Attanins", "Draco Infernalis", and "der Drach" ("the dragon").

Giovanni Paolo Gallucci's *Theatrum Mundi, et Temporis* (1614) depicts "Dragon" as a serpent in an "S" shaped form with no loops.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts "Draco" as a serpent with one coil.

Draco is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as a winged dragon headed serpent.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) depicts "Draco" as a serpent with a bird's beak and four coils.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists "Draco" for this constellation.

The huge *Gottorf Globe* (c1650) made for the Duke of Holstein, Frederick III, one of the world's first planetariums, depicts Draco as a dragon headed serpent with three coils.

Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) depicts Draco as a dragon headed serpent with two coils.

The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678 by English uranographer James Clerk depicts "Draco" as a dragon-headed serpent with one coil.

English uranographer John Seller's *A coelestiall planisphere* (1678) depicts "Draco" as a dragon-headed serpent with one coil.

Draco is listed by Polish astronomer Johannes Hevelius in his *Catalogus Stellarum Fixarum* in 1690 and is depicted as a dragon-headed serpent with four coils.

A celestial pocket globe created by British uranographer Herman Moll in 1719 depicts "Draco" as a serpent with two coils.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, depicts Draco as a dragon-headed serpent with three coils.

Draco is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729: This is depicted as a dragon-headed serpent with three coils.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts Draco as a serpent with three coils.

The *Atlas Coelestis* of German astronomer Johann Gabriel Doppelmayr (1742) depicts Draco as a dragon-headed serpent with four coils.

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) depicts Draco as a dragon-headed serpent with three coils.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) depicts "Le Dragon" as a dragon-headed serpent with three coils.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts "Draco" as a serpent with two coils.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "le Dragon" as a dragon headed serpent with one coil on one chart and with three coils on a close-up chart later on in the atlas.

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Der nordliche Drache" in the text and as "Drache" on the charts, where it is depicted as a dragon-headed serpent with three coils.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as "Dragone" in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts "Draco" as a dragon headed serpent with wings and one coil.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts "Draco" as a dragon headed serpent with three coils.

American uranographer William Croswell (1760 – 1834) depicts Draco on his *Mercator Map of the Starry Heavens* in 1810 as a dragon headed serpent.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Draco in his *Celestial Atlas* and in his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822): It is depicted as a dragon with six looped coils.

American uranographer Elijah Burritt's *The Constellations for each Month in the Year* (1835) depicts "Draco the Dragon" as a dragon-headed serpent with six coils.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depict Draco as a serpent facing to our right with three coils.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts "Draco" as a dragon-headed serpent with four coils.

Draco is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on Jamieson's *Celestial Atlas*. This is depicted as a dragon with six looped coils.

"Draco" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It is depicted as a dragon-headed serpent with three coils.

The French edition of Flamsteed's work, the *Atlas Céleste,* which was revised in 1778, lists this constellation as "Le Dragon" and depicts it as a dragon-headed serpent.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as "Drache".

"Draco" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) as a dragon headed serpent with four coils.

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Draco, The Dragon" as an official constellation "recognized in the catalogue of the British Association".

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as "Draco, the Dragon".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Draco" in his *Star Atlas* (1893) and describes it as "The Dragon".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Draco" and describes it as a "Dragon".

This Hungarian asterism "Sárkány" is the IAU constellation Draco. The celestial map of Hungarian uranographer Sandor Nagy (1915) depicts this asterism as a four-legged dragon.

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Draco".

This constellation is often referred to as "Draco inter Arctos" ("the dragon between the bears").

Standard IAU charts depict Draco this way:

- Its "head" is the quadrilateral of stars Xi (ξ) Draconis, Nu (ν) 2 Draconis, Beta (β) Draconis (Rastaban), and Gamma (γ) Draconis,
- Its "body" is the winding line of the stars starting at Xi (ξ) Draconis and running through Delta (δ) Draconis, Epsilon (ε) Draconis, Tau (τ) Draconis, Chi (χ) Draconis, Zeta (ζ) Draconis, Eta (η) Draconis, Theta (θ) Draconis, Iota (ι) Draconis, Alpha (α) Draconis (Thuban), and Kappa (κ) Draconis to Lambda (λ) Draconis.

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) redesigned the lines of Draco in his book *The Stars - A New Way to See Them* (1952). Rey added two lines representing "feet":

- One from Delta (δ) Draconis to Epsilon (ε) Draconis, and
- One from Phi (ϕ) Draconis to Chi (χ) Draconis.

Sky and Telescope Magazine, founded in 1941, depicts Draco in their magazine and publications in the same manner as Reyersbach.

The Angkor Wat temple in Cambodia has a central causeway dating to the Megalithic Era which is patterned on the IAU constellation Draco, according to Hancock and Faiia in *Heaven's Mirror*.

In Arabic astronomy, the IAU constellation Draco was divided into three parts:

- The main body: "ar-Ruba'" (الْرُّبَع), later latinized to "Alawaid",
- The Dancer: Arrakis (see Dancer, above), and

- The Wolf's Nails: Azfar Adib (see Wolf's Nails, below).

Draco Dagger:

This **telescopic** asterism "Maas 2" from the asterism list of American astronomer Steve Maas is in the IAU constellation Draco. Its size is 38'X 16'. The brightest star is HD 169305 (magnitude 5.02). This is listed on the SOCO (Sentinel of the Caprock Observatory) list.

Draco Trio:

This **telescopic** asterism is the spiral galaxy NGC 5985, the elliptical galaxy NGC 5982, and the edge on spiral galaxy NGC 5981 in the IAU constellation Draco. These are part of the NGC 5982 cluster. This is also known as the Dragon Slayer Group.

Dracula Cluster:

This asterism is the open cluster NGC 5617 in the IAU constellation Centaurus. It was discovered by Scottish astronomer James Dunlop in 1826. It is GC 3885 in the *General Catalogue* of 1864. The name is probably a reference to the character in Bram Stoker's novel *Dracula*, published in 1897. Although I do not know who assigned this name to this open cluster, it can't predate Stoker's novel.

Dragon:

This Greek asterism "Δράκων" ("Drákon") is the IAU constellation Draco as it appeared in *Phaenomena* by Aratus in 270 B.C.E. and as described in Ptolemy's *Almagest* (2nd century). It is more complex than the modern IAU constellation Draco:

- The "head" of is the stars Beta (β) Draconis (Rastaban), Gamma (γ) Draconis, 46 Draconis, Omicron (ο) Draconis, 39 Draconis, Xi (ξ) Draconis, and 25 Draconis, with a line running out from this last star to Mu (μ) Draconis.
- The "neck" is the stars Omicron (ο) Draconis, 58 Draconis, Rho (ρ) Draconis, Epsilon (ε) Draconis, and Delta (δ) Draconis,
- The "upper body" is the stars Sigma (σ) Draconis, Tau (τ) Draconis, Chi (χ) Draconis, and Upsilon (υ) Draconis,
- The "lower body" is the stars Chi (χ) Draconis, Psi (ψ) 1 and 2 Draconis, Zeta (ζ) Draconis, and Phi (φ) Draconis,
- The "tail" runs from Zeta (ζ) Draconis through Eta (η) Draconis, Theta (θ) Draconis, Iota (ι) Draconis, Alpha (α) Draconis (Thuban), and Kappa (κ) Draconis to Lambda (λ) Draconis.

This Hungarian asterism "Sárkány" is the IAU constellation Draco. The celestial map of Hungarian uranographer Sandor Nagy (1915) depicts this asterism as a four-legged dragon.

This Greek lunar mansion is stars in the IAU constellation Cetus and is listed in the *Magical Papyrus 121*, preserved in the British Museum, and dated to the 3rd century C.E. (Mosenkis, date n/k). It appears in the Tabula Bianchini.

This Arabic asterism "Taniyn" (تنين) or "at-tinnīn" (التنين) which translates as "dragon" or "great serpent" is the IAU constellation Draco according to some sources but is used for Gamma (γ) Draconis in others:

- "al-Tinnīn" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his Book of the Fixed Stars in 964 (Hafez 2010).

- It was later latinized to “Al-Tinnin”, “Altannin”, “Eltanin”, “Eltinnin”, “Ettanin”, “Etamin”, “Etannin”, “Etanim”, “Etamin”, “Aben”, “Taben”, “Raseltinnin”, and “Etabin”:
- German Johann Bayer (1572-1625) listed “Aben”, “Taben”, “Etabin“ and“Etanin“ and attributes this to “In Mappa Turcica“ (“on Turkish maps”). He also lists the name “Etanin” for Gamma (γ) Draconis.
- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) listed “Ras Eltanim” and “Abeen vel Taeben”,
- French linguist Guillaume Postel (1510 – 1581) listed “Daban”.
- This asterism is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as “Atanin seu Attanins” and “der Drach”.
- Robert Hues lists it as “Alanin” and “Aben” in his *A Learned Treatise of Globes* in 1659.
- John Hill lists “Tanin” as a “Hebrew” name in his *Urania* in 1754.
- Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists ”Etanin”.
- American uranographer Elijah Burritt’s *The Constellations for each Month in the Year* (1835) lists “Etanin”.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists Gamma (γ) Draconis as “Etanin” in his *Celestial Atlas* in 1822.
- English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists Gamma (γ) Draconis as “Etanin”.
- The 1st edition of British schoolmaster Arthur P. Norton’s *A Star Atlas and Telescopic Handbook* (1910) lists “Etamin” and “Etanin” for this star, but his 14th edition (1959) only lists Gamma (γ) Draconis as “Etanin”.

This American asterism “Draka” is the IAU constellation Draco and was created by Brad and Kathryn Templeton for *The Vault of Heaven* star map for the 2004 Burning Man event held in Black Rock Desert in Nevada (Kuperjanov 2006).

English Admiral Henry William Smyth’s Prolegomena of 1844 lists “Etamin” for the star Gamma (γ) Draconis and his *Bedford Catalogue* in 1844 lists “tinnin”.

This is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852 as “Etamin”: The author is unknown, but it is based on Jamieson’s *Celestial Atlas*.

The IAU approved the name Eltanin for Gamma (γ) Draconis (see Dragon’s Head, below).

This Persian asterism “Azhdeha” is the IAU constellation Draco: See Man Eating Serpent, below. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “azhdehá”. R. H. Allen lists “Azhdehā” in his *Star Names* in 1899: Allen writes that this was later latinized to “Hastheher”.

This Gaulish asterism “Ambis” is the IAU constellation Draco (Boutet 2001).

This German asterism “Drache” is the IAU constellation Draco as depicted in the *Nördliche Sternhimmel* sky map of O. S. Reuters based on the work of German astronomer Johann Elert Bode (1747 – 1826).

This Romanian asterism “Balaur” or “Balaurul” (“dragon” or “golden serpent”) is the IAU constellation Draco (Ottescu 2009, Lite, Lodina, and Ignat 2018). It’s head is “Capul Baluruli” (“Balaur’s head”).

There are five **telescopic** “Dragon” asterisms:

- One, “Wieger’s Dragon”, is in the IAU constellation Canes Venatici. It was discovered by German astronomer Andreas Wieger in 2018. It is located about 1 degree north of the galaxy Messier 94.

The “head” is a diamond of stars including HIP 62594, 62545, 62490, and 62634. From HIP 626334 a wavy line of stars forms the “body”, including HIP 62748, 62802, and a line of 9th magnitude stars. Size 120’ X 20’. This asterism is listed by Robert Zebahl on his *Faint Fuzzies* website.

- One is HII region Messier 8 (NGC 6533) in the IAU constellation Sagittarius. It was discovered by Italian astronomer Giovanni Hodierna before 1654. It is GC 4368 in the *General Catalogue* of 1864. It is also known as the Lagoon Nebula (see below), and Hourglass.
- One is NGC 1499 (SH 2-220, LBN 756, PGC 3517568, Ced 26) in the IAU constellation Perseus. It is also known as the California Nebula (see above).
- One, “Dráco Vírginis” (“Dragon of Virgo”) is the face-on field barred spiral galaxy NGC 5068 in the IAU constellation Virgo. William Herschel listed this as “II 312”. It became GC 3482 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as “with a little bit of fantasy the figure of a winged dragon, as depicted in medieval style, is recognizable”.
- One is the dust clouds vdB126, LDN772, and LDN781 in the IAU constellation Vulpecula. The “neck and head” is LDN 781, the “body” is vdB126 with the “tail end” being LDN 772. Size 2° X 1°. This is Ennis 93 on the observing list of Canadian astronomer Charles Ennis.

Dragon Ascendant:

This Chinese Chenzhuo xing guan “Longdeng” is the star Zeta (ζ) Draconis in the IAU constellation Draco. It is part of their xing guan Purple Forbidden East Wall.

Dragon-Headed Fish:

This Tibetan khyim (zodiac constellation) “Chusrin” or “Chusin” is the IAU constellation Capricornus (Johnson-Groh 2013).

This asterism is the IAU constellation Cetus and was depicted this way by German uranographer Johann Bayer (1572-1625).

Dragon Lizard:

This **telescopic** asterism is Vastagh 4, listed in 2009 by Hungarian astronomer László Vastagh, which is in the IAU constellation Gemini. Its size is 27.5’ X 15.5’. Vastagh describes it as “a dragon-lizard, which flies with extended wings, and its long tail coils up behind it.” NOTE: At the time Vastagh viewed it, the comet Lulin was “right in front of the primeval beast's beak”. Vastagh gives the alternative description of a “mouse cartoon character” (see Mouse, below). This includes the star TYC 1356-00393-1.

Dragon of Hell:

This German asterism “Draco Infernus” is the IAU constellation Draco as listed by German uranographer Wilhelm Schickard (1592 – 1635). Edward Sherburne lists this in his *Sphere of Marcus Manilius* in 1675.

Dragon of Lesbos:

This Latin asterism “Draco Lesbius” is the IAU constellation Serpens.

Dragon of the Tiber:

This Latin asterism “Draco Tiberinus” is the IAU constellation Serpens.

Dragon Slayer Group:

See Draco Trio (above).

Dragon Star:

This large Chinese xing guan "Long Xing" (龍星) appears in the turtle plastrons and ox scapulae from the reigns of the last few kings of the Shang Dynasty (1250 – 1450 B.C.E.) and is made up of stars of the IAU constellations Sagittarius, Scorpius, Libra, and Virgo:

- The "tail" is the quadrilateral of stars Eta (η), Epsilon (ε), Delta (δ), and Gamma (γ) Sagittarii,
- The body extends through Scorpius and Libra, with the asterism Heart Star (see below) as the dragon's heart,
- Delta (δ) and Zeta (ζ) Virginis are the "neck", and
- The tips of the "horns" are Alpha (α) Virginis (Spica) and Gamma (γ) Virginis.

Dragonfly:

This Finnish asterism "Sudenkorento" ("dragonfly") or "Taivaan korento" (Dragonfly of the sky) is the Belt of Orion asterism in the IAU constellation Orion.

There are two **telescopic** "dragonfly" asterisms:

- One is open cluster NGC 457 (Caldwell 13) in the IAU constellation Cassiopeia. It was discovered by William Herschel in 1787, who labeled it "VII 42" in his catalogue. It is GC 256 in the General Catalogue of 1864. It is also known as the Owl Cluster, Kachina Doll Cluster, the Skiing Cluster, Massed Jewels, and the E.T. Cluster. Two bright stars (HIP 6229 & Phi (ϕ) Cassiopeiae) are the eyes.
- One is the open cluster Messier 36 (NGC 1960) in the IAU constellation Auriga. It was discovered by Giovanni Battista Hodierna before 1654. It is listed in the 1864 General Catalogue as GC 1166 and in John Herschel's catalogue as h 2866. in the IAU constellation Auriga. This is the name assigned to it by American astronomer Wayne Schmidt. It is also known as the Pinwheel Cluster.

Dragon's Egg:

This **telescopic** asterism is the HII region NGC 6164 in the IAU constellation Norma. John Herschel listed this as h 3633 and later as GC 4206 in the *General Catalogue* of 1864.

Dragon's Eyes:

This asterism is the stars Beta (β) Draconis (Rastaban) and Gamma (γ) Draconis in the IAU constellation Draco as listed by R. H. Allen in his *Star Names* in 1899.

Dragon's Head:

This Arabic star "Al Rās al Tinnīn" is Gamma (γ) Draconis in the IAU constellation Draco as listed by Persian astronomer Ulugh Beg Mirza (1394 – 1449). "Taniyn" (تنين) or "at-tinnīn" (التنين) translates as "dragon" or "great serpent" (see Dragon, above):

- The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) labels the four stars Beta (β) Draconis (Rastaban), Gamma (γ) Draconis, Xi (ξ) Draconis, and Nu (ν) 2 Draconis "Tête du Dragon".

- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this asterism as "den Kopf des Drachen".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "rás el tannin, the dragon's head": Compare this to "Raʿas uth-Thuʿabān" (see "Head of the Snake" below).
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists "Eltanin" for this star.
- The IAU approved the name Eltanin for Gamma (γ) Draconis.

Dragon's Heart Nebula:

This **telescopic** asterism is supernova remnant RCW 114 in the IAU constellation Ara.

Dragons of Ara:

This **telescopic** asterism "the Dragons of Ara" or the "Fighting Dragons of Ara" is emission nebula NGC 6188 in the IAU constellation Ara. John Herschel listed this as h 3640 and later as GC 4223 in the *General Catalogue* of 1864. It is also known as the Rim Nebula.

Drain of the Well:

This Romanian asterism or "Jgheabul Puţului" is the IAU constellation Andromeda (Ottescu 2009). It is part of their larger asterism "Well with a Drain" (see below).

Drawer Up of the Night:

This Sotho star "Kgogamashego" is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Holbrook and Baleisis 2007, Slotegraaf 2013). Compare this to the Tswana star "Kgogamasigo" (see Pulling Out the Dawn, below).

Drawing:

This Babylonian asterism "MUL.u.-sur-ti" (Hunger 1992) from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) is the IAU constellation Gemini.

This Akkadian asterism "Usurtu" (Hunger 1992) from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) is the IAU constellation Gemini.

Dreever:

This Palawan star is Epsilon (ε) Canis Majoris in the IAU constellation Canis Major. This is a name from the journals of the missionary George Augustus Robinson in 1837.

Dreyer's Nebula:

This **telescopic** asterism is HII region is IC 2169 (LBN 903, Ced 78) in the IAU constellation Monoceros. It was discovered by American astronomer Edward Emerson Barnard (1857 – 1923) in 1894. It is named for English astronomer John Louis Emil Dreyer (1852 – 1926).

Dreyer's Object:

This **telescopic** asterism is NGC 7538 (SH 2-158, LBN 542, Ced 209) in the IAU constellation Cepheus. This was discovered in 1787 by English astronomer William Herschel. This name was posted on the *Deep Sky Forum* in January 2023 by American astronomer Dragan Nikin. It is also known as the Brain Nebula (see above), and the Northern Lagoon Nebula (see below).

Dried Red Willow:

This Dakota/Lakota/Nakota asterism "Cansasa Pusyapi" or "Chanshasha Ipusye", is made up of the stars of the IAU constellations Aries and Triangulum. This is a five-sided asterism with the corner stars being Alpha (α) Arietis (Hamal), Beta (β) Arietis (Sheratan), Alpha (α) Trianguli, Beta (β) Trianguli, and Gamma (γ) Trianguli.

Drill:

This asterism "Terebellum" was created by Scottish mathematician Michael Scot in 1225. It is described as located between the IAU constellations Sagittarius and Virgo, which would mean it involved the stars of the IAU constellations Scorpius and Libra (or Capricornus according to German astronomer Christian Ludwig Ideler (1776 – 1846)). A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts it as having two stars for a handle and three for the drill, but it is uncertain which stars these would be. It is also known as Auger (see above), Neper (see Below) and Borer, and French astronomer Camille Flammarion (1842 – 1925) listed the names "Neper" and Foret ("Forest"). Terebellum is a Latin word that can describe a drill or auger, but also a snail: Compare this to Snail, below, which is in the same part of the sky.

Drill Gun:

This **telescopic** asterism is in the IAU constellation Hercules and is on the observing lists of John A. Chiravalle. Jeffrey Corder lists it as Corder 3556/3557. The "base" of the "drill" is the pair of stars HIP 90398 and 90377. The "body" of the "drill" is a triangular group of 8^{th} – 9^{th} magnitude stars including HIP 90361 and 90288A. A short time of 9^{th} – 10^{th} magnitude stars is the "drill".

Drinker of Water:

This Latin asterism "Hauritor Aquae" is the IAU constellation Aquarius and is listed in the 1515 edition of the *Almagest* and in R. H. Allen's *Star Names* in 1899.

Drinking Gourd:

This asterism refers to the hollowed-out gourd used by American slaves (and other rural Americans) as a water dipper. It was incorporated into a song, *Follow the Drinking Gourd*, which encoded directions for fleeing slaves to make their way north to Canada. It is a code name for the Big Dipper asterism in the IAU constellation Ursa Major. The song was originally published in 1928 and the author, H. B. Parks, claimed that an Underground Railroad operative known as Peg Leg Joe moved from plantation to plantation teaching people this song marking an escape route.

Drinking Ostriches:

This Arabic asterism "al Naʿāma al Wārida" (النعامة الواردة) or "an-na'am al-warid", later latinized to "Awal al Warida", listed in the *Calendarium* of Arabic astronomer al Achsasi al Mouakket in 1650, is made up of stars in the IAU constellation Sagittarius: Gamma (γ), Delta (δ), Epsilon (ε), and Eta (η) Sagittarii. It is also known as "Going Ostriches" or "Ostriches Drinking at the River". The "river" that they are drinking from is the Milky Way:

- Edward Sherburne lists this as "Al Naâm Al Wârid" and translates it as "the ostrich returning from the water" in his Sphere of Marcus Manilius in 1675.

- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "al na'ám máridah… the ostriches going out to water" and elsewhere in this text as "Min al na'aim al Wáridah", describing it as camels not ostriches.
- W. Brennand lists this as "Al-Warida" in his *Hindu Astronomy* in 1896.

Driver:

This Arabic star "sāīḳ" or "Saik" is Zeta (ζ) Ophiuchi in the IAU constellation Ophiuchus.

This Latin asterism "Aurigator" ("driver") or "Aurigator cursus retinens habenas" ("driver holding reins"), is the IAU constellation Auriga. These appear in tables and editions of the Almagest down to the 16th century. Compare this to Holding the Reins, below. Johann Bayer's *Uranometria* (1603) lists this as "Agitator Currus", "Retinens Habenas", and "Aurigator".

This Lithuanian asterism "Vežėjas" is the IAU constellation Auriga.

Driver of the Seven Brothers:

This Sardinian star "Su Trubadore de sos Sette Frades" is the star Eta (η) Ursae Majoris in the IAU constellation Ursa Major (Putzolu 2019).

Driver of the Sticks:

This Sardinian asterism "de su trubadore de sos bacheddos" is the IAU constellation Canis Major (Putzolu 2019).

Driver's Hands:

This Latin star "Aurigae Manus" is Beta (β) Tauri (Elnath) in the IAU constellation Taurus (which was once also called Gamma (γ) Aurigae which makes it part of Auriga "the charioteer"). This name was given to it by 1st century Roman architect Vitruvius.

Driver of Al Thurayya:

This Bedouin star "Sāïḳ al Thurayya" is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus as listed by R. H. Allen's *Star Names* in 1899. Allen lists the "synonymous" Arabic names "Tāli al Najm" and "Hādī al Najm" without providing precise translations: These are the Arabic asterisms Follower of the Star (see below) and Urger of the Star (see below).

Droemerdeenne:

This Palawa star "Droemerdeenne" or "Dromerdene" is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Gantevoort et al 2016) and represents one of the brothers in their asterism Star Brothers (see below). Compare to the Nuenone star Dromerdene (below).

Dromerdene:

This Nuenone star is Alpha (α) Carinae (Canopus) in the IAU constellation Carina (Gantevoort 2015). Compare this to the Palawa star Droemerdeenne (see above).

Drop of Virgo:

This **telescopic** asterism "Gútta Vírginis" is the elliptical galaxy NGC 4621 (Messier 59) in the IAU constellation Virgo. It was discovered by Charles Messier in 1779. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Drum:

This Japanese asterism "Tsuzumi" is the IAU constellation Orion.

This Latin asterism "Tympanum" ("drum" or "tambourine") is the IAU constellation Lyra.

Drum at the River:

This Chinese xing guan "Hégǔ" (河鼓) which first appeared in the Three Kingdoms to the Ming Dynasty is a line of three stars in the IAU constellation Aquila, each having a name:

- Beta (β) Aquilae (Alshain): "Zuojiangjun" ("Left General"),
- Alpha (α) Aquilae (Altair), the determinative star: "Dajiangjun" ("Great General"), and
- Gamma (γ) Aquilae: "Youjiangjun" ("Right General").

Their xing guan Celestial Drumstick (see above) is nearby. This is identical to the Korean asterism "Drum of River" (see below).

This Chinese Chenzhuo xing guan Hegu (河鼓) is a line of three stars in the IAU constellation Aquila: Gamma (γ) Aquilae, Alpha (α) Aquilae (Altair), and Beta (β) Aquilae. The Celestial Drumstick was originally located near the Drum at the River and this position is in line with its astrological meaning.

Drum of River:

This Korean asterism "JangGun" or "Gang-ui Bug" (강의 북) is identical to the Chinese xing guan "Drum at the River" (see above), but unlike this Chinese xing guan, it has a roughly parallel asterism next to it: "Drumstick of Sky" (see below).

Drumstick of Sky:

This Korean asterism "Haneul-ui Bugchae" (하늘의 북채) is a line of three stars in the IAU constellation Aquila: Xi (ξ), Tau (τ), and Omicron (ο) Aquilae. It is right next to the Korean asterism "Drum of River" (see above).

Drunken Lizard:

This **telescopic** asterism is the open cluster NGC 7209 in the IAU constellation Lacerta. It was discovered by William Herschel in 1787 who listed it as "VII 53". It is GC 4755 in the *General Catalogue* of 1864. It is also known as the Lizard Cluster or Star Lizard Cluster and contains 150 9th to 15th magnitude stars.

Dry Season:

The Quechua and Guaraní both view the rising and setting of the Pleiades cluster as indicators of their dry season.

Dry Season Thieves' Cross:

This K'iche' asterism is made up of stars of the IAU constellation Sagittarius with Delta (δ) Sagittarii in the middle and the end stars being Epsilon (ε), Sigma (σ), Lambda (λ) and Gamma (γ) Sagittarii (Milbrath 1999). They also had a Rainy Season Thieves' Cross (see below).

dsar-urdsar-gaz:

This Babylonian and Sumerian asterism "dsar-urdsar-gaz" listed in the BM 78161 tablets (Liechty 1988) is Lambda (λ) and Nu (ν) Scorpii in the IAU constellation Scorpius.

Dschubba:

See Forehead of the Scorpion, below.

dŠul-pa-è-a:

This Akkadian asterism "dŠul-pa-è-a" from the Ura = hubulla XXII lists (Block, Yigal, and Horowitz 2015) is unidentified currently. The Sumerian name is mulud-al-tar.

Dthanes:

This Euahlayi asterism is possibly the Hyades cluster in the IAU constellation Taurus. It represents boys following the Seven Young Women (see below). Compare this to Uninitiated Boys, below.

Dubhe:

See Back of the Bear, above.

Duck:

This Kalapalo (Mato Grosso) asterism "Kofongo" is made up of the stars of the IAU constellations Carina, Canis Minor, and Gemini. The "body" is the stars Alpha (α) Carinae (Canopus) and Alpha (α) Canis Minoris (Procyon) with the "hands" being the stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux). They used it to mark the arrival of the rainy season.

This Egyptian Dendera asterism is the IAU constellation Aquila (Hoffmann 2017). It is depicted as a small dark bird, possibly a duck.

There are two **telescopic** "Duck" asterisms:

- One is in the IAU constellation Canis Major and is Ennis 69 on the observing list of Canadian astronomer Charles Ennis. Size 75' X 30'. The "head" of the duck is an oval of 8^{th} – 9^{th} magnitude stars including HIP 32031, HD 48483, HD 48575, the double star HIP 32102, and HD 48378. 9^{th} magnitude star HD 48183 forms the "neck". The "body" is an oval of ten 8^{th} – 10^{th} magnitude stars: SAO 172149, HD 48184, HD 48130, HD 48020, HD 47869, HD 47849, Gaia DR3 2923629425743157760, SAO 172123, and SAO 172141. The "tail" is 10^{th} – 11^{th} magnitude stars SAO 172090 and Gaia DR3 2923727174899408128. The duck's "foot" is the triangle of 8^{th} – 9^{th} magnitude stars: HIP 31762, SAO 172076 and HD 47741. NOTE: The duck's back is the chain listed as Corder 1147 on Jeffrey Corder's list.
- One is the HII region Messier 17 (NGC 6618, SH 2-45, RCW 160, LBN 60, Cr 377, Ced 161) in the IAU constellation Sagittarius. It was discovered in 1745 by Swiss astronomer Philippe Loys de Chéseaux and catalogued by French astronomer Charles Messier in 1764 and R. H. Allen in his *Star Names* in 1899. It is listed in John Herschel's *General Catalogue* of 1864 as GC 4402. American astronomer Tom Lorenzin gives "Duck" as one of its names and attributes this to "Tectron's Tom Clark". It is also known as the Horseshoe Nebula, the Checkmark Nebula, "2", the Omega Nebula, the Swan Nebula, the Goose, and the Lobster Nebula.

Duck Head Nebula:

See Thor's Helmet, below.

Duck Hunters:

This Wsanec asterism "PIOTEL" is the Belt of Orion asterism in the IAU constellation Orion.

Duck Nebula:

See Thor's Helmet, below.

Duck Nest:

To the Siberian peoples the Pleiades cluster in the IAU constellation Taurus is a bird's nest, with various species of bird associated with it (Svjatskij 2007). The most common is the Duck Nest.

Duid:

This Kalina star is Alpha (α) Centauri (Rigil Kentaurus) in the IAU constellation Centaurus. It is part of their asterism Twins (see below).

Duma:

This Vedic star from the *Taittiriya Brahmana* is 20 Tauri (Maia) in the IAU constellation Taurus (Leitz 2019). It is part of their asterism Krttika (see Cutters, above).

Dumbbell:

This **telescopic** asterism is the planetary nebula Messier 27 (NGC 6853) in the IAU constellation Vulpecula. It was discovered by French astronomer Charles Messier in 1764:

- It is also known as the Diabolo Nebula (see above), the Double-Headed Shot (see above), the Manubrian Nebula (see below), and the Apple Core Nebula (see above).
- English astronomer William Parsons, 3rd Earl of Rosse, who observed it in 1842 with a 91 cm (36 inch) telescope drew its shape.
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists it as the "dumb-bell nebula".
- John Herschel's General Catalogue of 1864 lists this as GC 4532 and describes it as the "Dumbbell".
- It is listed as the "Dumb Bell Nebula" in the third edition of Rev. Thomas William Webb's *Celestial Objects for Common Telescopes* in 1873.
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this as the "Dumb-bell Nebula".
- William Denning's *Telescopic Work for Starlight Evenings* (1891) lists this as the "Dumb-bell Nebula".
- German astronomer Hermann Joseph Klein (1844 – 1914) lists it as "Rosse's 'Dumb-bell Nebula'" in his *Star Atlas* (1893).
- American astronomer Solon Irving Bailey (1854 – 1931) described it in 1908 as the "well known Dumb-bell Nebula".
- *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns describes it as the "Dumb-bell".

- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list this as the "Dumb-bell Nebula".
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this as the "Dumbbell Nebula".

DUMU.USH.É.MAH

This Babylonian star "DUMU.USH.É.MAH" as listed in Anthony Hope's *A Guide to Ancient Near Eastern Astronomy* in 1996 is possibly the star Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor.

Dümur:

This Micronesian (Marshall Islands) star is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius and is part of their asterism Creation of the Sky (see above). Dümur was the son of Ligedaner the mother of the stars (see Ligedaner, below). Her other son is the Pleiades cluster who became the King of the Stars (see King of the Stars, below).

Dumuzi:

This Sumerian asterism is the IAU constellation Orion. This is a character in an ancient myth about the priest Adapa of Eridu and his encounter with the Gods Ningišzida or Gišzida and Dumuzi. This is listed in the Neo-Babylonian (Chaldean) *Great Star List* (636 – 539 B.C.E.) as "mul dumu.[zi]" and "ddumu.zi" (Koch-Westenholz 1995).

Dun Bull:

This Celtic (Gaulish) asterism "Donnotaruos" is the IAU constellation Taurus (Boutet 2017).

Dungdung Malgun:

This Wardaman star is Iota (ι) Scorpii in the IAU constellation Scorpius (Cairns and Harney 2003).

Duplicates:

This Greek asterism "Didypoi" is the IAU constellation Gemini as listed in John Hill's *Urania* in 1754.

Durga:

This Hindu asterism is the IAU constellation Virgo (Bhagwath 2019). Durga ("the Inaccessible") is an aspect of the Hindu Mother Goddess Mahadevi associated with protection, strength, motherhood, destruction, and wars. Bhagwath notes that in Eastern India they celebrate the nine-day long Durga Puja during the Sun transit in Virgo to celebrate the nine avatars of the Goddess Durga (Shailputri, Brahmacharini, Chandraghanta, Khushmanda, Skandamata, Kaalratri, Kaatyayani, Mahagauri, and Siddhidatri).

Durin's Crown:

This Dwarvish asterism of seven stars is from the works of J. R. R. Tolkien (1892 – 1973). There is no definite asterism associated with this: As the constellation was a miraculous event, it is possible that they were only a vision: the seven stars Durin saw in Mirrormere. Some suggest that it is Corona Borealis (which has seven stars and does resemble a crown), some say it is part of the IAU constellation Auriga ('which has seven stars in a ring, with Eta (η) Aurigae (Haedus) beside Zeta (ζ) Aurigae (Saclateni) as a "jewel") and others Ursa Major (which has seven stars but does not resemble a

crown). I'm going with Corona Borealis as it most closely resembles Durin's Crown as depicted on the doors of Durin at Moria in Tolkien's works.

Dushiza:

This "Persian" asterism is the IAU constellation Virgo as listed in John Hill's *Urania* in 1754.

Dust Angel Nebula:

This **telescopic** asterism is the integrated flux nebula Mandel-Wilson 2 in the IAU constellation Ursa Major. It is also known as the Angel Nebula.

Dust Cloud of Lynx:

This **telescopic** asterism "Coniórtus Lýncis" is NGC 2683, a field spiral galaxy in the IAU constellation Lynx. It was discovered by English astronomer William Herschel in February 1788 who listed it as "I 200" in his catalogue. It is GC 1713 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). It is also known as the "UFO" (see below). Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) lists this as O'Meara 47, but does not list a name.

Dust Devil:

This **telescopic** asterism is NGC 4753, a lenticular galaxy in the IAU constellation Virgo. It was discovered by English astronomer William Herschel in February 1784 who listed it as "I 16". It is GC 3273 in the *General Catalogue* of 1864. It is noted for the distinct dust lanes around its nucleus. It is also known as "Who Scribbled on My Galaxy?".

Dust Egg of Indus:

This **telescopic** asterism "Cónis Índi" is the lenticular galaxy NGC 7049 in the IAU constellation Indus. It was discovered in 1834 by John Herschel who listed it as h 3860 and later as GC 4651 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "this edge-on galaxy looks like a biconcave lens". It is part of the Indus Triplet (see above). It is part of the Indus Triplet (see below).

Dust Speckles of Dorado:

This **telescopic** asterism "Pulveráta Dorádus" is the lenticular polar ring galaxy NGC 1947 in the IAU constellation Dorado. It was discovered by James Dunlop in 1826. John Herschel listed it as h 2855 and later as GC 1153 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Dusty Foot of Pyxis:

This **telescopic** asterism "Cónipus Pýxidis" is the edge-on galaxy IC 2469 in the IAU constellation Pyxis. This was first recorded by American astronomer Lewis Swift (1820 – 1913). This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "this dust-rich edge-on galaxy resembles a dirty foot". The name derives from the Latin "conipus", which refers to the inhabitants of Epidauros, people with dust on their feet.

Dusty Hand:

This **telescopic** asterism is NGC 2146, a barred spiral galaxy with conspicuous dust lanes in the IAU constellation Camelopardalis. It was discovered by Friedrich August Theodor Winnecke in 1876. It is listed in the General Catalogue of 1864 as GC 5357. This name was posted on the *Deep Sky Forum* in December 2012 by American astronomer Jimi Lowrey. It is also known as the "Injured of Camelopardalis" (see below).

Dusty of Ara:

This **telescopic** asterism "Pulveruléntus Árae" is the barred spiral galaxy NGC 6300 in the IAU constellation Ara. It was discovered in 1835 by John Herschel who listed it as h 3668 and later as GC 4273 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Dusty of Cassiopeia:

This **telescopic** asterism "Conisálea Cassiopéiae" is the dwarf spheroidal galaxy NGC 185 (Caldwell 18) in the IAU constellation Cassiopeia. This is II 707 in William Herschel's catalogue and GC 90 in the General Catalogue of 1864. It is a satellite of the Andromeda Galaxy, M 31. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as it "contains a lot of dust".

Dusty of Hydra:

This **telescopic** asterism "Ceconimenus Hýdrae" is the edge-on spiral galaxy IC 4351 in the IAU constellation Hydra. It was discovered by Robert Innes in 1901. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the thick dust lane of this large edge-on galaxy".

Dusty of Ursa Major:

This **telescopic** asterism "Pulvéreus Úrsae Majóris" is the disrupted elliptical galaxy NGC 3077 in the IAU constellation Ursa Major. This was discovered in 1801 by English astronomer William Herschel who listed it as "I 286" in his catalogue. It is GC 1982 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). It is also known as the Garland (see below).

Dusty Place of Coma Berenices:

This **telescopic** asterism "Conistra Cómae Bereníces" is the edge-on lenticular galaxy NGC 4710 in the IAU constellation Coma Berenices. It was discovered in 1784 by William Herschel who listed it as "II 95". It became GC 3240 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the remarkable dust concentrations in the central region of this galaxy".

Dusty Spiral Galaxy:

This **telescopic** asterism is the spiral galaxy NGC 4414 in the IAU constellation Coma Berenices. It was discovered in 1785 by William Herschel who listed it as "I 77". It became GC 2972 in the *General Catalogue* of 1864. It is also known as the "Flock of Coma Berenices" (see below).

Dying Horse:

This Lithuanian asterism "Kibleka" is the Hyades open cluster in the IAU constellation Taurus.

Dyoorutgang:

This Gundungurra star is Theta (θ) Orionis in the IAU constellation Orion (Mathews 1908).

Dziban:

See Two Wolves, below.

E:

This **telescopic** asterism Sánta 176, listed in 2015 by Hungarian astronomer Sánta Gábor, which is in the IAU constellation Draco. Gábor describes this as "E-shaped asterism of 9 – 11 [magnitude] stars, nice". NOTE: This looks like a small case "e".

E Nebula:

See Barnard's E, above.

Eagle:

This asterism from the Babylonian MUL.APIN tablets "Á.MUSHEN" (Anthony 1996), "Eru" (Bartel van der Waerden 1974) or "erû" (Anthony 1996) contains most of the stars of the IAU constellation Aquila but is extended to include some stars from Delphinus: Beta (β) Delphini (Rotanev), Delta (δ), Epsilon (ε), Gamma (γ) 2, and a Delphini. This Babylonian asterism appears in later Seleucid sky lore. Note: Some suggest that this "eagle" is carrying a dead man represented by their asterism "Corpse" (see above). This is listed in the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period as "mul.timusen" and "mul u.ri.in" (Koch-Westenholz 1995). It is listed in the BM 78161 tablets (Leichty 1988) as "ur-a".

This Sumerian asterism "multimušen" from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is identical to the Babylonian asterism "Eru" above.

This Babylonian and Sumerian ziqpu "er-u" as listed in the BM 78161 tablet (Liechty 1988) is Gamma (γ) Comae Berenices in the IAU constellation Coma Berenices and is ziqpu 25 on this list.

This Akkadian asterism "e-ru-ú" or "is-su-ru" from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is identical to the Babylonian asterism "Eru" above.

This Persian asterism "nasru" from the list of Lumasi stars from the lists K 250 and VAT 9418 from the Persian (Achaemenid) Period (539 – 331 B.C.E.) is the IAU constellation Aquila (Boll 1918, Weidner 1971).

Sherburne also lists it as Lycophron's name for this constellation in his *Sphere of Marcus Manilius* in 1675. Lycophron (b. ~ 330 – 325 B.C.E.) was a Hellenistic Greek tragic poet, grammarian, sophist, and commentator.

This Sumerian asterism is the IAU constellation Aquila. It is related to the story of Etana of Kiš and the deities Šamaš and Ištar.

This Assyrian asterism “Amushen” is the IAU constellation Aquila.

This Greek asterism “᾽Αετός” (“᾽Aetós”) is the IAU constellation Aquila as mentioned in Aratus’ poem *Phaenomena* (270 B.C.E.) and as described by Ptolemy (c.100 – c.170) in his *Almagest*. In the modern constellation Aquila, the star Alpha (α) Aquilae (Altair) is typically shown as the “head”, but Ptolemy’s version has Altair at the base of the “neck” of the eagle and includes stars of the IAU constellations Aquila, Hercules, and Serpens:

- The tip of the “beak” is HIP 100541, with the head being a diamond shape defined by this star and the stars Beta (β) Aquilae (Alshain), HIP 98526, Xi (ξ) Aquilae, and Altair,
- The “body” runs from one “shoulder” at Altair to a bend a Gamma (γ) Aquilae and then to the base of the “tail” at 31 Aquilae and then to the other “shoulder” at 49 Aquilae,
- One “wing” is defined by the stars 31 Aquilae, Sigma (σ) Aquilae, Delta (δ) Aquilae, 64 Serpentis, and Mu (μ) Aquilae, and
- The other “wing” is defined by the stars Gamma (γ) Aquilae, Omicron (ο) Aquilae, Phi (φ) Aquilae, and 113 Herculis.

NOTE: This Greek asterism “Aëtuse**”** is the IAU constellation Eridanus as listed in John Hill’s *Urania* in 1754*:* Hill describes this as “one of its old Greek names, and occurs in Lycophron, and some other writers”.

This Greek asterism “ακουίλα” (“Akouila”) is the IAU constellation Aquila. John Hill lists it as “Akale or al Akale” in his *Urania* in 1754. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Eagle”.

There are two Arabic “eagle” asterisms:

- One, “Alnasr” (النسر), is the IAU constellation Aquila. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “El ‘okáb, the eagle.”
- The other is the IAU constellation Phoenix.

This Saxon asterism “Adler” is the IAU constellation Aquila as depicted in the *Nördliche Sternhimmel* sky map of O. S. Reuters based on the work of German astronomer Johann Elert Bode (1747 – 1826).

This French asterism “Aigle” is the IAU constellation Aquila.

This German asterism “Adler” is the IAU constellation Aquila.

This Hebrew asterism “Neshr” is the IAU constellation Aquila, which was variously described as an Eagle, Falcon, or Vulture.

This Norse asterism “Assa” was listed by Cleasby and Vigfusson in 1874, though it is not clear precisely which stars are involved. Reuter (1982) saw both the eagle and hawk asterisms in the northern part of the sky near or at the top of the Milky Way but didn’t give specifics. Denning describes it as the stars of Cygnus with Vedrfolnir (see Hawk, below) nearby, but again, no specifics. Timothy Stephany on his *Norse Constellations* webpage describes it as being “largely the same stars as Cygnus the swan, with one star for its body, tail (likely Deneb) and head, its left wing being four stars and its right wing being five stars” with the hawk Vedrfolnir sitting on the eagle’s head (see Hawk, below).

This Basque asterism “Arranoa” is the IAU constellation Aquila (Frank 2021) and their name for the star Alpha (α) Aquilae (Altair) is “Begi-erderra” (“Beautiful Eye”).

This **telescopic** asterism is the open cluster Messier 16 and emission nebula IC 4703 (NGC 6611, SH 2-49, RCW 165, LBN 67, Cr 375, Mel 198, Ced 159).in the IAU constellation Sagittarius. It was discovered by Swiss astronomer Philippe Loys de Chéseaux in 1745-6 and catalogued by French astronomer Charles Messier in 1764. It is listed in John Herschel’s General Catalogue of 1864 as GC 4400. English astronomer Isaac Roberts records of it resulted in it becoming IC 4703 in the *Index Catalogue*. It is known as the Eagle Nebula and Star Queen Nebula. *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists it as the “Eagle Nebula”.

This Norse asterism “Asa” is the IAU constellation Aquila and was created by Canadian Bjorn Jónsson (1920 – 1995) who was trying to reconstruct traditional Scandinavian skies (Kuperjanov 2006). This is depicted as an eagle in flight with a hawk standing on its head (see Vedurfolnir, below) which is the star Alpha () Aquilae (Altair). Veðrfölnir is a hawk sitting between the eyes of this unnamed eagle that is perched on top of the world tree Yggdrasil.

This Romanian asterism “Vulturul” is the IAU constellation Aquila (Ottescu 2009).

Eagle Boy:

This French asterism “Puer Aquilae” is the asterism Antinous (see Antinous, above) in the IAU constellation Aquila as listed by French astronomer Joseph Jérôme Lefrançois de Lalande (1732 – 1807).

Eagle Eye of Grus:

This **telescopic** asterism “Áquilops Grúis” is the lenticular galaxy IC 5267 in the IAU constellation Grus. It was discovered by William Henry Finlay in 1886. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “this round galaxy with its big nucleus resembles the eye of an eagle”.

Eagle Hawk:

This Arrernte, Aranda and Luritja asterism “Iritjinga” is made up of stars in the IAU constellations Crux and Centaurus: Delta (δ) and Gamma (γ) Crucis and Delta (δ) and Gamma (γ) Centaurus (Clarke 2014). This was listed as an Arrernte asterism by Maegraith in 1932.

Eagle of Prometheus:

This Latin asterism “Aquila Promethei” is the IAU constellation Aquila.

Eagle of St. John:

This German asterism is the IAU constellation Aquila as described by German poet Philipp von Zesen (1619 – 1689).

Eagle of the West:

This Elvish asterism “ Soronúmë” is probably the IAU constellation Aquila and is from the works of J. R.R. Tolkien (1892 – 1973).

Eagle of the Winds:

This is a name for the IAU constellation Aquila found in *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929).

Eagle Ray:

This **telescopic** asterism is the HII region SH 2-63 (LBN 86) in the IAU constellation Sagittarius. This name appeared on the *Astrophotography* page of Facebook in a photo by Polish astrophotographer *Cmk Photo* on 23 August 2025 who described it as "consists of gas and dust resembling the shape of a sea fish", specifically an Eagle Ray (Myliobatidae). It is also known as the "Cosmic Sailor" or the "Dark Dust Nebula".

Eagle Star:

This Hausa star is Alpha (α) Aquilae (Altair) in the IAU constellation Aquila (Urama 2007).

Eagles:

These Weilwan and Wiradjuri stars "Mullion" are the stars Alpha (α) Aquilae (Altair) in the IAU constellation Aquila and Alpha (α) Lyrae (Vega) in the IAU constellation Lyra, which they considered to be eagles (Ridley 1875). This is part of their asterism "Eagle's Nest" (see below).

Eagle's Nest:

This Weilwan asterism "Mullion Wollai" is the IAU constellation Corona Borealis and the stars Alpha (α) Aquilae (Altair) and Alpha (α) Lyrae (Vega), which they considered to be eagles (Ridley 1875).

This Wiradjuri asterism "Maliyan Wollai" is identical to the Weilwan asterism "Mullion Wollai", above (Hamacher and Leaman 2019, Kemp et al 2022).

This Welsh asterism listed by Victorian folklorist Marie Trevelyan (1852 – 1922) in her *Folk-lore and Folk-stories of Wales* (1909) is currently unidentified.

This is an alternate name for the Snow Globe Nebula (see below).

Ear:

This Vedic asterism is a line of three stars in the IAU constellation Aquila: Gamma (γ) Aquilae, Beta (β) Aquilae (Alshain), and Alpha (α) Aquilae (Altair).

There are two **telescopic** "ear" asterisms:

- One is the emission nebula NGC 6888 (Caldwell 27) in the IAU constellation Cygnus. It was discovered by English astronomer William Herschel in 1792 and listed as "IV 72". It is GC 4561 in the *General Catalogue* of 1864. It is also known as the Crescent Nebula.
- One is Leiter 16 from the list of astronomer Frank Leiter. This is made up of stars in the IAU constellation Gemini including 63 Geminorum (its brightest star), HIP 36307, and 36152. Its size is 35' X 25'.

Ear and Eye of Sky:

This Korean lunar mansion "Myo" is the Pleiades cluster in the IAU constellation Taurus.

Ear of Grain:

This Babylonian star is Alpha (α) Virginis (Spica) in the IAU constellation Virgo. It also appears in Ptolemy's *Almagest* (2nd century) as part of the asterism Maiden (see below). Compare this to Distaff, above.

There are two Arabic asterisms with the name “sunbulah” (سنبلة) or “as-Sunbulah” (السنبلة):

- One is a loop of stars that forms the end of the “tail” of their asterism “Lion” (see below) and thus also bears the name “Tassel” (see below): It starts at Gamma (γ) Comae Berenices and runs around through 14, 16, 17, 21, 23, 8, 7, and 4 Comae Berenices, HIP 59364, HIP 59489, and HIP 59923.
- One is the star Alpha (α) Virginis in the IAU constellation Virgo. It was later latinized to “Spica” (“spike” or “ear of corn”), Roman statesman Marcus Tullius Cicero (106 – 43 B.C.E.) called it “Spicum” (“ear of corn”), or “Spica Virginis” (“virgin’s ear of grain”):
    - “al-Sunbula” was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010). Shams al-Dīn Muhammad B. Mu’ayyad al-‘Urdī’s inlaid celestial globe (1288) lists this star as “al-sunbula”.
    - This star is listed as “al sunbula”, “al subula” and “Spica” on a 14th century Christian Spanish astrolabe #4560 (King 2002).
    - The celestial globe (1480) of German mechanic Hans Dorn (c 1430 – 1506) lists this star as “Spica”.
    - The Constance Celestial Globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists this star as “Spica”.
    - Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) lists this star as “Spica”.
    - The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) lists this star as “Spica”.
    - This star appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as the “Spike”.
    - German astronomer Johann Bayer (1572-1625) listed this star as “Spica” and “Sunbala” in his *Uranometria* (1603).
    - Italian astronomer Giovanni Battista Riccioli (1598 – 1671) listed this star as “Sumbalet”, “Sombalet”, and “Sembalet Eleandri”.
    - The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Sunbala”.
    - German astronomer Wilhelm Schickard (1592 – 1635) listed this star as “Sunbalon”.
    - The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Spica Virginis”.
    - “Spica vel Spicum” are listed as names for this star in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
    - Robert Hues listed it as “Sunbale” and “Eare of Corne” in his *A Learned Treatise of Globes* in 1659, and later lists “Spica Virginis”.
    - Spica Virginis” is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661.
    - Dutch cartographer Frederik de Wit’s *Planisphaerium Coeleste* (1670) lists “Spica Virginis”.
    - Edward Sherburne lists it as “Súmbela” and “Spica Virginis” in his *Sphere of Marcus Manilius* in 1675.
    - The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) lists this star as “Spica”.

- John Hill lists it as “Sumbela” in his *Urania* in 1754 and gives it as the Arabic name of the constellation Virgo.
- The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) lists this star as “L’Epy”.
- Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists this star as ”Azimech“ and as “Spica“.
- Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this star as “Spica della Vergine” (“Spica of the Virgin”) in his *Della Specola Astronomica De’ Regj Studj Di Palermo* (1792).
- The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer lists this star as “Spica Virginis”.
- “Spica” is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801).
- American uranographer William Croswell (1760 – 1834) lists “Spica” on his *Mercator Map of the Starry Heavens* in 1810.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists this star as “Spica” in his *Celestial Atlas* in 1822.
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich lists this star as “Spica”.
- This is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852 lists “Spica”: The author is unknown, but it is based on Jamieson’s *Celestial Atlas*.
- English Admiral Henry William Smyth’s *Prolegomena* of 1844 lists “Spica” and “Spica Virginis” and his *Bedford Catalogue* in 1844 lists “As Sumbuleh, or ear of corn”.
- German astronomer Johann Elert Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this star as “Spica”.
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as “Spica, in the ear of corn”.
- English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists this star as “Spica Azimech” and “Spica”.
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as “Spica”.
- American astronomer Winslow Upton’s *Star Atlas* (1896) lists this star as “Spica” and translates it as “An ear of wheat”.
- R. H. Allen lists it as “Sumbela” in his *Star Names* in 1899 and gives it as the Arabic name of the constellation Virgo.
- *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists “Spica”.
- The 1st edition of British schoolmaster Arthur P. Norton’s *A Star Atlas and Telescopic Handbook* (1910) and the 14th edition (1959) list this star as “Spica”.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this star as “Spica”.
- The modern Italian name is “Spiga” and the French call it “l'Epi”.
- The IAU approved the name Spica for Alpha (α) Virginis Aa.

This Seleucid asterism “AB.SIN” or “SE.BAR” (“ear of grain”) is listed in their tablet SBTU II No 43 (W 22646) from the Seleucid (Hellenistic) period (275 B.C.E. – 116 C.E.) and is the IAU constellation Virgo (Foxvog 1993). Compare to their asterism Maiden (see below).

This Greek star “Στάχυς” (“Stáchys”), later latinized as “Stachys”, is Alpha (α) Virginis (Spica) in the IAU constellation as described by Aratus (315 – 240 B.C.E), Hipparchus (190 – 120 B.C.E.), and Ptolemy (c.100 – c.170). 3rd century B.C.E. Egyptian priest Manetho and 5th century Greek poet Nonnus called it “Σταχυώδης” (“Stachyódis”).

This Egyptian Dendera star is Alpha (α) Virginis (Spica) in the IAU constellation Virgo (Hoffmann 2017) and part of their asterism Maiden (see below).

Ear of Hydra:

This **telescopic** asterism “Aurifórmis Hýdrae” is the spiral galaxy NGC 3312 in the IAU constellation Hydra. It was discovered in 1835 by John Herschel who listed it as h 3282 and later as GC 2161 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Ear of Wheat:

This Persian asterism “Khosha” or “Khusāk” is the IAU constellation Virgo as listed in R. H. Allen’s *Star Names* in 1899.

This Persian asterism “Chûshe” is the IAU constellation Virgo as listed by Edward Sherburne in his *Sphere of Marcus Manilius* in 1675.

This Turkish asterism “Sálkim” is the IAU constellation Virgo as listed by Edward Sherburne in his *Sphere of Marcus Manilius* in 1675.

This Hebrew star “Shibbōleth” is Alpha (α) Virginis (Spica) in the IAU constellation Virgo as listed by R. H. Allen in his *Star Names* in 1899.

This Syrian star “Shebbeltā” is Alpha (α) Virginis (Spica) in the IAU constellation Virgo as listed by R. H. Allen in his *Star Names* in 1899.

Earendel:

This **telescopic** star is WHL0137-LS in the IAU constellation Cetus. It was discovered by the Hubble Space telescope in 2022. It is the earliest and most distant star, 28 billion light years (8.6 billion parsecs) away. Eārendil means “lover of the sea”. NOTE: “Earendel” is from the old English poem *Crist 1*, which hailed him as the “brightest of angels”. Eārendil the Mariner is a half Elvin character in the books of J. R. R. Tolkien who is said to have carried “the evening star upon his brow”. Tolkien derived that name from Earendel in *Crist 1*.

Early Blessed One:

This Vedic nakshatra (lunar mansion) “Purva Bhadrapada”, “Purvabhadra”, or “Pūrva Bhādrapadā” is in the IAU constellation Pegasus and is the stars Alpha (α) Pegasi (Markab) and Beta (β) Pegasi (Algol). Ivanković (2021) lists it as “Bhādrapadā” and “Pūrvā Bhādrapadā” which he translates as “first of the blessed feet”. Other translations include “former happy feet”, “front legs of the deathbed”, or “highly

intuitive". Ivanković relates it to Aja Ekapad, which is an aspect of Shiva and also lists the earlier name as "Pūrvā Prósthapadā" (See Former Footstool, below). Leitz (2019) lists "Purva Bhadrapada" as appearing in the *Atharveda* and on the nakshatra list of the scholar Varahamihir but identifies this as "the star Andromedae": Of course, Andromedae is a suffix which could apply to any star in Andromeda. W. Brennand lists this as "Purva Bhadrapada" in his Hindu Astronomy in 1896 and translates this as "a two-faced image". Bhagwath (2019) lists its symbols as swords, two front legs of a cot, or a man with two faces.

This Vedic asterism "Prak" listed by the maharshi Parasara is the stars Alpha (α) Pegasi (Markab) and Beta (β) Pegasi (Scheat) as listed by Leitz in 2019.

This Myanmar nekkhat (lunar mansion) "Pyobba Parabaik" (ပြုဗ္ဗာ ပုရပိုက်) is in the IAU constellation Pegasus and is the stars Alpha (α) Pegasi (Markab) and Beta (β) Pegasi (Algol).

This Tibetan gyukar (lunar house) "Khrum Stod" or "Trumtö" (Johnson-Groh 2013) is in the IAU constellation Pegasus and is the star Alpha (α) Pegasi (Markab).

Earring of the Dragon:

This **telescopic** asterism Hay-Merting 1 is in the IAU constellation Cassiopeia and was discovered by the German astronomer René Merting in 2015. Its size is 8' X 5'. Robert Zebahl lists it on his *Faint Fuzzies* webpage and describes it as being "at the northwestern star of the kite's rhombus of Kemble 3, there is an oval arc of faint stars, most of them 15th magnitude except for 3 brighter stars. The arc looks like a ring, and earring perhaps." The brightest star in the "earring" is HIP 16048 (magnitude 7.1). For Kemble 3 or "Kemble's Kite" see Kite, below.

Ears:

This Macedonian asterism "Ushi" or "Uʃi" is made up of stars of the IAU constellation Cassiopeia and represents the part of the wooden plough that goes into the soil (Cenev 2004 & 2014). It starts at the star Delta (δ) Cassiopeiae (Ruchbah) and runs through Gamma (γ) Cassiopeiae (Navi), takes a bend at the "tip" of the plough at the star Beta (β) Cassiopeiae (Caph), and ends at the star Alpha (α) Cassiopeiae (Schedar).

Ears of Grain of Ursa Major:

This **telescopic** asterism "Gránifer Úrsae Majóris" is the spiral galaxy NGC 2985 in the IAU constellation Ursa Major. It was discovered in 1785 by William Herschel who listed it as "I 78". It is GC 1909 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as it looks like "like ears of grain".

Earth Goat:

This Arabic star is Gamma (γ) Andromedae in the IAU constellation Andromeda as listed by Dorn (1829), who describes it as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283). It is an alternate name for their asterism Foot of the Chained Woman (see below). Dorn describes this as "a species of lynx".

Earth Healer:

This Akimel O'odham asterism is the IAU constellation Scorpius.

Earth Oven:

This Netwar asterism “Nowanuman” is the Large and Small Magellanic Clouds (Ramik 2019).

Earthly Star:

This Latin star “Stella Terrestris” is Alpha (α) Carinae (Canopus) in the IAU constellation Carina as listed in John Hill’s *Urania* in 1754.

Earthly Trigon:

This astronomical asterism is the IAU constellations Capricornus, Taurus, and Virgo.

Earth’s Auger:

This Romanian asterism “Sfredelul Pământului” is the three stars Epsilon (ε), Eta (η), and Zeta (ζ) Aurigae in the IAU constellation Auriga (Ottescu 2009). Compare this to Little Auger, below.

Earthworm:

This English asterism “Lumbricus” was created in 1754 by British botanist and natural philosopher John Hill and published in his *Urania: Or a Complete View of the Heavens* and is made up of stars in the IAU constellations Cancer and Canis Minor: HIP 39180, 3 Cancri, and 11, 6 and 1 Canis Minoris.

East Road:

This Korean asterism “Dongjjog Dolo” (동쪽 도로) is a zig-zag of four stars in the IAU constellations Ophiuchus and Scorpius: 22 Scorpii, and Rho (ρ), Omega (ω), and Psi (ψ) Ophiuchi. This shares some stars with the Chinese xing guan “Eastern Door” (see below).

East Veil Nebula:

See Veil Nebula below.

East Well:

This Chinese Chenzhuo xing guan is a “box” of stars in the IAU constellation Gemini: The corners of the “box” are:

- Gamma (γ) Geminorum, which has a line running out to Xi (ξ) Geminorum
- Zeta (ζ) Geminorum, which has a line running out to Lambda (λ) Geminorum,
- 36 Geminorum, which has a line running out to Epsilon (ε) Geminorum, and
- Nu (ν) Geminorum, which has a line running out through Mu (μ) Geminorum to Eta (η) Geminorum.

Eastern Cross:

This is an alternate Quechua (Misminay) name for their asterism “Calvario Cruz” (See Calvary Cross, above (Urton 1980)). This is made up of stars in the IAU constellation Scorpius: Alpha (α) Scorpii (Antares), Beta (β) Scorpii (Acrab), Delta (δ) Scorpii, Pi (π) Scorpii, and Sigma (σ) Scorpii. This is also known as the Eastern Cross (Urton 1980). Compare to Linun Cruz (see Wooden Cross, below).

Eastern Crown:

This asterism is the IAU constellation Corona Australis. Jesuit German mathematician Christopher Clavius (1538 – 1612) lists this constellation as “Corona Austrina; Quae et Rota” (“the Eastern Crown or the Wheel”) in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572). The constellation Corona Australis briefly had its name changed by the IAU in 1932 to “Corona Austrina” (“Eastern Crown”), but this was repealed in 1955.

Eastern Door:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a bent line of four stars in the IAU constellation Ophiuchus and Scorpius: i Scorpii, Rho (ρ) Scorpii (the determinative star), Omega (ω) Ophiuchi and 24 Scorpii.

This Chinese xing guan “Dōngxián” (东咸) is a triangle of stars in the IAU constellation Ophiuchus: Phi (ϕ), Chi (χ), Psi (ψ), and Omega (ω) Ophiuchi. This shares some stars with the Korean asterism “East Road” (see above).

This Chinese Chenzhuo xing guan “Dōngxián” is a bending line of four stars in the IAU constellations Ophiuchus and Scorpius: Rho (ρ) Ophiuchi, Omega (ω) Ophiuchi, HIP 81754, and 24 Scorpii.

Eastern Long Necked Turtle:

This Boorong star “Wanjel” is Beta (β) Geminorum (Pollux) in the IAU constellation Gemini as listed by Stanbridge (1857), Morieson (1999), and Hamacher and Frew (2010). It is one of the Two Hunters (see below). This turtle is Chelodina longicollis.

Eastern One in the Tail of the Goat:

This Babylonian “ecliptic asterism” “Arkat sha hi-na Shahū” is the star Delta (δ) Capricorni in the IAU constellation Capricornus as listed by R. H. Allen in his *Star Names* in 1899.

Eastern One of the Twins:

This Babylonian star “Mash-mashu- arkū” is Beta (β) Geminorum (Pollux) in the IAU constellation Gemini as listed by R. H. Allen in his *Star Names* in 1899.

Eastern Pottery:

This Korean asterism “Dong-yang-ui Dojagi” (동양의 도자기) is a line of five stars in the IAU constellation Vela: q, s, t, p, and Mu (μ) Velorum.

Eastern Star:

This Bugis star “Bintoéng Timoro” is Alpha (α) Aquilae (Altair) in the IAU constellation Aquila.

Eastern Wall:

This Chinese Chenzhuo xing guan is a line of two stars in the IAU constellations Andromeda and Pegasus: 21 Andromedae and Gamma (γ) Pegasi.

This Korean lunar mansion “Byeok” is a line of two stars in the IAU constellation Pegasus: Gamma (γ) Pegasi and HIP 447.

Eastern Well:

This Korean lunar mansion “Zeong” in the IAU constellation Gemini is a quadrilateral of stars with star lines running off each corner. The central quadrilateral is the stars Gamma (γ), Zeta (ζ), 36, and Nu (ν) Geminorum. The four lines of stars from the corners are:

- Nu (ν) Geminorum through Mu (μ) Geminorum to Eta (η) Geminorum,
- Gamma (γ) Geminorum to Xi (ξ) Geminorum,
- Zeta (ζ) Geminorum to Lambda (λ) Geminorum, and
- 36 Geminorum to Epsilon (ε) Geminorum.

Easy Chair:

This American asterism is the IAU constellation Cetus as listed by R. H. Allen in his *Star Names* in 1899. NOTE: Allen does not identify the source of this name but this type of chair appeared in the U.S. between 1715 – 1730.

Ebla:

This telescopic Syrian star is HIP 114322 (HD 218566) in the IAU constellation Pisces (magnitude 9.21). It was given this name in the IAU NameExoWorlds campaign. It is named for an early kingdom in Syria. It has an exoplanet named Ugarit, which was a city where the Ugaritic alphabet was devised around 1400 B.C.E.

Ebo:

This Chinese asterism is the xiù (lunar mansion) “Xīnxiù” (心宿) is a line of three stars in the IAU constellation Scorpius: Sigma (σ), 21, and Tau (τ) Scorpii (see Heart, below). Ridpath (1988) relates a story of how the emperor Gaoxinshi (c 2436 B.C.E.) placed his sons Sichen and Ebo in different parts of the sky as they were always fighting. Ebo ended up ruling this xiù.

Ebuðrung:

This Old Saxon asterism “Ebuðrung” or “Ebiðring” is the IAU constellation Orion as listed in R. H. Allen’s *Star Names* in 1899.

Echidna:

This Greek asterism is the IAU constellation Hydra as listed by Hesiod and Mosenkis in his *Mycenaean Oecumene* (date n/k). Echidna was a half woman, half serpent who was the mate of the monster Typhon.

Edasich:

See Hyena, below.

Edge:

This **telescopic** asterism is in the IAU constellation Gemini and is Leiter 1 on astronomer Frank Leiter’s asterisms catalogue. It is a cascade of 12th magnitude stars. Its size is 5.6’ X 0.5’.

Edge On Cluster:

This **telescopic** asterism is the open cluster NGC 6834 in the IAU constellation Cygnus. This was discovered by English astronomer William Herschel in July 1784 who listed it as "VIII 16". It is GC 4518 in the *General Catalogue* of 1864. Size 5' X 5'. This is listed by Robert Zebahl on his *Faint Fuzzies* website.

Edrini Prinnios:

This Celtic (Gaulish) asterism is the IAU constellation Virgo and appears in the Coligny Calendar (Boutet 2001, 2014). Compare to their asterism Fire Month Guiding Stars (see below).

Edu:

This Babylonian ziqpu "mulDIL" from cuneiform text AO 6478 (Schaumberger 1952) is Mu (μ) Herculis (Rasalgethi) in the IAU constellation Hercules.

Edward Young Star:

This **telescopic** asterism is the galaxy Messier 110 in the IAU constellation Andromeda. This was observed by French astronomer in 1773 but not included in his Messier list. English astronomer Caroline Herschel recorded it in 1783 and her brother William Herschel described her discovery in 1785. It was added to the Messier list in 1967 at the suggestion of Kenneth Glyn Jones. This name originated in 2014 in an anonymous edit of the Wikipedia entry for Messier 110 which states that the name Edward Young Star was given to M110 "as a gift for the English astronomer Edward George Burrows Young (1922 – 2014) just before his dead in 2014 aged 92 years". This name appears in *From Cave Art to Hubble: A History of Astronomical Record Keeping* by Jonathan Powell (2019). I find it odd that it should be named "Edward Young Star" when refers to a galaxy. Messier 110 is also known as Lucida Andromedae.

Edward's Galaxy:

This **telescopic** asterism is NGC 6621 and 6622, a pair of interacting spiral galaxies in the IAU constellation Draco. It is named after American astronomer Edward D. Swift, who with Lewis A. Swift discovered this in June 1885.

Eel:

This Greek asterism "Ἐγχέλυς" ("Enchélys") is the IAU constellation Serpens.

This Latin asterism "Anguilla" is the IAU constellation Serpens. This alternate name for Serpens is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

This English asterism "Anguilla" was created in 1754 by British botanist and natural philosopher John Hill. Hill's description of it in *Urania: Or a Complete View of the Heavens*, is vague. It is a wandering line of stars of the IAU constellations Aquila, Delphinus, Equuleus, Sagittarius, and Scutum: HIP 105864, Epsilon (ε) Equulei, Kappa (κ) Delphini, Epsilon (ε) Delphini, 66 Aquilae, Upsilon (υ) Sagittarii, HIP 92488, Epsilon (ε) Scuti, Delta (δ) Scuti, and Alpha (α) Scuti. It overlaps Hill's other asterism Pinna Marina (see Mussel, below).

Efforts:

This Latin asterism "Nixus" ("leaning") or "Nisus" ("efforts") is the IAU constellation Hercules as listed by Robert Hues in his A Learned Treatise of Globes in 1659 and by Edward Sherburne in his *Sphere of Marcus Manlius* in 1675.

Effulgence:

This Buddhist asterism is the Big Dipper asterism in the IAU constellation Ursa Major plus Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor. The Tejaprabhā Buddha is a prominent figure in Buddhist astronomy and astrology that emerged in the late Tang Dynasty (Kotyk 2017). His name in Sankrit translates as "Effulgence" and he is typically depicted as seated in an ox cart surrounded by planets. He first appears in the text *Da shengmiao jixiang pusa shuo chuzai jiaoling falun* or *Disaster Eliminating Edifying Dharma-Wheel as Taught by the Great and Holy Excellent Auspicious Bodhisattva* in 796.

Eggez:

This star is Iota (ι) Ursae Majoris in the IAU constellation Ursa Major as listed on the astrolabe NMM AST0570 in the National Maritime Museum (Dekker 2000).

Egipan:

This Greek asterism "Ægipan" or "Egipan" is the IAU constellation Capricornus. Egipans were part human part goat rural deities inhabiting mountainous areas:

- Johann Bayer's *Uranometria* (1603) lists "Aegipan" as a name for Capricornus.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Pan sive Aegipa" as a name for Capricornus.
- John Hill lists Ægipan as a name for this constellation in his *Urania* in 1754. Hill describes this as "a name by which old astronomers have called Capricorn" and related to the God Pan.
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists Ægipan.

Egg:

There are three **telescopic** "egg" asterisms:

- One is in the IAU constellation Cygnus near NGC 7000 (the North America Nebula) and includes HIP 104361 and 104268 and several faint double stars and is Leiter 2 on astronomer Frank Leiter's asterism catalogue: Leiter writes that it was contributed by Klaus Spruck. It is also known as the Horseshoe (see below). Its size is 14' X 10'. Nearby is the **telescopic** asterism the Checkmark (see above).
- One is NGC 2937, a spiral galaxy in the IAU constellation Hydra. This is interacting with the nearby elliptical galaxy NGC 2936 (Arp 142), which is known as the Penguin (see below) or the Porpoise (see below). They were both discovered by German astronomer Albert Marth in 1864, becoming 175 and 176 on his list. It is GC 5497 in the General Catalogue of 1864.
- One is bipolar protoplanetary nebula PK 80-6-1 (CRL 2688, RAFGL 2688) is in the IAU constellation Cygnus. It was originally recorded as a pair of galaxies, but in 1975 a sounding rocket of the Air Force Geophysical Laboratory got data that showed it was a nebula.

Egg Layer of Pegasus:

This **telescopic** asterism "Ovípara Pégasi" is the barred spiral galaxy NGC 7674 (Arp 182) in the IAU constellation Pegasus. This was discovered in 1786 by William Herschel who listed it as I 63". It became GC 589 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named*

Galaxies by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “this galaxy resembles an animal laying an egg”.

Egg of Antlia:

This **telescopic** asterism “Ovoides Ántliae” is the spiral galaxy NGC 3268 in the IAU constellation Antlia. It was discovered in 1835 by John Herschel who listed it as h 3263 and later as GC 2127 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Egg-Shaped of Cetus:

This **telescopic** asterism “Ováta Céti” is the elliptical galaxy NGC 1052 in the IAU constellation Cetus. It was discovered by English astronomer William Herschel in 1785. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Eggen's Nearby Star:

This **telescopic** star is CoD -31 622 in the IAU constellation Sculptor. This star was briefly thought to be near the solar system. It is named after American astronomer Olin J. Eggen (1919 – 1998).

Eggs:

This Arabic star “Bayd” (بيض) or “Al Baīḍ” is Omicron (o) Eridani in the IAU constellation Eridanus:

- This was later latinized to “Beid”.
- “Beid” appears in Giuseppe Piazzi’s *Palermo Catalogue* of 1814.
- The IAU approved the name Beid for the star Omicron (o) 1 Eridani.

Eggs and Egg Shells:

See Ostrich Nest, below.

Egret:

This Tukano asterism “Yhe” or “Garça” is made up of the stars of the IAU constellation Coma Berenices (Cardoso 2015, Cardoso 2016):

- The “body” is an irregular oval including the stars 26, 22, 21, and 18 Comae Berenices,
- One “wing” is a triangle formed by the stars HIP 61420 and 20 and 26 Comae Berenices, with a “wingtip” at 11 Comae Berenices,
- The other “wing” is a triangle formed by the stars 26 and 35 Comae Berenices and HIP 61719 with a “wingtip” at the star 39 Comae Berenices, and
- The “tail” is composed of two lines of stars:
    - The first starts at 21 Comae Berenices and runs through HIP 60891 and 16 and 14 Comae Berenices, ending at Gamma (γ) Comae Berenices, and
    - The second starts at 18 Comae Berenices and runs out to a group of stars: 12 and 13 Comae Berenices and HIP 60170, 60168, and 60066.

Egypt:

This Egyptian Dendera asterism is the IAU constellation Cetus (Hoffmann 2017). It is depicted on the ceiling as two figures walking with staffs and this may represent Egypt, but this is uncertain.

Egyptian Cross:

This is formed by the stars of another asterism, the Winter Triangle (see below). The stars Alpha (α) Canis Minoris (Procyon), Alpha (α) Orionis (Betelgeuse), and Alpha (α) Canis Majoris (Sirius) linked to another triangle formed to the south by the stars Sirius, Zeta (ζ) Puppis (Naos), and Alpha (α) Columbae (Phact). These two triangles meet at the vertex at Sirius, forming the "Egyptian X" or "Egyptian Cross". *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this as the "Egyptian X".

Ehuo:

The stars of this large Rapanui asterism "Ehuo" or "Ehua" are not known at this time (Edwards and Edwards 2016, Edwards et al 2018).

Eiffel Tower:

There are two **telescopic** "Eiffel Tower" asterisms:

- One is Ferrero 6 in the list of asterisms of French astronomer Laurent Ferrero, is in the IAU constellation Ursa Major. The base of the "tower" is the stars HIP 64273 and 64309 with some 9th magnitude stars forming the "tower". René Merting describes it on the *Faint Fuzzies* website: "At 72 X a conspicuous, large triangle- the outer edges are formed by 8 stars, six of which are bright- more stars are visible inside- a total of 16 stars with two different magnitudes are involved." Size 20'X 30'.
- One is Timm's Eiffel Tower, discovered by German astronomer Timm Klose in October 2017 in the IAU constellation Sagittarius. Robert Zebahl lists it on his *Faint Fuzzies* website. Zebahl describes this as being "only 14' north of the planetary nebula NGC 6567. Most of the stars have magnitudes between 11 and 12." Size 26' X 9'.

Effeminate:

This Latin asterism "Effeaminatus" is the IAU constellation Ophiuchus.

- "Effoeminatus" is listed in Johann Bayer's *Uranometria* (1603).
- "Effeaminatus" is listed in English Admiral Henry William Smyth's *Bedford Catalogue* in 1844.

Eight-Burst Nebula:

This **telescopic** asterism is the planetary nebula NGC 3132 (Caldwell 74) in the IAU constellation Vela. It is GC 2017 in the *General Catalogue* of 1864. It is also known as the Southern Ring Nebula. American astronomer Harlow Shapley (1885 – 1972) and South African astronomer John Stefanos Paraskevopoulos (1189 – 1951) came up with the name "Eight Burst" in *Galactic and Extragalactic Studies, II, Photographs of Thirty Southern Nebulae and Clusters* in 1940 due to its complex structure.

Eight Cereals:

This Korean asterism "Yeodeolb Gogmul" (여덟 곡물) is a circle of stars with a star line protruding from one side that is in the IAU constellations Auriga, Lynx, and Camelopardalis. The circle of stars includes Alpha (α), Beta (β), and 16 Camelopardalis, Delta (δ) Aurigae, 15 Lyncis, and HIP 29997. At 16 Camelopardalis a line of two stars branches off through 7 Camelopardalis and 9 Aurigae. Compare this to the Chinese xing guan "Eight Kinds of Crops" (see below).

Eight Kinds of Crops:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is made up of a twisting line of stars of the IAU constellations Camelopardalis: Beta (β) Camelopardalis (the determinative star), HIP 21601, HIP 20376, HIP 21452, 9 Camelopardalis, HIP 24017, HIP 22626, and HIP 24914.

This Chinese xing guan "Bāgǔ" (八谷） is made up of stars in the IAU constellations Camelopardalis and Auriga. There are two triangles of stars. One is made up of the stars 11 and 31 Camelopardalis and 9 Aurigae. The other is made up of the stars 14, 26, and 7 Camelopardalis, with a two star "tail" running off 26 Camelopardalis to Xi (ξ) and Delta (δ) Aurigae. Compare this to the Korean asterism "Eight Cereals" (see above).

This Chinese Chenzhuo xing guan is made up of stars of the IAU constellation Auriga, Camelopardalis, and Lynx: A ring of stars consists of Delta (δ) Aurigae, 15 Lyncis, HIP 29997, 9 Camelopardalis, Beta (β) Camelopardalis, and 16 Camelopardalis. From 16 Camelopardalis a line runs out through 7 Camelopardalis to 9 Aurigae.

'Ekekeuehuehu:

This Hawaiian star is Theta (θ) Aurigae (Mahasim) in the IAU constellation Auriga.

'Ekekeu'ena'ena:

This Hawaiian star is Beta (β) Aurigae (Menkalinan) in the IAU constellation Auriga.

El Gordo:

This **telescopic** asterism "the Fat One" is the galaxy cluster ACT-CL J0102-4915 (SPT-CL J0102-4915) in the IAU constellation Phoenix.

El Nath:

See Butting, above.

Elacate:

This "Greek" asterism is the IAU constellation Corona Borealis as listed in John Hill's *Urania* n 1754.

Elands:

This /Xam asterism representing grazing elands is three stars in the IAU constellations Canis Minor and Gemini. Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) represent female elands and Alpha (α) Canis Minoris (Procyon) a male eland (Slotegraaf 2013).

Elasippus:

This Greek asterism "Elasippus" is the IAU constellation Auriga as listed in John Hill's *Urania* in 1754 and in English Admiral Henry William Smyth's *Bedford Catalogue* in 1844. Elasippus was one of the tens sons of Poseidon and Cleito in Greek mythology.

Elatha:

This Celtic (Irish) asterism may be the IAU constellation Orion (Mosenkis, N/K date). Elatha, Elotha, Elata or Elier is a golden-haired king of the Fomorians associated with sources of light and illumination. Mosenkis describes him as sailing in a silver boat, might be compared with Orion near Argo.

Elbow:

This Dorian star "Κύβιτον" ("Kýviton") is Kappa (κ) Herculis in the IAU constellation Hercules.

There are five Arabic stars with the name "elbow":

- One, "al-Mirfaq" (المرفق), later latinized to "al Markik", "Marfik", or "Marfik" is the star Lambda (λ) Ophiuchi in the IAU constellation Ophiuchus.
    - German astronomer Johann Bayer (1572-1625) lists "Marsic" in his Uranometria (1603).
    - Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Marsic".
    - American uranographer Elijah Burritt (1794 – 1838) lists it as "Marsic".
    - Robert Burnham lists it as "Mirfak or Marfak" in his *Burnham's Celestial Handbook* in 1978.
    - The IAU approved the name Marfik for Lambda (λ) Ophiuchi A.
- One, "al-Mirfaq uth-Thurayyā" ("elbow of Al Thurayya" مرفق الثّريّا), later latinized to "Mirfak", "Mirphak", "Marfak", or "Mirzac", is the star Alpha (α) Persei in the IAU constellation Perseus:
    - This is listed on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992) as "Mirfaq al-thurayyā".
    - A wooden precession globe (1730) by German uranographer Johann Georg Puschner (Dekker 2003) labels this star "Persus".
    - English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Mirfak, the elbow, or more fully Al Mirfak al thureyyd, the elbow of the Pleiades". This is part of their asterism Al-Thurayya (see above).
    - English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Mirfak".
    - American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Mirfak" and translates it as "elbow".
    - The 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) lists this star as "Mirfak".
    - *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists "Mirfak" for this star.
    - The IAU approved the name Mirfak for Alpha (α) Persei.
    - This is also known as the Pit of the Elbow (see below).
    - NOTE: The Arabs also gave this name to the star Gamma (γ) Pegasi.
- One is the star Mu (μ) Cassiopeiae in the IAU constellation Cassiopeia, whose name has been latinized to "Marfak", "Al Marfak", or "Marfak West". It probably shares this name with Theta (θ) Cassiopeiae as it is very close to it. The IAU has not yet chosen an official name for this star.
- One, latinized to Marfak" is the star Theta (θ) Cassiopeiae in the IAU constellation Cassiopeia. The IAU approved the name Marfak for Theta (θ) Cassiopeiae.
- One, latinized to "Marsic", "Marfak", "Marsia", "Marfic", or "Marfik" is the star Kappa (κ) Herculis in the IAU constellation Hercules.
    - "Marsic" and "Marsikon" are names listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
    - Robert Hues lists "Marfic" in his *A Learned Treatise of Globes* in 1659.
    - English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Marsic".
    - The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list "Marsik" for this star.

- The IAU approved the name Marsic for Kappa (κ) Herculis A.
- NOTE: American uranographer Elijah Burritt (1794 – 1838) used the name "Marsic" and placed it in the correct position for Kappa (κ) Herculis but labelled it "Chi (χ) Herculis" and listed Lambda (λ) Ophiuchi with this name. Scottish uranographer Alexander Jamieson (1782 – 1850) lists this star as "Marsic" in his *Celestial Atlas* in 1822. This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Marfic" and associated with Chi (χ) Herculis and appears as Lambda (λ) Ophiuchi on the chart depicting Serpentarius in this text.

Elbow of the Nile:

This Greek asterism "Πιμεντεκέων" ("Pimentekéon") is the IAU constellation Leo as listed in R. H. Allen's *Star Names* in 1899.

This Latin name "Cubitus Nili" is the IAU constellation Leo as listed in the 1521 edition of the *Alfonsine Tables.* It is listed in John Hill's *Urania* in 1754 as "Nile".

This Coptic asterism "Pimentekeon" is the IAU constellation Leo as listed in John Hill's *Urania* in 1754 and in R. H. Allen's *Star Names* in 1899.

Elbow of Ursa Major:

This **telescopic** asterism "Olénia Úrsae Majóris" is the barred spiral galaxy NGC 3726 in the IAU constellation Ursa Major. It was discovered in 1788 by William Herschel who listed it as "II 730". It became GC 2445 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They call it this because "the broken southern spiral arm looks like an elbow".

Elbow of Virgo:

This **telescopic** asterism "Ulnátus Vírginis" is the barred spiral galaxy NGC 4593 in the IAU constellation Virgo. It was discovered in 1784 by William Herschel who listed it as II 183". It became GC 3131 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the broken western arm of this galaxy resembles an elbow".

Eldest, Most Excellent:

This Vedic nakshatra (lunar mansion) "Jyeshtha", "Jyestha", or "Jyeshthā", is in the IAU constellation Scorpius and is the stars Alpha (α) Scorpii (Antares), Sigma (σ) Scorpii, and Tau (τ) Scorpii. Ivanković (2021) also gives the alternate name "Jyesthaghnī" ("Eldest Killing") and relates it to the storm God Indra, who is also known as "Vrtahan" ("slayer of Vrtra): Vrtra is a serpent demon who personifies drought, evil and chaos. It is listed as "Jyesta" in the *Atharveda* (Leitz 2019, Ivanković 2021) . Leitz lists "Jyastha" as appearing on the nakshatra list of the scholar Varahamihir, but oddly identifies this as "the star Scorpionis", although Leitz later corrects this to Alpha (α) Scorpii (Antares), and two other unidentified stars as listed by the maharshi Parasara. W. Brennand lists this as "Jyeshtha" in his *Hindu Astronomy* in 1896 and translates this as "a rich ear-ring". Bhagwath (2019) lists its symbols as a circular armlet, an umbrella, or an earring.

This Myanmar nekkhat (lunar mansion) "Zehta" (ဇေဋ္ဌ) is in the IAU constellation Scorpius and is the stars Alpha (α) Scorpii (Antares), Sigma (σ) Scorpii, and Tau (τ) Scorpii.

This Tibetan gyukar (lunar house) “Snron” or “Nrön” or “Deu” (Johnson-Groh 2013) is in the IAU constellation Scorpius and is the star Alpha (α) Scorpii (Antares).

Eldest Mingarri Sister:

This Kokatha and Ngalea asterism “Kambugudha” is part of their larger asterism “Nyeeruna Nyiruna” (“hunter of the seven thorny devil sisters”) which is the IAU constellation Orion (Leaman and Hamacher 2014). This asterism is the Hyades cluster in the IAU constellation Taurus. The other part is “Yrgarilya” or “Kunggara”, which is the Pleiades cluster (see Seven Young Mingarri Sisters, below). The eldest Mingarri sister is perpetually guarding her younger sisters against the hunter Nyeeruna (see Hunter of the Seven Sisters, below).

Electra:

This Greek star is 17 Tauri in the Pleiades cluster in the IAU constellation Taurus. Electra is one of the Pleiades sisters in Greek mythology.

- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists “Electra” for this star.
- American astronomer Winslow Upton’s *Star Atlas* (1896) lists this star as “Electra”.
- The 1st edition of British schoolmaster Arthur P. Norton’s *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) lists “Electra” for this star.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this star as “Electra”.
- The IAU approved the name Electra for 17 Tauri.

Electra Nebula:

This **telescopic** asterism is the reflection nebula vdB 20 (Ced 19d) in the Pleiades cluster in the IAU constellation Taurus. It has this name as it surrounds the star Electra (see Electra, above).

Electric Arc Galaxy:

This **telescopic** asterism is the edge-on spiral galaxy NGC 7814 (Caldwell 43) in the IAU constellation Pegasus. It was discovered in 1784 by English astronomer William Herschel who listed it as “II 240”. It is GC 5046 in the *General Catalogue* of 1864. French astronomer Lucien Rudaux [wrote] about NGC 7814: ‘It bears a curious resemblance to an electric arc”, which is how it got this name. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010) as “Electropháës Pégasi” (“Electrically Glowing of Pegasus”) It is also known as the “Little Sombrero Galaxy” (see below).

Electric Guitar:

This **telescopic** asterism, also known as the Termite Hole, is the open cluster NGC 2477 (Caldwell 71) in the IAU constellation Puppis. It was discovered by French astronomer Abbé Nicolas Louis de Lacaille in 1751. It is GC 1593 in the *General Catalogue* of 1864. The star Beta (β) Puppis is the end of the “handle”. NOTE: The electric guitar was invented in 1932, so the name cannot predate this.

Electricity Generator:

This German asterism “Elektrisir Machine”, later latinized to “Machina Electrica” is made up of the dim stars south of the IAU constellation Cetus between the IAU constellations Fornax and Sculptor. It was created by the German astronomer Johann Ehlert Bode in 1800 to commemorate the invention of this

machine and appears in his *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820). It is also known as “Machine Electrique” and “Machina Elletrica”.

This constellation is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) as “Machina Electrica”: He indicates the borders of this constellation on the chart but offers no illustration of it.

Scottish uranographer Alexander Jamieson (1782 – 1850) listed it in his *Celestial Atlas* in 1822 as “Machina Electrica”. *An Improved Moveable Planisphere* (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts “Machina Electrica” as a hand operated generator. This asterism is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852 as “Machina Electrica”: The author is unknown, but it is based on Jamieson’s *Celestial Atlas*.

Elegant One of Leo:

This **telescopic** asterism “Élegans Leónis” is the elliptical galaxy NGC 3377 in the IAU constellation Leo. William Herschel listed this as “II 99”. John Herschel listed it as h 754 and later as GC 2201 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Elegant One of Virgo:

There are two **telescopic** “Elegant One of Virgo” asterisms:

- One, “Lépidus Vírginis” is the barred spiral galaxy NGC 5560 (Arp 286) in the IAU constellation Virgo. It was discovered in 1786 by William Herschel who listed it as “II 579”. It became GC 3845 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “of its fine elegant shape.” 14 20 +3 59
- One, “Lépida Vírginis” is the barred spiral galaxy NGC 5566 (Arp 286) in the IAU constellation Virgo. It was discovered in 1786 by William Herschel who listed it as “I 144”. It became GC 3846 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “this galaxy merits to be called elegant, in its feminine form lepida.”

Elephant:

This asterism “Elephas” was created from stars of the IAU constellation Ursa Major by German astronomer Erhard Weigel (1625 – 99) who produced his *Astrocopium Orbi Europaeo Sacrum* chart 1661, 1681 and 1688 in which he tried to replace existing constellations a new system based upon the heraldry of the nation states and principalities of seventeenth century Europe, as well as of its principal hierarchies and social classes. It is labeled “Dania” on Weigel’s chart and the heraldry of the Order of the Elephant, a Danish order of knighthood.

This **telescopic** asterism is in the IAU constellation Auriga and is Corder 856/857 on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 100’ X 30’. The back of the elephant (Corder 857) is a line of stars starting at HIP 25733A, HIP 25735, HIP 25624, Phi (ϕ) Aurigae, HIP 25471, and HIP 25363, which is the “smile” of the “Smiley Face” asterism (see below). The feet are the stars HIP 25343 and 25476, which are the eyes of the aforementioned “Smiley Face”. The “trunk” is HIP 25558,

and the double stars HIP 25580 and 25475. NOTE: Corder separately lists Corder 856 as the “elephant” and 857 as the ”back of the elephant” for some reason.

Elephant Fish:

This Suku Bali asterism is the IAU constellation Capricornus.

Elephant of Cepheus:

This **telescopic** asterism “Bárrus Céphei” is the barred spiral galaxy NGC 6951 in the IAU constellation Cepheus. It was discovered by French astronomer Jérôme Eugène Coggia (1849 – 1919 in 1877. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “with one arm widely extending in a northwestern direction, this galaxy looks like the head of an elephant, raising its trunk.” NOTE: This is also catalogued at NGC 6952 as it was also observed by Lewis Swift in 1878.

Elephant’s Trunk Nebula:

This **telescopic** asterism is vdB 142, a concentration of dust in the ionized gas region IC 1396 (SH 2-131, LBN 451, Cr 439, Ced 195, Tr 37) in the IAU constellation Cepheus. It is part of the Misty Clover Nebula (see below). IC 1396 was first recorded by American astronomer Edward Emerson Barnard (1857 – 1923).

Elf:

This **telescopic** asterism contains the dark nebula LDN 1622 in the Barnard Loop in the IAU constellation Orion. It is listed by this name in Astrobin by an astronomer on Instagram named “langzhibo”.

Elf Princes:

This Norse Asterism is related to the first three stars to appear in the winter sky at sunset in the Northern hemisphere and consists of the stars Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor, Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion, and Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major. Some describe the Winter Triangle as the stars Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor, Beta (α) Orionis (Rigel) in the IAU constellation Orion, and Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major. This relates to stories of the elf princes Slagfin, Volund, and Egil (Johnsen 2024).

Elffyn’s Chair:

This Welsh asterism listed by Victorian folklorist Marie Trevelyan (1852 – 1922) in her *Folk-lore and Folk-stories of Wales* (1909) is currently unidentified.

Elgafar:

See Hair on the Tail, below.

Elias’s Cart:

This Belarussian asterism “Pavozachka Aliashova” (“a small cart of Elias”) or ”Illyouo Voz” (“Elias’ Cart”) is the Big Dipper asterism in the IAU constellation Ursa Major (Avilin 2009).

Elgiaziab:

This asterism is the IAU constellation Hercules as listed in John Hill's *Urania* in 1754. Hill describes this as "a bad way of writing Giathi Ala Ruchbatichi, which is the Arab name of the constellation" and translates this as "a man on his knees". Later in *Urania* Hill gives the shorter name "Rulxbahic". The Arabs did have a name for the Greek asterism "Kneeler" (see below): "Alrajul Alraakie" (الرجل الراكع), which isn't anything like what Hill is claiming here. Edward Sherburne lists this "Arabic" name as "Giathi ala Rucbatei" and the latinized version "Elgiaziale and Rulxba" in his *Sphere of Marcus Manilius* in 1675.

Elhakaac:

This asterism is Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini as listed by Italian astronomer Giovanni Battista Riccioli (1598 – 1671). Riccioli lists it as an "Arabic" name.

Elijah's Chariot:

This Estonian asterism "Eelija Vanker" is the Big Dipper asterism in the IAU constellation Ursa Major (Kuperjanov 2006).

Elijah's Raven:

This German asterism is the IAU constellation Corvus as listed in John Hill's *Urania* in 1754. Hill attributes this to German astronomer Wilhelm Schickard (1592 – 1635). R. H. Allen lists it in his *Star Names* in 1899. Edward Sherburne also attributes this to Schickard but lists this as "the Crow sent out by Noah, or that of Elias" in his *Sphere of Marcus Manilius* in 1675.

Elisa's Bears:

This German asterism is the IAU constellations Ursa Major and Ursa Minor as listed by German poet, jurist, and translator Georg Philipp Harsdörffer (1607 – 1658). This appears in Edward Sherburne's *Sphere of Marcus Manilius* in 1675.

Elk:

To the Khanty, Selkup, Ket, Khalasha, Evenk, Udege and Oroch of Siberia the bucket of the Big Dipper asterism in the IAU constellation Ursa Major is a giant Elk named "Helgen" (Berezkin 2005, Svjatskij 2007): Delta (δ) Ursae Majoris (Megrez), Gamma (γ) Ursae Majoris (Phecda), Beta (β) Ursae Majoris (Merak), and Alpha (α) Ursae Majoris (Dubhe). They see the stars of the handle as the hunters (see Hunters, below). The Khanty, Selkup, Ket, and Khalasha see the star 80 Ursae Majoris (Alcor) as a cooking pot carried by one of the hunters (see Pot, below). The Oroch, Evenk, and Udege in eastern Siberia see Alcor as the hunter's dog (see Dog, above). R. H. Allen lists the Khanty name as "Los" in his *Star Names* in 1899, though he calls them by the name exonym "Ostiaks" and lists the name "Tukto" for the "Greenlanders". Some Evenk describe this as a moose rather than an elk (Dmitrieva and Romeiko 2009).

The Chukchi see the stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini as an elk fleeing from two hunters, each of whom is guiding a team of reindeer.

This Dakota/Lakota/Nakota asterism "Hehaka" is the IAU constellation Pisces.

This Nenets and Ugrian asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Berezkin 2005).

This Koryak, Kamchadal, and Aleut asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Berezkin 2005). Berezkin notes that some see this as a deer rather than an elk.

Elk Skin:

This Yakima asterism is the W asterism in the IAU constellation Cassiopeia (see W below).

This Quileute asterism is the W asterism in the IAU constellation Cassiopeia (see W below).

Elkurud:

See Solitary Ones, below.

Elnath:

See Butting, above.

Eltanin:

See Dragon's Head, above.

Elton John's Glasses:

This **telescopic** asterism is made up of stars of the IAU constellation Pegasus. It was posted by American astronomer "NYJohn S" on *Cloudy Nights* in September 2022. It is next to Epsilon (ε) Pegasi. One lens is formed by the loop of stars starting at HIP 107184 and running around through HIP 107145, Gaia 1741674388888025728, HD 206433, HD 206465, Gaia DR3 1741482283591070464, and Gaia DR3 1765503692079903232. The other "lens" is a lope of stars starting at SAO 107345 and running around through HD 206590, HD 206589, HD 206619, and Gaia DR3 1765704524751116544 to SAO 107351.

Elvarad:

This asterism is the IAU constellation Crater as listed by Italian astronomer Giovanni Battista Riccioli (1598 – 1671) and R. H. Allen in his *Star Names* in 1899. The origin of the name is obscure.

Ema:

This large Tupi Guarani asterism "Ñandú" or "Piyu" is made up of stars in the IAU constellations Ara, Centaurus, Circinus, Crux, Lupus, Musca, Scorpius, and Triangulum Australe:

- The tip of the "beak" is the star Alpha (α) Muscae,
- From Alpha (α) Muscae the line of stars runs to the birds' "eye", Alpha (α) Crucis (Acrux), then down the "neck" through Iota (ι) Crucis, HIP 70264A, Beta (β) Circini, Zeta (ζ) Lupi, Gamma (γ) Lupi, Chi (χ) Lupi, Rho (ρ) Scorpii, and Eta (η) Scorpii, arriving at the "tail" at Delta (δ) Scorpii, and
- From Delta (δ) Scorpii the lower "body" runs back through Sigma (σ) Scorpii, Alpha (α) Scorpii (Antares), Tau (τ) Scorpii, Epsilon (ε) Scorpii, Mu (μ) Scorpii, and Zeta (ζ) 1 and 2 Scorpii, Epsilon (ε) 1 Arae, Zeta (ζ) Arae, and Eta (η) Arae, arriving at the lower "neck" at Delta (δ) Trianguli Australis, and then up to the "beak" through Beta (β) Trianguli Australis, HIP 72131, m Centauri, Theta (θ) Muscae and Beta (β) Muscae, arriving back at Alpha (α) Muscae.

This asterism has three extensions:

- One "leg" takes off from Epsilon (ε) 1 Arae and runs through Alpha (α) Arae to HIP 89096, where lines run off to three stars to create a "webbed foot": HIP 87846, 87936, and 88726A,

- One “leg” takes off from Zeta (ζ) 1 Scorpii and runs through Eta (η) and Theta (θ) Scorpii to Iota (ι) 1 Scorpii, where lines run off to three stars to create a “webbed foot”:
    - One line goes to G Scorpii,
    - One line goes to HIP 86698, and
    - One line goes through Kappa (κ) Scorpii to Lambda (λ) Scorpii.
- The “tail” is two lines of stars starting at Delta (δ) Scorpii:
    - One line goes to Beta (β) 1 Scorpii (Acrab), and
    - One line runs through Omega (ω) 1 and 2 Scorpii to Nu (ν) Scorpii.

NOTE: The “head” of the ema overlaps their asterism Veado (see Deer above). When the French Capuchin Claude D’Abbeville first reported this in 1614, he called it the “white ostrich”. There are no white ostriches in this part of the world. It is the ema or greater rhea or emu (Rhea americana). They call the Milky Way the “Path of the Rhea”. Compare this to the Mocoví asterism “Mañic” (see Rhea, below).

This Tupinambá asterism “Yandoutin” is identical to the Tupi Guarani asterism above.

This Bororo asterism is the dark nebulosity in the Milky Way from the Coal Sack Nebula (see Coal Sack above) through the IAU constellation Sagittarius to the IAU constellation Scorpius.

Embers:

This KhoiKhoi asterism “tsaora” is the Magellanic Clouds (Alcock 2014). NOTE: Their name for the Milky Way is “tsaob” (“ember”, masculine singular) while this name is feminine and dual.

This Arabic asterism “al-Jamra” is the IAU constellation Ara as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

Embracer:

This Vedic nakshatra (lunar mansion) “Āślēṣā” (आश्लेषा), “Ashlesha”, “Aslesa”, or “Ashleshā” is in the IAU constellation Hydra, and is the stars Delta (δ), Epsilon (ε), Eta (η), Rho (ρ), and Sigma (σ) Hydrae. They also call it the “Clinging Star” or “Sarpa” (see Serpent, below). It is listed as “Āślēṣā” in the *Atharveda* (Leitz 2019, Ivanovic 2021). Ivankovic lists “Āsresā” as appearing in the *Taittirīya Samhitā* and “Āsresāh” as appearing in the *Taittirīya Brāhmana*. Leitz lists “Ashlesha” as appearing on the nakshatra list of the scholar Varahamihir but identifies this as “the star Hydrae”: Of course, Hydrae is a suffix that could be applied to any star in the constellation Hydra. The maharshi Parasara lists 6 stars: Zeta (ζ), Epsilon (ε), Delta (δ), Sigma (σ), Eta (η), and Rho (ρ) Hydrae, as do many other ancient Indian texts. Ivanković (2021) lists it as “Āślēṣā” and translates it as “intwining”. W. Brennand lists it as “Aslesha” in his *Hindu Astronomy* in 1896 and translates this as “a wheel”. Bhagwath (2019) also lists it as “Aslesha” and lists its symbol as a serpent. NOTE: Ashlesha is the name assigned to the star Epsilon (ε) Hydrae A in the IAU constellation Hydra by the IAU.

This Myanmar nekkhat (lunar mansion) “Athaleiktha” (အသလိေသ) is in the IAU constellation Hydra, and is the stars Delta (δ), Epsilon (ε), Eta (η), Rho (ρ), and Sigma (σ) Hydrae.

This Tibetan gyukar (lunar house) “Skag”, “Kak”, or “Wa” (Johnson-Groh 2013) is in the IAU constellation Hydra and is the star Alpha (α) Hydrae (Alphard).

Embracing of Aquarius:

There are two **telescopic** "Embracing of Aquarius" asterisms, one "female" and one "male". These names appear in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "NGC 7284 and NGC 7285 are two… galaxies in close physical contact".

- One, "Compléxus Aquárii" is the barred lenticular galaxy NGC 7284 (Arp 93) in the IAU constellation Aquarius. This was discovered in 1785 by William Herschel who listed it as "II 469". John Herschel listed it as h 3943 and later as GC 4792 in his *General Catalogue* of 1864.
- One, "Compléxa Aquárii" is the barred lenticular galaxy NGC 7285 (Arp 93) in the IAU constellation Aquarius. This was discovered by English astronomer William Lassell (1799 – 1880) and became GC 5078 in the General Catalogue of 1864.

Embracing of Eridanus:

This **telescopic** asterism "Peribállon Erídani" is the edge-on spiral galaxy NGC 1532 in the IAU constellation Eridanus. It was discovered by Scottish astronomer James Dunlop in October 1826. It is GC 823 in the *General Catalogue* of 1864. Interaction with the amorphous dwarf galaxy NGC 1531 has resulted in plumes of stars above the disk of NGC 1532. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): The name refers to their interaction. It is also known as Halley's Coronet (see below).

Embryo Nebula:

This **telescopic** asterism is the reflection nebula NGC 1333 (vdB 17, LBN 741, Ced16) in the IAU constellation Perseus. John Louis Emil Dreyer (1852 – 1926) records in the New General Catalogue that it was "recorded by Schonfeld from Mannheim, Germany": This would be Eduard Schönfeld (22 December 1828 – 1 May 1891). It is GC 710 in the *General Catalogue* of 1864. It is O'Meara 15 in astronomer Stephen James O'Meara's *Hidden Treasures Catalogue* (2007). It is also known as the Phantom Tiara.

Emerald Nebula:

This **telescopic** asterism is planetary nebula NGC 6572 in the IAU constellation Ophiuchus. It was discovered in 1825 by the German astronomer Friedrich Georg Wilhelm von Struve, who called it one of the "most curious objects in the heavens". John Herschel listed it as h 2000 and later as GC 4390 in the *General Catalogue* of 1864. It is also known as the Green Emerald Nebula, the Green Nebula, the Turquoise Orb, or the Planet Krypton Nebula. Steve Coe describes it as "as green as an Irishman's coat on St. Patrick's Day."

Emiw:

See Love, below.

Empanda:

This Latin asterism "Empanda", "Panda", or "Pantica" is the IAU constellation Virgo. Empanda was an aspect of the Roman Goddess Juno.

- Johann Bayer's *Uranometria* (1603) lists "Panda vel Pantica" as alternate names for Virgo.

- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Panda vel Pantica" as alternate names for Virgo.
- "Empanda", "Panda", and "Pantica" are listed in R. H. Allen's *Star Names* in 1899.

Emperator:

This Korean asterism is a rounded "W" shaped group of stars in the IAU constellations Andromeda, Perseus, and Triangulum. I'm assuming that the English name given on Stellarium is a misspelling of the word "imperator", a term for a commander in the Roman empire, so the Korean translation would be "Hwangje" (황제). The middle is the two stars 60 and Gamma (γ) Andromedae. From Gamma (γ) Andromedae one curve runs through Upsilon (υ), Omega (ω), and 51 Andromedae, ending at Phi (φ) Persei. The other curve starts at Gamma (γ) Andromedae and runs through Beta (β) and Gamma (γ) Trianguli, ending at 15 Trianguli.

Emperor:

This Chinese star from the Three Kingdoms to the Ming Dynasty "Di' is Beta (β) Ursae Minoris (Kochab) in the IAU constellation Ursa Minor (Didier 2009) and is part of their xing guan Northern Pole (see below).

This Chinese Chenzhuo xing guan "Di" is the star Beta (β) Ursae Minoris (Kochab) in the IAU constellation Ursa Minor. It is part of their xing guan "Northern Pole".

This Japanese star is Beta (β) Ursae Minoris (Kochab) in the IAU constellation Ursa Minor. This name comes from the ceiling art in the Takamatsu Zuka Kofun tomb.

This Romanian star "Împăratul" is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Ottescu 2009).

Emperor HeonWon:

This Korean asterism "Hwangjeheon-won" (황제헌원) in the IAU constellations Leo, Lynx, and Ursa Major is a long, winding line of stars with three prongs at one end. The line of stars starts with 31 Lyncis and runs through 35 Lyncis, 10 Ursae Majoris, HIP 44700, 38 Lyncis, Alpha (α) Lyncis, HIP 46088A, Kappa (κ) Leonis, Lambda (λ) Leonis, Epsilon (ε) Leonis, Mu (μ) Leonis, Zeta (ζ) Leonis, Gamma (γ) 1 Leonis, Eta (η) Leonis, and HIP 49623, ending at Alpha (α) Leonis (Regulus). From Alpha (α) Leonis three lines of stars run out:

- One line runs to Rho (ρ) Leonis,
- One line runs to 31 Leonis, and
- One line runs to Omicron (ο) Leonis.

Emperor Friend:

This Chinese star "Diyou" from the Three Kingdoms to the Ming Dynasty is Tau (τ) Geminorum in the IAU constellation Gemini and is part of their xing guan Five Feudal Kings (see above).

Emperor Teacher:

This Chinese star "Dishi" from the Three Kingdoms to the Ming Dynasty is Theta (θ) Geminorum: "Dishi" ("Emperor Teacher") in the IAU constellation Gemini and is part of their xing guan Five Feudal Kings (see below).

Emperor's Bodyguard:

This Chinese xing guan “Hǔbēn” (虎贲) is the star 72 Leo in the IAU constellation Leo. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Hǔbēn” is the star 72 Leonis in the IAU constellation Leo.

Emperor’s Daughter (with a Yoke):

This Romanian asterism “Fata de Împârat” (“emperor’s daughter”), “Fata de Împârat cu Cobilita” or “Fiica împăratului cu jug” (“emperor’s daughter with a yoke”) is a line of three stars in the IAU constellation Aquila (Ottescu 2009, Lite, Lodina, and Ignat 2018): Beta (β) Aquilae (Alshain), Alpha (α) Aquilae (Altair), and Gamma (γ) Aquilae (Tarazed). Altair is the girl and the stars to either side are the “Hooks of the Yoke” to which pails of water are hooked.

Emperor’s Seat:

This Chinese xing guan “Dìzuò” (帝座) is the star 64 Herculis in the IAU constellation Hercules. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Dìzuò” is the star Alpha (α) 1 & 2 Herculis (Rasalgethi) in the IAU constellation Hercules.

Empress:

There are two Chinese stars from the Three Kingdoms to the Ming Dynasty with the name “Nüzhu”:

- One is the star Alpha (α) Leonis (Regulus) in the IAU constellation Leo and is part of their asterism Xuanyuan (see below).
- One is the star Kappa (κ) Ursae Majoris in the IAU constellation Ursa Major and is part of their asterism Three Steps (see below).

Empress Consort:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty “Hou” is the star Epsilon (ε) Scorpii in the IAU constellation Scorpius and is part of their asterism Tail (see below).

Empress of Cetus:

This **telescopic** asterism “Imperátrix Céti” is the elliptical galaxy NGC 533 in the IAU constellation Cetus. It was discovered in 1785 by English astronomer William Herschel who listed it as “II 462”. It became GC 315 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010).

Emptiness:

This Chinese xiù (lunar mansion) “Xūxiù” (虛宿) which first appeared in the 3 Kingdoms to Ming Dynasty era is a line of two stars in the IAU constellation Equuleus: Alpha (α) Equulei (Kitalpha) and Beta (β) Equulei. It is identical to the Korean asterism Empty House (see below). In the *Han shu*, a history of the early Han dynasty that was finished in 111 C.E. this xiù “Xu” was associated to matters concerning the Qingzhou territory. This appears in the Tang Dynasty (618 – 907 C.E.) as “Xū” (虛) as listed by Kotyk (2017): Kotyk writes that it was compared to the Vedic nakshatra Dhanishtha (see Most Famous, below) which is in the nearby constellation Delphinus.

This Chinese Chenzhuo xing guan “Xūxiù” is a line of two stars in the IAU constellations Aquarius and Equuleus: Alpha (α) Equulei (Kitalpha) and Beta (β) Aquarii (Sadalsuud).

This Japanese sei shuku or lunar station “Tomite Boshi” is a line of two stars in the IAU constellation Aquarius: Beta (β) Aquarii (Sadalsuud) and 8 Aquarii.

Empty House:

This Korean lunar mansion “Heo” is a line of two stars in the IAU constellation Equuleus: Alpha (α) Equulei (Kitalpha) and Beta (β) Equulei. It is identical to the Chinese xing guan Emptiness (see above).

Empty Place:

The Arabic and Bedouin manzil “ʾAl-Baldah” (ٱلْبَلْدَة), “empty place” or “wasteland”, is situated in the IAU constellations Capricornus and Sagittarius and is the area of sky between the manzils Al-Naayem (see Ostriches, below) and Saad Al-Thabih (see Slaughter Prevailed, below). Compare this to their asterism “bálda” (see Town, below). It is called this because it contains no bright stars and thus appears “empty”:

- Dorn (1829) gives it the names “the Desert” and “the Fissure” which he attributes to “Ebn Mohammed Sheríf”. Dorn describes this as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya’ al-Qazwini (1203 – 1283).
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “al beldah” as a “city” (see Town below), but then comments “why so blank a region should be designated city the commentator sayeth not.”
- W. Brennand lists this as “Al-Belda” in his *Hindu Astronomy* in 1896.

This Yemeni manzil “Balda” is situated in the IAU constellations Capricornus and Sagittarius (Varisco 1995) and is the area of sky between the manzils Na’ā’im (see Ostriches, below) and Sa’d al-dhābih (see Slaughter Prevailed, below). This appears in the *Kitāb al-Tabṣira Fī’ilm al-Nujūm* of 13th century Rasulid ruler al-Malik al-Ashraf ‘Umar ibn Yūsuf (d 1296).

Empty Place of the Fox:

This Arabic asterism is a quadrilateral of stars in the IAU constellations Andromeda and Pegasus: Xi (ξ) Pegasi, HIP 2926, 28 Andromedae, and HIP 1215.

Empty Table:

This Latin asterism “Ignatabulum” is the IAU constellation Ara as listed in the *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638).

Emptying:

This Arabic star “al-pherg” or “Alpherg” is Eta (η) Piscium in the IAU constellation Pisces. The IAU approved the name Alpherg for Eta (η) Piscium A.

Emu:

This Tupi asterism “Nhandu” is the IAU constellation Gemini (De Freita Mourão 2009).

Emu in the Sky:

This Kamilaroi/Euahlayi asterism “Gawarrgay” or “Gowargay” is the spirit Emu in the Sky, stretched out between the IAU constellations Crux, Centaurus, Lupus, Norma, Scorpius, and Sagittarius (Parker 1905, Fuller et al 2014). In 1875 William Ridley reported that it is also called “gao-ergi” (“emu in the dark space under the tree”) the “tree” being the Southern Cross. This asterism is made up as follows:

- Its “head” is in the Coal Sack Nebula (see Coal Sack Nebula above) with the star BZ Crucis (HIP 110432) as its eye,
- Its “neck” is the dust lanes in the Milky Way between Alpha (α) Centauri (Rigil Centaurus) and Beta (β) Centauri (Hadar) and between the stars Eta (η) Lupi and Gamma (γ) 2 Normae, and
- From here the dust lanes expand to form the “body” stretching out in the dust lanes of the Milky Way (Warrambul) between Epsilon (ε) and Lambda (λ) Scorpii and tapering between 36 Ophiuchi and 3 Sagittarii, ending at Mu (μ) Sagittarii.

The Euahlayi and the Kamilaroi use this to mark seasons of the year as parts of it are not visible at various seasons as it rises and sets. They see it with legs in April and May when it is female and chasing the males. From June to August, they see it as male and sitting on its nest without legs (the males brood the chicks), and this is a signal to collect the eggs. In the evening in late August, it is vertical in the sky, and the head and body form two "eggs", meaning the eggs should not be collected. Later in the year, it appears on the horizon, so it is believed to be sitting in a waterhole, meaning the waterholes are full: The Kamilaroi call this “Ngurran.gali” and the Euahlayi “Dthnarwon.gulli” (“an emu sitting” or “emu in the water”). When it is below the horizon, then it is on Earth as the Black Emu, which is rarely seen.

This Wergaia asterism “Ngindyal” is identical to the Euahlayi asterism “Gawarrgay” (Clarke 2009).

This Wiradjuri asterism “Gugurmin” is identical to the Euahlayi asterism “Gawarrgay” (Grant and Rudder 2010).

This Marra and Moporr asterism “Torong” or “Kunkun Tuuromballank” is identical to the Euahlayi asterism, above (Hamacher 2011).

This Wardaman asterism “Gugurmin” is identical to the Euahlayi asterism, above (Cairns 1999).

Several other Australian peoples have this same asterism:

- The Guringai,
- The Pitjantjatjara,
- The Larrakia,
- The Meriam, Mabuiag and Kala Lagaw Ya, who call it Dhinawan, and
- The Kokatha and Ngalea, who call it “Kallaia” or “Kalia” (Leaman, Hamacher, and Carter 2016).

This Boorong and Wergaia asterism “Tchingal” (“the tall one” or “emu”) is the Coal Sack Nebula (Hamacher 2011) near the IAU constellation Crux as listed by Stanbridge (1857), Morieson (1999), and Hamacher and Frew (2010). Tchingal pursues Bunya, who takes refuge in a tree (see Ring Tailed Possum, below).

This Ngalea and Kokatha asterism “Wej Mor” is the Coal Sack Nebula (see Coal Sack Nebula above) near the IAU constellation Crux.

Many other Australian sky cultures recognize this Emu in the Sky asterism, although some only use the Coal Sack Nebula with no reference to a body. It is also known as the “Sky Bora” (see below).

This Karajá asterism “Bi-urá-et-kú” is the dark nebulosity stretched out between the IAU constellations Crux, Centaurus, Lupus, Norma, Scorpius, and Sagittarius with the stars Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) as its “eyes” (De Freita Mourão 2009).

Encampment:

This Chinese xiù (lunar mansion) “Shìxiù” (室宿) is a line of two stars in the IAU constellation Pegasus: Beta (β) Pegasi (Scheat) and Alpha (α) Pegasi (Markab- the determinative star). In the *Han shu*, a history of the early Han dynasty that was finished in 111 C.E. this xiù “Ying Shi” (營） was associated to matters concerning the Bingzhou territory. This appears in the Tang Dynasty as “Shì” (室) and is compared to the Vedic nakshatra Purva Bhadrapada (Kotyk 2017, see Early Blessed One, above). This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore. A network of three lines radiating out of the central star Beta (β) Pegasi form the xing guan Resting Palace (Vassal of Encampment): see below.

This Chinese Chenzhuo xing guan is made up of stars of the IAU constellation Pegasus. The central star is Beta (β) Pegasi (Scheat), from which four lines called “Resting Palace (Adjunct to Ying Shi” run out:

- One runs through Tau (τ) Pegasi to Upsilon (υ) Pegasi,
- One runs to 54 Pegasi,
- One runs through Mu (μ) Pegasi to Lambda (λ) Pegasi, and
- One runs through 43 Pegasi to Eta (η) Pegasi.

This Japanese sei shuku or lunar mansion “Hatsui Boshi” also known as “room” is a line of two stars in the IAU constellation Pegasus: Alpha (α) Pegasi (Markab) and Beta (β) Pegasi (Scheat).

End of a Horse’s Tail:

This Hebrew star “sof zenav ha-sus” is Zeta (ζ) Sagittarii in the IAU constellation Sagittarius as listed in the star list of Abraham Bar Hiyya in 1104 (Goldstein 1985). This star’s Arabic name is given as “aşl dhanab al-faras”.

End in the Paw:

This Persian star “Muekher al Dzira” is Beta (β) Geminorum in the IAU constellation Gemini.

This Latin star “Posterior Brachii” is Beta (β) Geminorum in the IAU constellation Gemini.

End of Luck of the Homes:

This Arabic star “ākhir al-akhbiya”, later latinized to “Achr al Achbiya” or “Sadaltager”, is Zeta (ζ) Aquarii in the IAU constellation Aquarius. It was listed in the *Calendarium* of Al Achsasi al Mouakket in 1650 as “Achr al Achbiya”.

This Latin star “Postrema Tabernaculorum” is Zeta (ζ) Aquarii in the IAU constellation Aquarius.

End Yoke:

“Endouedon” or “Eniuedon” (“end yoke” or “in-yoke”) is a proposed early Celtic name for the IAU constellation Libra from the Book of Ballymote through an etymological reconstitution (Boutet 2014).

Endless Water:

This Kamilaroi asterism “Maianba” is a dark patch in the Large Magellanic Cloud in the IAU constellation Dorado (Fuller et al Trudgett 2014). This is an opening through which the deceased pass to Bulimah (“heaven”).

Endurer:

There are two Arabic asterisms with the name “al-thābit” (الثابت):

- One, later latinized to “Tabit”, is the star Pi (π) 3 Orionis in the IAU constellation Orion. The IAU approved the name Tabit for Pi (π) 3 Orionis.
- One, later latinized to “Thabit”, is the star Upsilon (υ) Orionis in the IAU constellation Orion. The IAU is considering this name for Upsilon (υ) Orionis. American uranographer Elijah Burritt (1794 – 1838) listed “Thabit” as the name for Upsilon (υ) Orionis.

Engagement Ring:

See Ring, below.

Engraved Hourglass Nebula:

This **telescopic** asterism is planetary nebula MyCn 18 in the IAU constellation Musca. It was discovered by American astronomers Annie Jump Cannon (1863 – 1941) and Margaret W. Mayall (1902 – 1995). It is also known as the Etched Hourglass Nebula.

Enif:

See Nose below.

Enlil:

This Babylonian asterism “SHU.PA” (Anthony 1996), “Supa”, or “SHUPA-Enlil” from the MUL.APIN tablets (Bartel van der Waerden 1974) and listed as “su.pa” in the Babylonian star catalogue BM 78161 (5^{th} – 7^{th} century B.C.E.) and in the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period as “mul.su.pa” (Koch-Westenholz 1995) is made up of stars of the IAU constellation Boötes and represents their God Enlil. The name translates as “bright”. Enlil or Elil is a Mesopotamian God associated with wind, air, earth, and storms. This appears in later Seleucid sky lore.

- The “body” is a quadrilateral of the stars Epsilon (ε) Boötis, Delta (δ) Boötis, Gamma (γ) Boötis, and Rho (ρ) Boötis.
- From the “hips” two lines form “legs”:
    - One from Epsilon (ε) Boötis to Zeta (ζ) Boötis, and Beta (β) Boötis (Nekkar), and
    - One from Rho (ρ) Boötis to Eta (η) Boötis.
- The “head” is a triangle of the stars HIP 73634, 72582, and 73555, and
- The star Alpha (α) Boötis (Arcturus) is between the “legs” and is called “Abundant One” (see above).

It appears in later Seleucid sky lore.

This Babylonian and Sumerian ziqpu “su-pa” from the BM 78161 tablet (Liechty 1988, Leitz2019) is Alpha (α) Boötis (Arcturus) and the first ziqpu on that list.

Ensnarer of Leo:

This **telescopic** asterism "Laqueátor Leónis" is the spiral galaxy NGC 3808 (Arp 87) in the IAU constellation Leo. It was discovered in 1785 by William Herschel who listed it as "III 338". It became GC 2497 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "NGC 3808 is connected with its neighbour NGC 3808A by a long thread, wound around the latter". A Laqueátor is a Roman gladiator who ensnares his opponent with a rope.

Entangled of Caelum:

This **telescopic** asterism "Confúsus Caéli" is the barred spiral galaxy NGC 1679 in the IAU constellation Caelum. It was discovered in 1835 by English astronomer John Herschel who listed it as 2666 in his catalogue and later as GC 916 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Entangled of Pisces:

This **telescopic** asterism "Implicáta Píscium" is the interacting galaxies NGC 520 (Arp 157) in the IAU constellation Pisces. It was discovered in 1784 by William Herschel who listed it as "III 253". It became GC 303 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010). It is also known as the Whirligig (see below).

Enter Arrow:

This **telescopic** asterism is in the IAU constellation Sextans and was listed by American astronomer John A. Chiravalle. Jeffrey Corder lists it as Corder 2076. Size 45'. Corder describes it as an "elongated group that includes 12 stars, magnitudes 6 to 10. The stars form a vague, much elongated "X" shape, oriented east/west."

Entrails:

This Carib asterism is the Pleiades cluster in the IAU constellation Taurus (Magaña, and Jara, 1982). "Epietembo" the one-legged hunter (the belt of Orion) left these entrails in the sky.

Entry of Stars:

This Japanese asterism "Hoshi no Iri" is the belt and sword of Orion in the IAU constellation Orion (Renshaw and Ihara 2001).

Enveloping of Draco:

This **telescopic** asterism "Circumfúsus Dracónis" is the spiral galaxy NGC 5907 in the IAU constellation Draco. It was discovered in 1788 by English astronomer William Herschel who listed it as "II 759". John Herschel listed it as h 1917 and it became GC 4087 in his *General Catalogue* of 1864 It is viewed edge-on with a spiraling tidal stream of stars. NOTE: Lord Rosse thought he was looking at two objects separated by the dust lane, and created the name NGC 5907, but this was later discovered not to be a separate object. It is GC 4086 in the *General Catalogue* of 1864. NGC 5906 (GC 4086) now refers to the fainter part of the galaxy west of the dust lane, which was recorded by George Johnstone Stoney in 1850. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to "large arcing structures… surrounding this galaxy". . It is

also known as the Splinter Galaxy (see below), the Cat Scratch (see above) and the Knife Edge Galaxy (see below).

Envious Farmers:

This Latin asterism "Invidum Agricolis" is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major as listed by Horace (65 – 8 B.C.E.).

Eoae Atlantides:

This Latin asterism "Eoae Atlantides" is the Pleiades cluster in the IAU constellation Taurus as listed by 1st century B.C.E. Roman poet Publius Vergilius Maro (Vergil) and by R. H. Allen in his *Star Names* in 1899. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Athlantides". Atlantides is another name for the Hesperides and is related to their father, the Titan Atlas. Compare this to Seven Atlantic Sisters, below. Allen notes that the *Harleian Manuscript* lists "Pliades et Athlantides".

Eoophoros:

This Greek name for the star Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes is listed in John Hill's *Urania* in 1754

Equilateral Triangle:

There are two American asterism "Equilateral Triangle" asterisms:

- One is made up of the stars of the IAU constellations Auriga: Alpha (α) Aurigae (Capella). Beta (β) Aurigae (Menkalinan) and Delta (δ) Aurigae. *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) describe these three stars as "an approach to an equilateral triangle".
- One is made up of stars of Boötes and Corona Borealis: Alpha (α) Coronae Borealis (Alphecca), Alpha (α) Boötis (Arcturus) and Delta (δ) Boötis. *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) describes it as "a nearly equilateral triangle".

Equality:

This Korean asterism "Pyeongdeung" (평등) is a line of two stars in the IAU constellation Hydra: Gamma (γ) and Psi (ψ) Hydrae.

Equality and Fair:

This arrow shaped Korean asterism "Pyeongdeung-gwa Gongjeong" (평등과 공정) is stars in the IAU constellation Leo Minor: 10, 19, and 21 Leonis Minoris, and HIP 47029.

Equinoctial:

This Latin asterism "Aequinoctialis" is the IAU constellation Aries, which once marked the spring equinox. Johann Bayer's *Uranometria* (1603) lists "Aequinoctialis".

Equuleus:

None of the stars of Equuleus are brighter than 4th magnitude and the stars of this constellation only show up in 42 of the asterisms in this handbook.

This IAU constellation (IAU abbreviation Equ), “Little Horse” or “Foal”, was possibly created by Hipparchus (190 – 120 B.C.E.) and included by Ptolemy (c.100 – c.170) in his *Almagest* as “Ἵππου Προτομή” (“Íppou Protomí”)- see “Bust of a Horse” above. 1st century Greek astronomer Geminos of Rhodes mentioned that Hipparchus had created it, but Hipparchus does not mention in his Commentary, nor did Hyginus, 1st century Roman poet Marcus Manilius, or Vitruvius a century later. The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) depicts this constellation as the front half of a horse. Various authors and versions of the *Almagest* all describe it as a bust and not a complete horse. Three different Greek myths refer to it, the principal one describing it as the offspring or brother of the winged horse Pegasus. Variations include “Equulus”, “Eculeus” and “Equus Minor”.

This constellation appears in the Leiden *Aratea* (816) as a group of four stars in front of Pegasus.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi’s son depicts a left side and right side view of Equuleus on one page, depicting a horse’s head.

The 11th century *De signis caeli (“of the signs of heaven*”) lists it as “Equus, bellorum fons” (“the horse, the source of wars”).

An Islamic celestial globe dated 1275-76 in the British Museum depicts Equuleus as the bust of a horse facing to our right.

Shams al-Dīn Muhammad B. Mu’ayyad al-‘Urdī’s inlaid celestial globe (1288) depicts Equuleus as the bust of a horse facing to our right.

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Equuleus as the bust of a horse facing to our left.

The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.168v-169r depicts “Equiculus” as the bust of a horse facing to our right.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.71v-72r depicts Equuleus as the bust of a horse facing to our right. It is not labelled and poorly drawn.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Equuleus as the front of a horse emerging from behind Pegasus. It is not labelled.

The *Germanicus Aratea* with scholia Strozziana (c. 1475) omits Equuleus.

The Constance Celestial Globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts “Equus Prior” as the head of a horse.

The early 16th century Real Academia de Historia, manuscript D-97, f.101v depicts Equuleus as the bust of a horse facing to our right. It is not labelled. The Real Academia de Historia manuscript D-97, f.104v – 105r depicts it in the same fashion, except facing to our left.

The “Nuremburg Maps” *(Die Karte des Nördlichen Sternenhimmels* inv.-Nr. Hz 5576), a pair of celestial hemispheres made in 1503 by Conrad Heinfogel, labels this constellation “Equus Prior” and depicts it as the bust of a horse facing to our right. It is positioned in front of the head of Pegasus.

German uranographers Albrecht Dürer, Conrad Heinvogel and Johann Stabius depicted this constellation on their 1515 map as the bust of a horse facing to our right and label it “Equiculs”.

The *imagines coeli septentrionales cum duodecint imaginibus zodiaci* (“images of the northern sky with twelve images of the zodiac”), commonly known as the *Northern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius label this constellation “EQVICVLUS” and depicts it as the bust of a horse flying to our right while emerging from a cloud.

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts “Equus Minor” as the bust of a horse facing to our right.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts “EQVICULVS” as the bust of a horse in front of Pegasus.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts “EQVICVLVS” in the same manner as Dürer et al.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts “Equus Minor” as the bust of a horse ahead of Pegasus.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as the “Horse Segment”.

The Northern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Equuleus as the bust of a horse facing to our right, partially behind the head of Pegasus.

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts “Equiculus” as the head of a horse emerging from a cloud.

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicted “Equi Sectio siue Equiculus” as the profile of a horse head facing to our right.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts this constellation as the head of a horse partially obscured by the head of Pegasus. It is not labelled.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius does not depict Equuleus.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) does not label Equuleus, but depicts it as the head of a horse emerging from behind the head of Pegasus, who is galloping to our right.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) depicts Equuleus as the head of a horse: This is slightly overlapped by the head of Pegasus.

Danish astronomer Tycho Brahe's *Astronomiae Instauratae Progymnasmata* (1602) lists this constellation as "Equuleus" and as "Equi Sectio" ("equine section").

German uranographer Johann Bayer (1572 – 1603) lists "Equiais" and depicts this as the bust of a horse emerging from clouds in the charts in his *Uranometria* in 1603. In the text of the Uranometria Bayer lists these names for Equuleus: "Equus Minor, Equus Prior, Equuleus, Sectio Equi".

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists this constellation as "Equus Minor" and depicts it as the head of a horse behind the head of Pegasus and gives the subtitles "Equuleus" and "Sectio Equi".

Equuleus is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and depicted as the head of a horse facing us ahead of Pegasus: It is labelled with the abbreviated title "Equuls," on one chart and with the full name "Equuleus" on another.

Giovanni Paolo Gallucci's *Theatrum Mundi, et Temporis* (1614) labels this constellation "Equiculus o Equisectio" and depicts this as the head of a horse facing to our right.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the names "Equuleus" and "Equi Sectio" for this constellation.

The *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) depicts "Equus Minor" as the head of a horse in front of Pegasus.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts "Equuleus" as the bust of a horse facing to our right, partially concealed behind the head of Pegasus.

In his *A Learned Treatise on Globes* in 1659, Robert Hues notes that Hyginus does not mention it, referring to it as "the little horse".

The huge *Gottorf Globe* (c1650) made for the Duke of Holstein, Frederick III, one of the world's first planetariums, depicts Equuleus as the bust of a horse facing to our left and emerging from a cloud.

Robert Hues lists "Equiculus" in his *A Learned Treatise of Globes* in 1659.

Equuleus is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as the head of a horse.

Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) depicts Equuleus as the head of a horse emerging from a cloud: The head of Pegasus partially overlaps it.

The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678 by English uranographer James Clerk depicts "Equuleus" as the head of a horse.

English uranographer John Seller's *A coelestiall planisphere* (1678) depicts depicts "Equuleus" as the head of a horse.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts "Equuleus" as a horse's head emerging from behind the head of Pegasus.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, depicts "Equuleus" as the front part of a horse's head, from about just in front of the ears forward.

Equuleus is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729: This is depicted as the head of a horse just ahead of the constellation Pegasus.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts Equuleus as the head of a horse ahead of Pegasus.

The *Atlas Coelestis* of German astronomer Johann Gabriel Doppelmayr (1742) depicts "Equuleus" as a horse's head next to the head of Pegasus: It has the subtitle "Equi Sectio".

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) depicts this constellation as the bust of a horse behind the head of Pegasus but doesn't label it.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Equuleus as the bust of a horse facing to our left which is emerging from a cloud.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) depicts "Le Petit Cheval" as the head of a horse emerging from a cloud.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts "Equiculus" as the head of a horse ahead of Pegasus.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "le petit Cheval" ("the little horse") and depicts it as the head of a horse just ahead of the constellation Pegasus, as does the 1778 edition.

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "das kleine Pferd" in the text and "Fullen" on the charts, where it is depicted as the head of a horse behind Pegasus..

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts Equuleus as the head of a horse behind the head of Pegasus but does not label it.

English astronomer J. Ellard Gore's translation *Astronomie Populaire* by French astronomer Camille Flammarion (1842 – 1925) lists "Equus".

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as "Fūllen" and depicts it as the head of a horse.

American uranographer William Croswell (1760 – 1834) depicts "Equuleus the Colt" on his *Mercator Map of the Starry Heavens* in 1810 as the head of a horse.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Equus in his *Celestial Atlas* and his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822): This is depicted as the head of a horse just ahead of the head of the constellation Pegasus.

"Equuleus" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as the head of a horse just ahead of Pegasus.

English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 also lists "Equiculus" as well as "Equus Minor", "little horse", and "Praesegmen" ("fragment").

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depict "Equuleus" as the head of a horse ahead of Pegasus.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts "Equuleus" as the head of a horse behind the head of Pegasus.

"Equuleus" is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on Jamieson's *Celestial Atlas*.

"Equuleus" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It is depicted as the head of a horse before the head of Pegasus.

English astronomer Richard Anthony Proctor proposed shortening the name to "Equus" ("horse") in 1873, as he believed that shortening the name would make more room on astronomical charts. However Proctor's *A New Star Atlas* (1887) lists "Equuleus, The Little Horse" as an official constellation "recognized in the catalogue of the British Association".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Equuleus" in his *Star Atlas* (1893) and describes it as "The Foal".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Equuleus" and describes it as the "Little Horse".

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Equuleus: The Colt".

French astronomers call it "Petit Cheval".

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) redesigned the lines of Equuleus in his book *The Stars - A New Way to See Them* (1952). The standard IAU version is a quadrilateral of the stars Alpha (α) Equulei (Kitalpha), 6 Equulei, Delta (δ) Equulei, and Beta (β) Equulei. Rey reduces this to a single bent line connecting Kitalpha, Delta (δ) Equulei, and Gamma (γ) Equulei. *Sky and Telescope Magazine*, founded in 1941, depicts Equuleus in their magazine and publications in the same manner as Reyersbach.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Equuleus in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* as a five-sided figure made up of the stars Alpha (α) Equulei (Kitalpha), Beta (β) Equulei, Delta (δ) Equulei, Gamma (γ) Equulei, and Epsilon (ε) Equulei.

Erected of Pegasus:

This **telescopic** asterism "Eréctus Pégasi" is the peculiar barred spiral galaxy NGC 7549 (Arp 99) in the IAU constellation Pegasus. This was discovered by Irish astronomer Bindon Stoney in 1850. It became GC 4912 and GC 6151 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "in the conventional orientation of the sky (with north upwards) the longest arm of this galaxy is raised straight upwards, a striking pose amidst its more modest looking neighbours."

Erichthonius:

This Latin asterism “Erichthonius” or “Erechtheus” is the IAU constellation Auriga as described by the Roman general Germanicus (15 B.C.E. – 19 C.E.). Erichthonius was the son of the Roman gods Vulcan and Minerva:

- The *De ordine ac positione stellarum in signis* (“*On the order and position of the stars in the signs*”) in the Salzburg compilation (810 – 818) of Abbot Arno of Salzburg (785 – 821) lists “Erichthonius”.
- The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) lists this constellation as “Erichthonius”.
- The *imagines coeli septentrionales cum duodecint imaginibus zodiaci* (“images of the northern sky with twelve images of the zodiac”), commonly known as the *Northern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius (Dekker & Lippincott, 1999) lists Erichthonius: He is depicted as a clean-shaven nude male, his back to us, kneeling on his left knee, looking over his left shoulder, with a goat on his left shoulder and carrying reins and harness in his right hand.
- A celestial globe (1522) of German polymath Johann Schöner (1477 – 1547) labels this “Erichthonius”.
- The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts Erichthonius in the same manner as Dürer et al.
- The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) labels this constellation “Erichthonius”.
- In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicted “Agitator sive Auriga vel Erichthonius” (“Agitator or Auriga or Erichthonius”) as a nude bearded male, running to our right, with a goat perched on his left shoulder.
- Italian astronomer Giovanni Battista Riccioli (1598 – 1671), French astronomer Ismaël Boulliau (Ismaël Bullialdus- 1605 – 1694), and Christen Sørensen Longomontanus (1562 – 1647) listed the name “Erichtonius”.
- Jesuit German mathematician Christopher Clavius (1538 – 1612) lists this constellation as “Auriga, qui et Heniochus, sev Erichtonius” in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).
- Johann Bayer’s *Uranometria* (1603) lists “Erichtheus“ and “Erichthonius“.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Erichthonius” and “Erichthom” as alternate names for Auriga.
- “Erichthonius” and “Eriththom” are listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as a alternative names for Auriga.
- Giovanni Paolo Gallucci’s *Theatrum Mundi, et Temporis* (1614) labels this constellation “Aeritonio” (“Erichthonius”), “Agitator”, “Auriga”, and “Heniochus” and depicts him as a nude bearded male viewed from behind kneeling on his left knee with a got sitting on his left shoulder.
- The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the names “Auriga”, “Heniochus”, and “Ericthonius” for this constellation.
- This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as “Auriga vel Erichthonius”. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists Erichthonius.

- Erichthonius is listed in Robert Hues' *A Learned Treatise of Globes* in 1659 and in John Hill's *Urania* in 1754.

Eridanus:

The brightest star of Eridanus, Alpha (α) Eridani (Achernar), is the 9th brightest star in the sky and its stars appear in 204 of the asterisms listed in this handbook.

This IAU constellation (IAU abbreviation Eri) was listed among Ptolemy's 48 original constellations in the *Almagest* (2nd century) as "ὁ Ποταμός" ("o Potamós" or the river" – see River, below). Greek mythology has this being the path of Phaethon's chariot. The Romans called it Eridanus, which is a Greek name for the Po River "Ἠριδανός" or "Eridanós" and is also related to that myth of Phaethon's chariot, appearing in the works of Aratus (315 – 240 B.C.E) and Eratosthenes (d.194 B.C.E.). The astrologers Teucrus of Babylon (c. 1st century) and Vettius Valens (120 – c.175) listed Eridanus among the paranatellonta of Aquarius, describing the water running from Aquarius' jug as part of this constellation on the Sphaera Graecanica. The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) depicts this constellation as a stream of water running from the foot of Orion. The Mainz Globe from the eastern end of the Roman empire (c. 150 – 220 C.E.) depicts Eridanus as a curving double line containing a line of circles representing stars.

This constellation is mentioned in 7th century B.C.E. poet Hesiod's *Theogonia*.

This constellation is depicted in editions of the 8th century *Revised Aratus Latinus*:

- All editions show him as a river God,
- Two editions (St Gall 250, St Gall 902) have this god making a benediction gesture with his right hand,
- In the Dresden DC 183, Paris BN 12597 and Prague IX C 6 editions he is shown as a wild haired figure up to his waist in water,
- In the Vat Reg lat 1324 edition he is a clothed, seated river God,
- In the Munich 560 edition he is nude,
- In the Paris BN n.a. 1614 edition he is holding a spear,
- In the Cologne 83 II edition he is a young man sitting resting his right elbow on an upturned urn pouring water beside a river.

Eridanus appears in the Leiden *Aratea* (816) as a reclining river God, with his left elbow resting on an overturned vase.

The 9th century Berlin 130, Madrid 3307, Monza F.9/176 and Vat lat 645 manuscripts of the *De ordine ac positione stellarum in signis* depict a reclining river God leaning his right elbow on an urn and holding a reed in his left hand.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi's son depicts Eridanus in right and left profile as a winding stream.

The Oxford Laud 644, Padua 27 and Venice VIII 22 manuscripts of the 11th century *De signis caeli ("of the signs of heaven*") depict Eridanus as a bearded river God in classical garb, seated beside a flowing urn and holding a frond in his right hand.

The oldest known Islamic celestial glove, made between 1080 – 1085 by Ibrahim ibn Sa'id al-Wazzan and his son Mohammad depicts Eridanus as a river flowing from the feet of Orion.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Eridanus as a winding stream flowing from the right foot of Orion.

Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) depicts Eridanus as a river.

A Hebrew translation of the Almagest from Catalonia (c1361), Philadelphia (USA), University of Pennsylvania Libraries, Lawrence Schoenberg Collection, ms. ljs057 (old Ms.Sassoon 823), ff.56v, 57r, depicts Eridanus as a stream running from the right foot of Orion.

The BAV *Astronomia* text, Vatican. lat. 3110 - Florence, ca. 1370; owned by Coluccio Salutati (1331-406) and the Madrid texts (Bibl. Nacional, Matritensis 1983, fol. 116v and Vatican, BAV, Vat. lat. 3121, fol. 12r., Bibl. Nacional, Matritensis 1983, fol. 115v and Vatican, BAV, Vat. lat. 3121, fol. 10v.) depict a horned Eridanus Mc Gurk, Patrick (1966).

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Eridanus as a winding stream.

The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.170v-171r depicts Eridanus as a river flowing from the feet of Orion.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.72v-73r depicts Eridanus as a stream running from the feet of Orion. It is poorly drawn and not labelled.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Eridanus as a zig zagging line running down from the left foot of Orion. It is not labelled.

The vault of the Old Sacristy of the Basilica di S. Lorenzo in Firenze, Italy (1442) depicts Eridanus as a curving stream running from the left foot of Orion.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Eridanus as a stream in which a nude river God is reclining on his left side

The *Germanicus Aratea* (Siciliensis, c. 1469) depicts Eridanus as a bearded nude male with spiky hair walking to our right. His left hand is holding an overturned amphora from which water is pouring and he is gesturing to one side with his right hand.

De Astronomica ("the astronomy"), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This labels the constellation both "Eridanus" and "Eridanus flume" and depicts it as a stream with a nude male laying on his side on one elbow in the water.

The *Germanicus Aratea* with scholia Strozziana (c. 1475) depicts Eridanus as a horned nude male walking to the right. His upper body is turned towards us and he is pointing towards his left ear with his left hand and gesturing to the side with his right hand. Upside down in the air beside him is an overturned urn pouring water.

Eridanus appears on the *Imagines constellationum Australium* chart of Romanian theologian Johannes Honter (1498 – 1549) as a stream flowing from the feet of Orion.

The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts "Fluvius gyon sive Nilus" as a river flowing from the feet of Orion.

The early 16th century Real Academia de Historia, manuscript D-97, f.104v – 105r depicts Eridanus as a winding stream running from the left foot of Orion. It is not labelled.

The "Nuremburg Maps", a pair of celestial hemispheres made in 1503 by Conrad Heinfogel depicts Eridanus as a stream running from the feet of Orion.

The *Southern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius depicts "Eridanus" as a stream running from the feet of Orion.

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts "Eridanus Fluvius" as a stream running from the left foot of Orion.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts "ERIDANVS" as a river flowing from the feet of Orion.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts Eridanus in the same manner as Dürer et al.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts "Eridanus" as a river flowing from the feet of Orion. A nude woman is depicted swimming at the end of the river.

Dele Stelle Fisse ("Of the Fixed Stars") by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as "Del fiume Eridano, o ver Nilo". The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as the "River".

The Southern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Eridanus as a stream flowing from the feet of Orion with a nude female swimming downstream.

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists this constellation as "Fluvius, sive Eridanus, vel Nilus" ("the river, either Eridanus or the Nile") in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts "Eridanus" as a river running from the feet of Orion.

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicts "Fluuius sieu eridanus" as a winding river.

German astronomer and uranographer Johann Bayer (1572-1625) depicts Eridanus as a stream with grasses and rocks along each bank. Bayer lists the following names for this constellation: “Eridanus, Flumen, Fluvuius, Oceanus, Gyon vel Nilus, Padus, Nar, Nahar, Acharnar, Guad”.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts “la fleuve Eridan” as a river flowing from the feet of Orion.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts Eridanus as a stream flowing from the left hip of Orion but does not label it.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts “Flumen” as a river flowing from Orion’s left foot.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) depicts “Eridanus” as a bearded male reclining in a stream and is leaning against a vessel on its side from which the stream of water is emerging. He is facing to our left, gesturing with his right hand and cradling a bullrush in his left arm.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) lists “Eridanus fluvius” and depicts it as a stream flowing from the feet of Orion.

Eridanus is listed in Danish astronomer Tycho Brahe’s *Astronomiae Instauratae Progymnasmata* (1602).

Dutch navigator Frederick de Houtman’s catalogue of fixed stars (1603) lists this constellation as “Het Zuyder eyude van den Nyli”, which is a reference to the Nile River.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Fluvius Eridanus”.

“Eridanus” is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and depicted as a stream running from the feet of Orion. On one of Bartsch’s charts it is labelled with the abbreviated “Eridan”.

Edward Sherburne also lists the Tuscan name “Botignon”, the Ligurian name “Botigum” and “Bodintum” in his Sphere of Marcus Manilius in 1675 and attributes these names to German astronomer Johann Bayer (1572-1625) and Julius Schiller (1580 - 1627).

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the name “Eridanus” for this constellation.

“Eridanus” is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a stream running from the feet of Orion.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts “Fluvius Eridanus Alnahar” as a river flowing from the feet of Orion.

This constellation is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as “Eridanus” on some charts, “Fluvius Eridanus” on others, and also as “Eridanus Flu.” On others. It is depicted as a blue stream.

Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) labels this constellation "Fluvius Eridanus" and depicts it as a stream running from behind Orion.

English uranographer John Seller's *A coelestiall planisphere* (1678) depicts "Eridanus" as a river starting at Orion's waist.

Eridanus is listed by English astronomer Edmond Halley in his *Catalogus Stellarum Australium* in 1679 and depicted on his southern chart of 1678 as a sea monster with gaping jaws.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, labels Eridanus "Aqua" on one chart but "Eridanus" on another and depicts it as a river flowing from the feet of Orion.

Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) labels this "Eridanus" with the subtitle "Nylus Orionis".

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, depicts "Eridanus" as a stream running from the feet of Orion.

Eridanus is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729: It is indicated on his charts as a curving set of parallel lines.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts this constellation as a stream with grassy banks: On one chart it is labelled "Eridanus" and on another "Eridanus Fluvius".

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) labels this constellation "Fluvius Eridanus" and depicts it as a river running from the feet of Orion.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Eridanus as a stream with grassy banks flowing from the feet of Orion.

French astronomer Abbé Nicolas Louis de Lacaille's *Planisphère des Étoiles Ausralea* (1756) depicts "L'Eridan" as a river running from the feet of Orion.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) depicts "Le Fleuve Eridan" as a river flowing from Orion's feet.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts "Eridanus" as a river flowing from the feet of Orion.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "l'Eridan" as a stream with grassy banks on the northern hemisphere charts, but on the southern hemisphere charts it is labeled "Fleuve Eridan".

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts "Eridanus Fluvius" as a river flowing from the feet of Orion.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts “Eridanus” as a river flowing from the feet of Orion.

Eridanus is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801) as “Eridan” and depicted as a stream flowing from the feet of Orion.

German astronomer Johann Elert Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as “Fluss Eridanus”. Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists this constellation as “Eridanus – Fluss“.

American uranographer William Croswell (1760 – 1834) depicts “Eridanus the River” on his *Mercator Map of the Starry Heavens* in 1810 as a river running from the feet of Orion.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists this constellation as “Fluvius Eridanus” (“the river Eridanus”) in his *Celestial Atlas* in 1822.

“Eridanus” is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as a stream running from the feet of Orion.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts “Eridanus” as a river running from the feet of Orion.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts “Eridanus Fluvius” as a river flowing from Orion’s feet.

“Eridanus” is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It is depicted as a stream running from the feet of Orion.

English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists “Eridanus, The River Eridanus” as an official constellation “recognized in the catalogue of the British Association”.

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as “Eridanus, the River Po”.

German astronomer Hermann Joseph Klein (1844 – 1914) lists “Eridanus” in his *Star Atlas* (1893) and describes it as “The River Eridanus”.

American astronomer Winslow Upton’s *Star Atlas* (1896) lists this constellation as “Eridanus” and describes it as the “River Po”.

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists “Eridanus” as the “flowing constellation of the classic River Po.”

This constellation is known to the French as “Eridan”, the Italians as “Eridano” and other variations include “Erydanus”. It has been associated with the Po River, the Biga Stream in Turkey (Alexander the Great’s Granicus), the Rhine (Rhenus), the Rhone (Rhodanus), the Nile (Nilus) by Edward Sherburne in his *Sphere of Marcus Manilius* in 1675, the Radunia River (in Poland), and the Euphrates River.

The standard IAU charts show this constellation as a long winding line of these stars running from Phoenix to Orion: Alpha (α) Eridani (Achernar), Chi (χ) Eridani, Phi (ϕ) Eridani, Kappa (κ) Eridani, s Eridani, Iota (ι) Eridani, Theta (θ) 1 and 2 Eridani, e Eridani, y Eridani, f Eridani, g Eridani, Upsilon (υ) 3 and 4 Eridani, Upsilon (υ) 1 and 2 Eridani, Tau (τ) 8, 6, 5, 4, 3 2, and 1 Eridani, Eta (η) Eridani, Zeta (ζ)

Eridani, Epsilon (ε) Eridani, Delta (δ) Eridani, Nu (ν) Eridani, Mu (μ) Eridani, Omega (ω) Eridani, Beta (β) Eridani (Cursa), Lambda (λ) Eridani, and 53 Eridani.

Eridanus Loop:

One is HII region SH 2-245 (LBN 839) in the IAU constellation Taurus. It is also known as the Fishhook.

Erigonaeus:

This star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major as listed in some Latin manuscripts according to R. H. Allen's *Star Names* in 1899. This relates to the myth of Erigone's dog Maera, who was turned into this star. Erigone was the daughter of Icarius. Variations include Erigonius. Compare this to Icarus, below and Erigone, below.

Erigone:

This Greek asterism is the IAU constellation Virgo. Erigone appears in two Greek myths. In one she is the daughter of Icarius of Athens, in the other she is the daughter of Aegisthus and Clytemnestra, rulers of Mycenae. Compare this to Erigonaeus, above:

- Johann Bayer's *Uranometria* (1603) lists "Erigone" as a name for this constellation as well as an alternate name for Alpha (α) Virginis (Spica).
- "Erigone" is listed as a name for Virgo on the *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638).
- "Erigone" is listed as a name for Virgo in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
- "Erigone" is listed in John Hill's *Urania* in 1754.
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Die Junggrau" and "der Erigone".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists Erigone as a name for this constellation.
- "Erigone" is listed in R. H. Allen's *Star Names* in 1899.

Erotus:

This Greek asterism "Erotus" is the IAU constellation Sagittarius as listed by Hesiod and Mosenkis in his *Mycenaean Oecumene* (date n/k). The Erotes were a group of winged Gods associated with love and sexual desire and are depicted as shooting arrows of desire, becoming the Roman Cupid.

Erragal:

This Chaldean asterism "mul ir.ra.gal" in the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period (Koch-Westenholz 1995) is the two stars Eta (η) and Theta (θ) Lyrae from the IAU constellation Lyra. Compare this to the Babylonian asterism Nin-Sar u Erragal, below.

Errai:

See Shepherd, below.

Errand Man:

This Skidi (Pawnee) asterism is the central star in the IAU constellation Corona Borealis (Kemp et al 2002). and is part of their asterism Council of Chiefs (see above). The central star, Theta (θ) Coronae Borealis is seen as an errand man or a servant cooking (see below).

Erumum-pu:

This Ainu Nociw ("asterism") is the IAU constellation Cancer.

Erymanthian:

This Latin asterism "Erymanthis" is the IAU constellation Ursa Major and either refers to the Erymanthian boar slain by Hercules or the Erymanthian bear. Johann Bayer's *Uranometria* (1603) lists "Erymathis" as a name for Ursa Major.

Essertoo String:

See "S" below.

Establishment:

This Chinese xing guan "Jiàn" (建) is a curving line of stars in the IAU constellation Sagittarius: Upsilon (υ), Rho (ρ) 1, 43, 41, Omicron (ο), and Xi (ξ) 2 Sagittarii. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

Esus:

This Gaulish star is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra (Boutet 2001).

E.T.:

This **telescopic** asterism, also known as the Owl Cluster, Kachina Doll Cluster, Massed Jewels, and the Dragonfly Cluster, is the open cluster NGC 457 (Caldwell 13) in the IAU constellation Cassiopeia. It was discovered by William Herschel in 1787 who labeled it "VII 42" in his catalogue. It is GC 256 in the General Catalogue of 1864. Two bright stars (HIP 6229 & Phi (ϕ) Cassiopeiae) are the eyes. Astronomers who were fans of the 1982 Steven Spielberg movie *E.T. the Extra-Terrestrial* named it for the main character. American astronomy author Alan M. MacRobert referred to it as "E.T." This asterism appears in *Pattern Asterisms* by American astronomer John A. Chiravalle.

Eta:

This **telescopic** asterism is in the IAU constellation Cassiopeia and was listed as Corder 184 on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Corder attributes it to John Raymond, who called it "Eta". It resembles the Greek letter Eta (η) and includes the stars Eta (η) 27, 28, and 30 Ceti and HIP 5169.

Eta Argus:

This star is Eta (η) Carinae in the IAU constellation Carina. It was called this as it originally belonged to the now obsolete constellation Argo's Ship (see above). Scottish astronomer Robert T.A. Innes (1861 – 1933), writing in 1914, also called it "Eta Argus" and "Eta Argo".

Etched Hourglass Nebula:

See Engraved Hourglass Nebula, above.

Eternal:

This Hawaiian star “Noho-loa” ("Eternal"), is Polaris (Alpha (α) Ursae Minoris) in the IAU constellation Ursa Minor. It is also known as “Hokupa’a” (“Fixed Star”), “Kumau” ("Standing Perpendicularly"), “Kio-pa'a” or “Kio-pa” ("Fixed projection"), “Kia-pa'akai” (Biblical: "Pillar of salt"), or “Maka-holo-wa'a” ("Sailing-canoe eye" or "Star of the sailing canoe").

Eternal Path:

This **telescopic** Guarani star “Tapecue” is HD 63765 in the IAU constellation Carina (magnitude 8.10). This was a Bolivian name approved in the IAU NameExoWorlds campaign. This is their name for the Milky Way, which is the path the first inhabitants of Earth used to arrive and could return. It has an exoplanet named Yvaga, which means “paradise”.

Etinimeang:

This Kiribati star “Etinimeang” is currently unidentified (Trussel and Groves 1978).

ET’s Finger:

This **telescopic** asterism is Sh 2-86 (NGC 6823) in the IAU constellation Vulpecula. William Herschel listed it as “VII 18”. John Herschel listed it as h 2049 and later as GC 4512 in his *General Catalogue* of 1864. It is also known as the Cloud Sculpting Star Cluster.

Eturammi:

This Chaldean star “mul e-tu-ram-mi” is listed in the *Great Star List* (Koch-Westenholz 1995) but the stars have not been identified. Eturammi is the attendant of the Mesopotamian underworld God Birtum.

Euclid’s Square:

This asterism with the Latin name “Quadra Euclidis” is the IAU constellation Norma as listed in R. H. Allen’s *Star Names* in 1899.

Eung:

This Korean star is Eta (η) Ursae Majoris (Alkaid) in the IAU constellation Ursa Major.

Eunuch:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a quadrilateral of stars in the IAU constellation Ursa Major: FI Ursae Majoris (the determinative star) and HIP 55797, 57045, and 56510.

This Chinese xing guan “Shì” (勢) is a quadrilateral of stars in the IAU constellation Leo Minor: Omicron (o), 33, 34, and 42 Leonis Minoris.

This Chinese Chenzhuo xing guan “Shì” is a “box” of four stars in the IAU constellation Ursa Major: HIP 55086, HIP 56731, HIP 55044, and HIP 53706.

This Korean asterism “Naesi” (내시) is a line of five stars in the IAU constellations Hercules and Ophiuchus: 60 and 66 Herculis and 37, 34, and 32 Ophiuchi. Compare this to the Chinese xing guan “Eunuch Official” (see below).

Eunuch Official:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of stars in the IAU constellations Hercules and Ophiuchus: 60 Herculis (the determinative star), 34 Ophiuchi, 32 Ophiuchi, HIP 153882, and 54 Herculis.

This Chinese xing guan "Huànzhě" (宦者) is a line of stars in the IAU constellation Hercules and Ophiuchus: 32 and 37 Ophiuchi, and 60 Herculis. Compare this to the Korean asterism "Eunuch" (see above).

This Chinese Chenzhuo xing guan "Huànzhě" is a bent line of stars in the IAU constellation Hercules and Ophiuchus: HIP 82764, 54 Herculis, HIP 83308, 32 Ophiuchi, 34 Ophiuchi, and 60 Herculis.

Euphrates:

This Chaldean asterism "mul idburanun" or "idburanunki" is listed in the *Great Star List* (Koch-Westenholz 1995) but the stars have not been identified.

This Babylonian asterism "BURANUN" or "Purattu" was listed by Hope Anthony in his *A Guide to Ancient Near Eastern Astronomy* in 1996 but the stars have not been identified.

In 1612 Flemish astronomer Petrus Plancius introduced the constellatioin "Euphrates Fluvius" on a celestial globe published in Amsterdam by Pieter van der Keere. "Euphrates Flu" (short for Euphrates Fluvius or "Euphrates River") is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 and shown as stars of the IAU constellation Vulpecula.

Europa's Ferryman:

This Latin asterism "Portitor Europae" or "Proditor Europae" is the IAU constellation Taurus. It was called this due to the myth of Europa being carried away by the God Zeus who came to her in the form of a bull and swam across the sea to Crete with her on his back. The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Portitor Europae". Johann Bayer's *Uranometria* (1603) lists "Portitor Europae".

Eve:

This German asterism is a combination of the IAU constellations Apus, Chamaeleon, and Volans and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures (Stevenson 1921). This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "Eve al Apus, Indica, Apus, et Chameleon". It later appears in John Hill's *Urania* in 1754. NOTE: In his *Star Names* in 1899, R. H. Allen lists the constellations that Schiller used to create this asterism as "the Bird of Paradise" (which would be Apus), "Chamaeleon" and "Musca". Edward Sherburne lists this in his *Sphere of Marcus Manilius* in 1675 as "Camaleon & Piscis Volans".

This Italian asterism is the IAU constellation Cassiopeia as depicted on the 1710 globe of Italian monk and uranographer Amantius Moroncelli (Stevenson 1921).

Eve Hen:

This Danish asterism "Aften Hoehne" is the Pleiades cluster in the IAU constellation Taurus as listed in R. H. Allen's *Star Names* in 1899.

Even Tempered of Draco:

This **telescopic** asterism "Aequánimus Dracónis" is the barred spiral galaxy NGC 5905 in the IAU constellation Draco. It was discovered in 1788 by William Herschel who listed it as "II 758". It became GC 4082 and GC 4084 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of its "well organized inner structure and a more chaotic outer one".

Evil:

This Chaldean star "mul hul" or "mul lu-um-nu" is listed in the *Great Star List* (Koch-Westenholz 1995) but the stars have not been identified.

Evil Eye Galaxy:

This **telescopic** asterism is Messier 64 (NGC 4826), a spiral galaxy with prominent dust lanes in the IAU constellation Coma Berenices. It is also known as the Black Eye Galaxy (see above) or Sleeping Beauty Galaxy (see below). This was discovered by English astronomer Edward Pigott in March 1779, observed by German astronomer Johann Elert Bode in April of the same year, and by French astronomer Charles Messier the following year. It is listed in the 1864 General Catalogue as GC 3321 and in John Herschel's catalogue as h 1486. *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) simply lists this as a "Coma Berenices Nebula".

Evil President:

This American asterism is the "W" asterism of the IAU constellation Cassiopeia and was created by Brad and Kathryn Templeton for *The Vault of Heaven* star map for the 2004 Burning Man event held in Black Rock Desert in Nevada (Kuperjanov 2006).

Evil Spirit:

This Latin asterism "κακοδαίμων" ("Cacodaemon") is the IAU constellation Perseus. Johann Bayer's *Uranometria* (1603) lists "Cacodaemonis" as a name for this constellation. R. H. Allen's *Star Names* in 1899 lists "Cacodaemon". Allen writes that it was a name used by astrologers and was a reference to the demon's head.

Ewe:

This Babylonian star "Lahru" is Alpha (α) Ursae Majoris (Dubhe) in the Big Dipper asterism in the IAU constellation Ursa Major (Hunger and Pingree, 1989) see Big Dipper above. This asterism appears in later Seleucid sky lore.

This Egyptian Dendera star is Beta (β) Ursae Majoris (Dubhe) in the IAU constellation Ursa Major (Hoffmann 2017) and part of their asterism Ox Thigh (see below).

Example of Crater:

This **telescopic** asterism "Exémplum Cratéris" is the spiral galaxy NGC 3672 in the IAU constellation Crater. It was discovered in 1786 by William Herschel who listed it as "I 131". It became GC 2411 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by

astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name due to it being "a representative example of a late-type spiral galaxy".

Exastion:

This asterism is the Pleiades cluster in the IAU constellation Taurus and was listed in John Hill's *Urania* in 1754.

Exclamation Mark:

There are four **telescopic** "exclamation mark" asterisms:

- One is PGC 2345, an interacting galaxy in the IAU constellation Phoenix.
- One is an alternate name for the Box Nebula, NGC 6309 (see Box Nebula, above).
- One is the barred spiral galaxy NGC 5544 (Arp 199) in the IAU constellation Boötes. William Herschel listed it as "II 419". John Herschel listed it as h 1771 and later as GC 3833 in his *General Catalogue* in 1864. This name was posted on the *Deep Sky Forum* in June 2014 by Uwe Glahn. It is also known as the "Station of Boötes."
- One is is UGC 9618 (Arp 302), an interacting galaxy in the IAU constellation Boötes. It is also known as the Red Blue of Boötes (see below).

Excrement:

This Chinese xing guan "Shi" from the Three Kingdoms to the Ming Dynasty is the star Gamma (γ) Leporis in the IAU constellation Lepus. It is a corner star in their xing guan Toilet (see above).

This Chinese xing guan "Shǐ" (屎) is the star Mu (μ) Columbae in the IAU constellation Columba.

This Chinese Chenzhuo xing guan is the star Nu (ν) 1 & 2 Columbae in the IAU constellation Columba.

Executions:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a bending line of stars in the IAU constellations Libra and Virgo: HIP 71295, HIP 70513B, 236 Virginis, HIP 69658, ET Virginis (the determinative star), HIP 68763, and 83 Virginis.

This Chinese xing guan "Zhéwēi" (折威) is a bent line of stars in the IAU constellations Libra and Hydra: 50 Hydrae and 3, 4, 12, and Sigma (σ) Librae.

This Chinese Chenzhuo xing guan "Zhéwēi" is a long bending line of stars in the IAU constellations Libra and Virgo: Starting at HIP 70469 it runs through HIP 69929, HIP 69658, HIP 69269, 86 Virginis, and 82 Virginis to 90 Virginis.

Exhausted Bather:

This Ojibwe asterism, "Noondeshin Bemaadizid", is made up of the stars of the IAU constellation Hercules (Lee et al 2014). It is a bent line of stars running from 1 Herculis through Phi (ϕ), Tau (τ), and Sigma (σ) Herculis, ending at Eta (η) Herculis.

Exhausted Vine Branch:

This German asterism with the Latin name "Palmes Emeritus" is the IAU constellation Draco. Johann Bayer's *Uranometria* (1603) lists "Palmes Emeritus" as a name for Draco. German astronomer Johann Bayer (1572-1625) lists "Palmes Emeritus" as a name for Draco.

Exit Post:

This Tahitian star “Anaiva” is probably Alpha (α) Aurigae (Capella) in the IAU constellation Auriga. Edwards (2015) lists this star as “Phaethon”, and this is an ancient Greek name for Auriga, though it is also an ancient Greek name for Eridanus.

Exotic Bird:

This Chinese xing guan “Yìquè” (异雀) is made up of stars in the IAU constellations Apus and Octans: The central star is Beta (β) Apodis. From here three lines go off in one direction, and one in the other:

- One line goes from Beta (β) Apodis through Iota (ι) Apodis to Zeta (ζ) Apodis,
- One of the three lines on the other side runs from Beta (β) Apodis through Alpha (α) Apodis to Epsilon (ε) Apodis,
- One runs from Beta (β) Apodis through Delta (δ) 1 Apodis to Eta (η) Apodis, and
- The last runs from Beta (β) Apodis through Gamma (γ) Apodis to Delta (δ) Octantis.

Expeditionary Force:

This Korean asterism “Wonjeong-gun” (원정군) is the IAU constellation Orion.

NOTE: The Chinese xing guan is identical, but the Chinese call their xing guan “Send Armed Forces to Suppress (Vassal of Three Stars)” (see below).

Expelled:

This Rapanui asterism “E Tui” (“the expelled”) is the belt and sword of Orion (Edwards and Edwards 2010, Edwards and Edwards 2016, Edwards et al 2018).

This Raivavae asterism “Tuha’a Pae” “the expelled” or “cast away pieces”) is the belt and sword of Orion (Edwards 2015).

Exploding Cigar of Ursa Major:

This **telescopic** asterism “Fumítonans Úrsae Majóris” is the edge-on starburst galaxy NGC 3034 (Messier 82) in the IAU constellation Ursa Major. It was discovered in 1774 by German astronomer Johann Elert Bode. French astronomer Pierre Méchain observed it and reported it to his supervisor, French astronomer Charles Messier, in 1779. It is listed in the General Catalogue of 1864 as GC 1950. William Herschel listed it as IV 79. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). It is also known as the Cigar Galaxy (see above).

Extended Forearm:

This Arabic manzil “adh-dhira’ al-matsuba” (الذراعة المبسوطة) or “Al Dhirāʿ al Mabsuṭāt” (as listed by 16th century Arabic astronomer Al Tizini), “Al-Thira-a”, “al-Dhraʿ” (الذراع), or “ʾAdh-Dhirāʿ” (ٱلذِّرَاعْ) is part of their asterism Lion (see above) and is the stars Beta (β) Geminorum (Pollux) and Alpha (α) Geminorum (Castor) in the IAU constellation Gemini. It is translated as “extended forearm” or “extended arm”:

- This appears in the *Kitāb al-Tabṣira Fī’ilm al-Nujūm* of 13th century Rasulid ruler al-Malik al-Ashraf ‘Umar ibn Yūsuf (d 1296).

- Dorn (1829) lists this as “the Arm” and describes it as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya’ al-Qazwini (1203 – 1283).
- The rete of the 14th century Spanish astrolabe NMM AST0570 in the National Maritime Museum lists “Aldi” (Dekker 2000).
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “ad’dhirá, the arm or paw of the lion”.
- R. H. Allen lists the alternate name “Al Awwal al Dhirāʿ” and translates that as “first paw or forearm” in his *Star Names* in 1899.
- W. Brennand lists this as “Al-Dira” in his *Hindu Astronomy* in 1896 and attributes it to Persian astronomer Ulugh Beg Mirza (1394 – 1449).

This Yemeni manzil “Dhirā’” is the stars Beta (β) Geminorum (Pollux) and Alpha (α) Geminorum (Castor) in the IAU constellation Gemini (Varisco 1995).

Extended Net:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is made up of a quadrilateral of stars of the IAU constellation Hydra: Lambda (λ), Mu (μ), and Upsilon (υ) 1 Hydrae (the determinative star) and HIP 48615. Lines extend from either end:

- One from Mu (μ) to Phi (φ) Hydrae, and
- One from Upsilon (υ) to Kappa (κ) Hydrae.

In the *Han shu*, a history of the early Han dynasty that was finished in 111 C.E. this xiù “Zhang” (張）.was associated to matters concerning the San He territory.

This Chinese Chenzhuo xing guan “Zhāngxiù” is made up of stars in the IAU constellation Hydra: The central body is four stars: Mu (μ) Hydrae, Lambda (λ) Hydrae, Nu (ν) 1 & 2 Hydrae, and HIP 48615. From Mu (μ) Hydrae a line runs out to Phi (φ) Hydrae. From Nu (ν) 1 & 2 Hydrae a line runs out to 38 Hydrae.

This Chinese xiù (lunar mansion) “Zhāngxiù” (张宿) is made up of a quadrilateral of stars of the IAU constellation Hydra: Lambda (λ), Mu (μ), and Upsilon (υ) 1 Hydrae and HIP 49321A. Lines extend from either end:

- One from Mu (μ) to Phi (φ) Hydrae, and
- One from Upsilon (υ) to Kappa (κ) Hydrae.

This appeared as “Zhāng” (张) in the Tang Dynasty (618 – 907 C.E.) and was compared to the Vedic nakshatra Purva Phalguni (Kotyk 2017, see First Reddish One, below).

This Chinese star “Zhang” is Upsilon (υ) 1 Hydrae A in the IAU constellation Hydra. The IAU approved Zhang for Upsilon (υ) 1 Hydrae A in 2017.

Exterior Yoke:

“Ecton Uedon” is a proposed early Celtic name for the IAU constellation Pisces from the *Book of Ballymote* through an etymological reconstitution (Boutet 2014).

Extremity of the Ship:

This Arabic star “Tarfat al-safīnah” is Rho (ρ) Puppis in the IAU constellation Puppis as listed on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992).

Eye:

This Arabic star “ʿAyn” (عين), later latinized to “Ain”, is Epsilon (ε) Tauri in the IAU constellation Taurus. It is one corner of the triangular Hyades cluster, which is the “head” of the constellation Taurus. The IAU approved the name Ain for Epsilon (ε) Tauri Aa1. This has an exoplanet named “Amateru” after the Japanese Sun Goddess Amaterasu.

This Coptic lunar mansion “Pi-autos” or “Piautos” is two stars in the IAU constellations Cancer and Leo: Xi (ξ) Cancri and Lambda (λ) Leonis. R. H. Allen lists this in his *Star Names* in 1899, where he translates it as “the eye, [a] lunar asterism”. W.B. Yeats listed it in *A Vision* in 1917, taking it from German Jesuit astronomer Athanasius Kircher’s *Lingua Aegyptiaca Restituta* in 1636. Yeats translates it as “The Parturition of Self” and Kircher described it as “seipsam parturiens” (“giving birth to itself”). Compare this to the Persian asterism Nahn (see Nose, above).

This Latin asterism “Oculus” is the IAU constellation Corona Borealis. In his *Star Names* in 1899, R. H. Allen writes that it was very “common in poetry and post-Augustan prose for any celestial luminary”.

The stars of this Kiribati asterism “Mata” have not currently been identified (Trussel and Groves 1978).

There are two **telescopic** “Eye” asterisms:

- One is the open cluster NGC 3766 (Caldwell 97) in the constellation Centaurus. It was discovered by French astronomer Nicolas Louis de Lacaille in 1751-2 who listed it as “III 7” in his catalogue. It is GC 2468 in the *General Catalogue* of 1864. It is also known as the Pearl Cluster, Hilda’s Cluster, “B”, and the Rich Man’s Jewel Box. South African astronomer Carol Botha (2007) describes it as “almost the shape of an eye- central grouping (figure) could be seen as a pupil”.
- One is in the IAU constellation Orion and is Ennis 42 on the observing list of Canadian astronomer Charles Ennis. Size 80’ X 35’. The “eyebrow” is a curve of the stars HIP 24059, SAO 94365, HIP 23996, HIP 23898, HD 32895, and HIP 23786. The “pupil” is a triangle of 8^{th} – 9^{th} magnitude stars to the left of center: HD 32992, HD 32979, and HD 240907. This is one end of Jeffrey Corder’s “loose group” asterism Corder 804.

Eye Drawn Downwards:

This Hawaiian star “Kamakahelei” is Omicron (ο) Ceti (Mira) in the IAU constellation Cetus. The eye drawn downwards is an insulting gesture in this culture. This name refers to their Queen Kamakahelei who ruled the islands when British explorer Captain James Cook arrived.

Eye Nebula:

This **telescopic** asterism is the planetary nebula NGC 3242 (Caldwell 59) in the IAU constellation Hydra. It was discovered in 1785 by English astronomer William Herschel who listed it as “IV 27”. John Herschel included it in his catalogue as h 3248 and later as GC 2102 in his *General Catalogue* of 1864. It is also known as the Ghost of Jupiter or the Diamond Nebula.

Eye of God:

There are two **telescopic** “Eye of God” asterisms:

- One is the planetary nebula NGC 7293 (Caldwell 63) in the IAU constellation Aquarius. It was discovered by German astronomer Karl Ludwig Harding before 1824. It is GC 4795 in the *General Catalogue* of 1864. It is also known as the Helical Nebula, the Helix Nebula, the Eye of Sauron, or the Sunflower Nebula. Size 25' X 25'.
- One is NGC 1232, an intermediate spiral galaxy in the IAU constellation Eridanus. It was discovered by in October 1784 by English astronomer William Herschel, which he listed as "II 258". It is GC 651 in the *General Catalogue* of 1864. It is also known as "Gyes Eridani" (See below).

Eye of Horus:

This Egyptian star from the Pyramid Texts is either Alpha (α) Lyrae (Vega) in the IAU constellation Lyra or Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes (Abdel-Hadi and Yehia, 2009).

Eye of Lynx:

This **telescopic** asterism "Pupílla Lýncis" is the barred spiral galaxy NGC 2273 in the IAU constellation Lynx. This was discovered by Nils Dunér in 1867. This became GC 5363 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as it "has the appearance of an eye with a pupil".

Eye of Medusa:

This **telescopic** asterism is NGC 4194, a pair of interacting galaxies in the IAU constellation Ursa Major known as the "Medusa Merger" (see below) or "Medusa Galaxy" (see below). It was discovered by English astronomer William Herschel in 1791 who listed it as "II 867". It is GC 2788 in the *General Catalogue* of 1864. Its central gas-rich star forming region is what is known as the "Eye of Medusa".

Eye of Pisces:

This **telescopic** asterism "Óculus Píscium" is the spiral galaxy NGC 470 (Arp 227) in the IAU constellation Pisces. It was discovered by William Herschel in 1784. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010).

Eye of Rē:

This Egyptian star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Bomhard 2009) and appears from the 18th dynasty onward.

Eye of Sauron:

There are three **telescopic** asterisms by this name, the name coming from fans of the *Lord of the Rings Trilogy* by J. R. R. Tolkien (1892 – 1973):

- One asterism is the planetary nebula NGC 7293 (Caldwell 63) in the IAU constellation Aquarius. It was discovered by German astronomer Karl Ludwig Harding before 1824. It is GC 4795 in the *General Catalogue* of 1864. It is also known as the Helical Nebula, the Helix Nebula, the Eye of God, or the Sunflower Nebula.
- One asterism is planetary nebula M 1 -42 in the IAU constellation Sagittarius.
- One is NGC 4151, an intermediate spiral Seyfert galaxy in the IAU constellation Canes Venatici. It was discovered by English astronomer William Herschel in March 1787 who listed it as "I 165". It

is GC 2756 in the *General Catalogue* of 1864. Size 6.8’ X 5.3’. This name was listed by American astronomer Mark Friedman on the Deep Sky Forum in May 2018. It is also known as the “Gesticulating of Canes Venatici” (see below).

Eye of Sky:

This Korean asterism “Kui” is a quadrilateral of stars in the IAU constellation Cancer: Delta (δ), Gamma (γ), Eta (η), and Theta (θ) Cancri. These form an “enclosure” around the Beehive cluster (Messier 44), which the Koreans call “Pile of Dead” (see below). The Chinese call this asterism “Ghosts” (see below).

Eye of Taurus:

This Latin star “Oculus Tauri” is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus:

- Robert Hues lists “Oculus Tauri” in his *A Learned Treatise of Globes* in 1659.
- R. H. Allen lists “Oculus Tauri” in his *Star Names* in 1899. It is derived from the original Arabic “Ain al Thaur” (see Eye of the Bull, below).

Eye of the Archer:

This Arabic star “ʿain al-rāmī” (عين الرامي) later latinized to “Ain al Rami” or “ainalrami” is the triple star Nu (ν) Sagittarii in the IAU constellation Sagittarius:

- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists “’ayn al-rāmī”.
- Edward Sherburne lists it as “Occulus Sagittarii” (“eye of Sagittarius”) in his *Sphere of Marcus Manilius* in 1675.
- The IAU approved the name Ainalrami for the star Nu (ν) 1 Sagittarii A.
- NOTE: Ptolemy (c.100 – c.170) described this double star as “νεφελοειδής καί διπλοῦς” (“nefeloeidís kaí diploús” or “cloudy and double”), making it one of the first double stars recorded.

Eye of the Bull:

This Arabic star “’Ayn al-thawr” is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus:

- “’Ayn al-Thawr” and “Ain al-Thawr” are listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- “’Ayn al-thawr” is listed on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992):
- Robert Hues lists “Hain Altor” in his *A Learned Treatise of Globes* in 1659 and translates it as “bull’s eye”.
- John Hill lists it as “Ain al Thaur” in his *Urania* in 1754
- W. Brennand lists it as “Ain al Thaur” in his Hindu Astronomy in 1896, attributing this to Persian astronomer Ulugh Beg Mirza (1394 – 1449).
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “’aïn al thaur, the bull’s eye”.
- NOTE: A more common Arabic name for the star Alpha (α) Tauri (Aldebaran) is actually “’Ad-Dabarān” (see Follower, below).

R. H. Allen writes in his *Star Names* in 1899 that “Western astronomers” corrupted this to “Atin” and “Hain Ator” and “the early English Bull’s Eye”.

Eye of the Creator:

This Pomo star is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (see Little Dipper below).

Eye of the Dragon:

This Arabic star “‘Ayn al-tinnin” is Gamma (γ) Draconis in the IAU constellation Draco as listed on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992).

Eye of the Mad Dog:

This Seleucid star is Gamma (γ) Lupi in the IAU constellation Lupus and is part of their asterism Mad Dog (see below).

Eye of the Pig:

This Suku Bali star “Suda Malung” is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus and is part of their asterism Wild Boar’s Jaw (see below).

Eye of the Ram:

This Sumerian asterism “mullu-lim” from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is Alpha (α) Arietis (Hamal) in the IAU constellation Aries.

This Akkadian asterism “lu-li-mu” from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is Alpha (α) Arietis (Hamal) in the IAU constellation Aries. R. H. Allen lists “Lu-lim” or “Lu-nit” as “Euphratian” names for this asterism in his Star Names in 1899.

Eye of the Scorpion:

This **telescopic** asterism is the globular cluster Messier 4 (NGC 6121) in the IAU constellation Scorpius. It was discovered by Swiss astronomer Philippe Loys de Chéseaux in 1745 and included in Charles Messier’s catalogue in 1764. It is GC 4183 in the *General Catalogue* of 1864. It is also known as the “Crab Globular Cluster” (see above).

Eye of the South:

This Italian star “Oculus Australis” is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus as listed by Italian astronomer Giovanni Battista Riccioli (1598 – 1671). R. H. Allen writes in his *Star Names* in 1899 that Riccioli derived this from the name “Oculus Tauri” (see Eye of Taurus, above).

Eye With Big Hole/Darkness:

This Rapanui star “Ko Te Mata Pu” or “Ko Te Mata Po Nui” is Alpha (α) Virginis (Spica) in the IAU constellation Virgo (Edwards and Edwards 2010, Edwards and Edwards 2016, Edwards et al 2018).

Eyelashes:

This Arabic asterism “al-ash’ar” (الأشعار) or “Al Ashfār” is part of their asterism “Lion” (see below) and is made up of stars in the IAU constellations Hydra and Leo. This was first recorded by Ibn Qutayaba (d. 889):

- The Northern Eyelashes are the stars Lambda (λ) and Mu (μ) Leonis in the IAU constellation Leo. NOTE: R. H. Allen writes in his *Star Names* in 1899 that the “eyebrows” of the lion are Epsilon (ε) and Mu (μ) Leonis.
- The Southern Eyelashes are the stars 6, 10, and Xi (ξ) Leonis and 2 Hydrae.

Eyelid:

This **telescopic** asterism is the open cluster NGC 6863 in the IAU constellation Aquila. René Merting describes it on the Faint Fuzzies website: ”At 144x, four relatively equally bright stars in the west and north are arranged like an eyelid, a fifth star is opposite them and forms a flat sheet, but it appears very faint in comparison

Eyes:

This Arabic and Bedouin manzil “Al- Tarf” (الطرف), “ʾAṭ-Ṭarf” (ٱلْطَّرْف) or “ʾAṭ-Ṭarfah” (ٱلْطَّرْفَة), translated as “the glance” or “the eyes” has several interpretations:

- One is the stars Omicron (ο) and Epsilon (ε) Leonis in the IAU constellation Leo. These are the most probable stars described by Ibn Qutayba (d. 889), who wrote that a group of stars called “al-ash’ar” (See Eyelashes, above) were located in front of them.
- One, “at-Tarf” (الطرف), is the stars Lambda (λ) and Kappa (κ) Leonis in the IAU constellation Leo and was described as the stars in front of Omicron (ο) and Epsilon (ε) Leonis by 'Abd al-Rahman al-Sufi (903 – 986) a century after Ibn Qutayba. This was later latinized to “Alterf”. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Elterf, or Al-tarf, the Lion’s glance”. W. Brennand lists this as “Al-Terpha” in his *Hindu Astronomy* in 1896 and translates it as “the lion’s eyes”. The IAU approved the name Alterf for Lambda (λ) Leonis.
- One is the star Beta (β) Cancri in the IAU constellation Cancer. It was later latinized to “Tarf”, “Al Tarf”, or “Altarf”. This is in “front” of the “lion” which is the IAU constellation Leo, hence the name. The IAU approved the name Tarf for the star Beta (β) Cancri A.

This Yemeni manzil “Ţarf” is made up of stars of the IAU constellations Cancer and Leo (Varisco 1995): Kappa (κ) Cancri and Lambda (λ) Leonis. This appears in the *Kitāb al-Tabşira Fī’ilm al-Nujūm* of 13th century Rasulid ruler al-Malik al-Ashraf ‘Umar ibn Yūsuf (d 1296).

This KhoiKhoi asterism “Mura” is the stars Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus (Slotegraaf 2013).

There are two **telescopic** Eyes asterisms:

- One is a pair of interacting galaxies in the IAU constellation Virgo: Lenticular galaxy NGC 4438 and barred lenticular galaxy NGC 4435 (Arp 120). These were discovered by English astronomer William Herschel in 1784: Herschel listed them as “I 28.1” and I 28.2”. They are GC 2991 and GC 2994 in the *General Catalogue* of 1864. It is also known as “Copeland’s Eyes” as it was named “the Eyes” by Scottish astronomer Ralph Copeland (1837 – 1905) and as Markarian’s Eyes, as it is part of Markarian’s Chain of galaxies. This name appears as “Óppa Vírginis” (NGC 4435) and

"Omma Virginis" (NGC 4438) in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010), basically naming them as the "left" and "right" eyes.

- One is reflection nebula NGC 6914 in Cygnus. This was discovered by astronomer Édouard Stephan on 29 August 1881. This includes LBN 274 and LBN 280. It is also known as the "Bluebird".

Eyes of Christ:

This Quechua asterism "Ñawin Cristo" is Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus (Urton 1981).

Eyes of the Beautiful Three:

This Rapanui asterism "He Mata", "Mata Te Tautoru", or "Mataa Te Tautoru" is Gamma (γ) Orionis (Bellatrix) and Phi (ϕ) 1 and 2 Orionis in the IAU constellation Orion (Edwards and Edwards 2010, Edwards and Edwards 2016, Edwards et al 2018).

Eyes of the Emu:

This Karajá asterism "Biura-et-kú" is Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus (De Freita Mourão 2009).

Eyes of the Lion:

This KhoiKhoi asterism "Xami di Mura" is the double star Mu (μ) 1 and 2 Scorpii in the IAU constellation Scorpius (Slotegraaf 2013). The IAU approved the name Xamidimura for the star Mu (μ) 1 Scorpii Aa in 2017.

Eyes of the Llama:

This Inca asterism "Llamacnawin" or "Llamaqñawin" (Gamarra & Gamarra 2009, Urton 1981 & 2022) is the stars Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus and is part of their asterisms "Catachillay" (see Female Llama, below) and "Yacana" (see Black Llamas, above).

This Quechua asterism "Llamañawi" is the stars Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus (Ciancia 2018).

Eyes of the Rayfish:

This Karajá asterism "Borórruéneare" is the stars Alpha (α) Crucis (Acrux) and Beta (β) Crucis (Mimosa) in the IAU constellation Crux (De Freita Mourão 2009) and part of their asterism "Boró" (See Rayfish, below).

F:

This **telescopic** asterism is in the IAU constellation Eridanus and appears on Brazilian astronomer Bruno Alessi's BDCC 7.6 list. Jeffrey Corder lists it as Corder 563 and attributes it to American astronomer John A. Chiravalle. The upright of the "F" has HIP 17143 at the base. HIP 17063 and HIP 17088 form the middle crossbar of the "F". the top crossbar is a line of four stars running from HIP 16989 at the tip through HIP 16960 and then through a 9th magnitude double star to an 8.25 magnitude star. Size 55'.

F 117 Nighthawk:

This **telescopic** asterism is Ennis 20 on the observing list of Canadian astronomer Charles Ennis and is in the IAU constellation Cassiopeia. Size 115' X 70'. This resembles the USAF stealth bomber by this name.

- The "fuselage" is defined by the stars HIP 117775, 117830, the variable star HIP 181 and the double star HIP 99
- The "leading edges" of the "Nighthawk's wings" sweep back from this:
    - One "leading edge" is the variable star HIP 117830, the double star HIP 118090, HIP 124, and the rotating variable star HIP 418
    - The other "leading edge is the double star HIP 117775, and the stars HIP 118116, and 43.

Fa'a-nui:

This Tahitian asterism is the IAU constellation Auriga.

Fabergé Egg:

This **telescopic** asterism is NGC 4605, a dwarf barred spiral galaxy in the IAU constellation Ursa Major. It was discovered by English astronomer William Herschel in 1790 who listed it as "I 254". It is GC 3142 in the *General Catalogue* of 1864. It is also known as the Frankenstein Galaxy (see below). NOTE: The Fabergé egg was created by the House of Fabergé in Saint Petersburg, Russia, in 1885, so the name cannot predate this. Stephen James O'Meara named it both the "Faberge Egg" and the "Frankenstein Galaxy" in his *Hidden Treasures Catalogue* (2007).

Face:

This Kalinago asterism "Ombatapo" is the IAU constellation Coma Berenices.

There are two versions of the Carib asterism "Onbatapo" (Magaña, and Jara, 1982) which Carib myths describe as the remains of a great-grandmother Urayumaka who was partially eaten by pataka fishes or sharks. Its rising marks the drying out of marshes and streams:

- One is the Southern Cross asterism in the IAU constellation Crux,
- One is made up of stars of Canis Major and Puppis: One "earring" is the line of stars Eta (η) and Delta (δ) Canis Majoris. The other "earring" is the stars Chi (χ) and Xi (ξ) Puppis. The "face" is the curve of stars between the "earrings": Starting at HIP 36795 it runs through HIP 35817A, m Puppis, HIP 37229B, p Puppis, HIP 36258, HIP 35848, HIP 35427, Tau (τ) Canis Majoris, and 29 Canis Majoris to 145 Canis Majoris.

This **telescopic** asterism is Sánta 215, listed in 2017 by Hungarian astronomer Sánta Gábor, which is described by Gábor as a "face or hook of a dozen stars 7.6 – 10 magnitude" in the IAU constellation Monoceros.

Face of the Lord:

This Czech asterism "faciem Domini maxima" was created by Czech astronomer, optician, and friar Antoine Marie Schyrle de Rheita in 1643. It is a rectangle of stars with the corners being Rho (ρ) and Omicron (ο) Leonis, Beta (β) Sextantis, and Iota (ι) Hydrae. De Rehita writes "Sudarium Veronicae sive faciem Domini maxima similitudine in astris expressum" ("The shroud of Veronica, or the face of the Lord, expressed in the greatest similitude in the stars"). Compare this to Shroud of Veronica, below.

Fafnir:

This IAU star is 42 Draconis A in the IAU constellation Draco and was given this name by the IAU in 2015. Fafnir is a dwarf in Norse mythology who turned into a dragon. It has an exoplanet named Orbitar.

Fail Inis:

This Irish asterism is the IAU constellation Canis Minor. This asterism is found in Julie Ormonde's *Constellation Stories of Ancient Ireland* (2015). Failinis is a dog belonging to the God Lugh Lámhfhada in Irish mythology.

Faint One:

This Arabic star "al-Khawwār" (الخوار) or "al-ẖawwār" is 80 Ursae Majoris in the IAU constellation Ursa Major and later latinized to "Alcor":

- Dorn (1829) lists it as "Al-djoun". In Germany it became "Alkor".
- The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) lists this star as "Alkor".
- The *Atlas Coelestis* of German astronomer Johann Gabriel Doppelmayr (1742) lists "Alcor".
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782 lists this star as "Alcor".
- William Henry Smyth (1788 - 1865) insisted that the name Alcor wasn't derived from an Arabic name and came up with a name related to a Black Horse (see below).
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Alcor".
- Scottish uranographer Alexander Jamieson (1782 – 1850) listed this star as "Alcor" in his *Celestial Atlas* in 1822.
- American uranographer Elijah Burritt's *The Constellations for each Month in the Year* (1835) lists "Alcor".
- *An Improved Moveable Planisphere* (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, lists this star as "Alcor".
- This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Alcor": The author is unknown, but it is based on Jamieson's *Celestial Atlas.*
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as "Alcor".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Alcor".
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists "Alcor" for this star.
- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Alcor" and describes it as the "near one".
- *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Alcor".
- The 1st edition (1910) and the 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) list the name "Alcor" for this star.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists "Alcor" for this star.
- The IAU approved the name Alcor for 80 Ursae Majoris in 2016.
- Compare this to Forgotten One, below.

- Alcor was the smallest of the stars noted in Medieval Chinese, Arab, and Latin texts (Berezkin 2005).

Faint Uranus:

This **telescopic** asterism is planetary nebula NGC 6818 in the IAU constellation Sagittarius. It was discovered by English astronomer William Herschel in 1787 who listed it as "IV 51". It is GC 4510 in the *General Catalogue* of 1864. South African astronomer Magda Streicher makes several observational entries on the DOCdb website describing this as resembling a "faint Uranus". It is also known as the Little Gem Nebula (see below).

Fairy:

This **telescopic** asterism is a dust cloud that is part of the nebulosity of the Eagle Nebula Messier 16 (NGC 6611, IC 4703, SH 2-49, RCW 165, LBN 67, Cr 375, Mel 198, Ced 159).in the IAU constellation Serpens.

Fairy Lady's Palace:

This Hungarian asterism "Tündérasszon pasotája" is the IAU constellation Ursa Minor. The celestial map of Hungarian uranographer Sandor Nagy (1915) depicts this asterism as a castle.

Fairy Ring:

See Chaple's Arc, above.

Fairy's Dance:

This Hungarian asterism "Túnderök tánca" is possibly the stars of the IAU constellation Hercules. The celestial map of Hungarian uranographer Sandor Nagy (1915) depicts this asterism as a group of fairies dancing in a circle.

Faith:

R. H. Allen writes in his *Star Names* in 1899 that 1st century Roman poet Marcus Manilius "seems to have made two distinct constellations of Ptolemy's constellation Lyra: "Lyra" and "Fides" ("faith"), although we do not know their boundaries (see Fidicula, below).

Faith, Hope, and Charity:

This asterism is the stars Alpha (α) Carinae (Canopus) in the IAU constellation Carina, Alpha (α) Eridani (Achernar) in the IAU constellation Eridanus, and Alpha (α) Piscis Austrini (Fomalhaut) in the IAU constellation Piscis Austrinus as listed by Dante Alighieri (1265 – 1321) in his *Purgatorio*.

Faith of Orpheus:

This asterism "Orphei Fides" is the IAU constellation Lyra as listed on the *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638).

Falcon:

This Egyptian Dendera asterism is made up of the stars of the IAU constellations Camelopardalis and Ursa Minor (Hoffman 2017). The central star is Zeta (ζ) Ursae Minoris:

- Zeta (ζ) Minoris forms the corner of a triangle with Beta (β) Ursae Minoris (Kochab) and Gamma (γ) Ursae Minoris.
- From Zeta (ζ) Minoris two lines of stars run out:
    - One runs to a bend at Epsilon (ε) Ursae Minoris and ends at Alpha (α) Ursae Minoris (Polaris),
    - One runs to HIP 62572A and then splits into two lines:]
        - One runs to HIP 47193, and
        - One runs to VZ Camelopardalis.

NOTE: A falcon appears alongside the Greek asterism Archer (see above) on the *Daressy Zodiac* of the Roman Imperial Period.

Falcon of Horus:

This Egyptian asterism from the Old Kingdom (3100 B.C.E.) is the IAU constellation Aquila (Berio 2014).

Fallen Off of Coma Berenices:

This **telescopic** asterism "Delápsus Cómae Bereníces" is the spiral galaxy NGC 4450 in the IAU constellation Coma Berenices. This was listed by William Herschel as "II 56" and "II 90". John Herschel listed it as h 1282 and later as GC 3003 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the most conspicuous dust lane doesn't start near the nucleus but looks as if it is fallen far from its natural place of origin".

Fallen Star:

This Lakota star is unidentified at present but may be one of the stars in Ursa Major. Fallen Star was a supernatural hero who was the son of Polaris and one of the Maghpia Oyate ("cloud people") and a protector of the Lakota.

Falling Bird:

This telescopic asterism is Alessi 21 from the lists of Brazilian astronomer Bruno Alessi, which is in the IAU constellation Monoceros. René Merting describes it on the *Faint Fuzzies* website: "Cluster looks like a bird falling to the southeast, the stars are arranged similar to ASCC 101 in the constellation Lyra.

Falling Cross:

This Arabic asterism "Al Ṣalīb al Wāki῾" is made up of stars in the IAU constellation Draco: Beta (β) Draconis (Rastaban) and Xi (ξ) Draconis forming the perpendicular, with Gamma (γ), Mu (μ), and Nu (ν) Draconis the traverse:

- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Awáyid and El salib wáki… the Falling Cross and describes this as "β, γ, ξ, and μ; of which β and ξ are supposed to be joined by the perpendicular, and γ and μ by the transverse beam of the cross" and later as "el salib, the cross".

Falling Eagle:

This Latin asterism “Aquila Cadens” is the IAU constellation Lyra, which was often represented on renaissance star maps as an eagle carrying a lyre. Compare this to Alighting Vulture, above. R. H. Allen lists the variation “Falling Grype” in his *Star Names* in 1899.

Falling Man:

This **telescopic** asterism is in the IAU constellations Cassiopeia and is Ennis 32 on the observing list of Canadian astronomer Charles Ennis. Size 85’ X 60’:

- His “body” is bounded by 4 stars: HIP 10519, 10606, 10462, and an optical double (magnitude 7.75 & 8.35).
- One “leg” runs from HIP 10606 to HIP 10830.
- The other leg runs from HIP 10462 through an 8.25 magnitude star to a short arc of four stars (Corder 361) ending in HIP 10736.
- One “arm” runs from HIP 10519 through a line of 9th magnitude stars to a “wrist” at HIP 10544 and a “hand” at HIP 10610.
- One “arm” runs from the optical double through a 7th magnitude star to a “wrist” at HIP 10257 and a “hand” which is a magnitude 8.4 star.
- Between the raised “arms” is a triangle of stars (magnitude 8.35, 8.70, & 9.05) which form his “head”.

Falling Vulture:

This Latin asterism “Vultur Cadens” is the IAU constellation Lyra, which was often represented on renaissance star maps as a vulture carrying a lyre:

- The “Nuremburg Maps”, a pair of celestial hemispheres made in 1503 by Conrad Heinfogel labels this constellation “Vultur Cades” and depicts it as an eagle with its wings partially extended.
- The celestial globe depicted in Hans Holbein’s *Double Portrait of Jean de Dinteville, the Bailly of Troyes, and Georges de Selve, Bishop of Lavaux* (more commonly known as “*The Ambassadors*”) from 1533 lists “VVLTVR CADENS” (Dekker & Lippincott, 1999).
- Gores for a celestial globe by German polymath Johann Schöner (1477 – 1547) from 1515 list this as “Vultur Cadens”, but those from 1534, and 1535 list “Lyra” (Dekker & Lippincott, 1999). Celestial globe gores (1517) of Schöner depicts “Vultur Cadens” as an eagle whose body is some sort of violin.
- A celestial globe atop a planetary clock modified by Oronce Fine in 1553 (the “Paris Globe”) lists “VVLTVR CADENS” (Dekker & Lippincott, 1999).
- Jesuit German mathematician Christopher Clavius (1538 – 1612) lists this constellation as “Lyra, sev, Vultur Cadens” in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).
- English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts “Cadens Lyra Vultur” as a harp decorated as an eagle with extended wings.
- Danish astronomer Tycho Brahe’s *Astronomiae Instauratae Progymnasmata* (1602) lists “Vultur Cadens” for this constellation.
- Johann Bayer’s *Uranometria* (1603) lists the name “Vultur Cadens” for this constellation but also lists this as an alternate name for Cygnus.

- The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch lists “Vultur Cadens” as a name for Cygnus.
- Giovanni Paolo Gallucci’s *Theatrum Mundi, et Temporis* (1614) labels this constellation “Lira” and “Vultur Cadens” and depicts it as a six stringed instrument such as a violin.
- The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) list the names “Lyra” and “Vultur Cadens” for this constellation.
- Robert Hues lists “Vultur Cadens” in his *A Learned Treatise of Globes* in 1659.
- The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts “Lyra” as an eagle carrying a lyre and has the subtitle “Vultur Cadens”.
- John Hill lists “Vultur Cadens” in his *Urania* in 1754.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Vultur Cadens”.
- R. H. Allen writes in his *Star Names* in 1899 that this Latin name has occasionally been used for Cygnus. Compare this to Alighting Vulture, above.

Falling Wand:

This Latin asterism “Virgula Jacens” is the IAU constellation Sagitta. Johann Bayer’s *Uranometria* (1603) lists the name “Virgula Iacens”. “Virgula Jacens” is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch. “Virgula Jacens” is listed by R. H. Allen in his *Star Names* in 1899.

False Blossom Cluster:

This Māori star “Puanga-hori” (‘false Puanga”) is Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor. It is called this to distinguish it from their star Puanga or Puanga-rua (see Blossom Cluster, above).

False Comet:

This **telescopic** asterism is the open cluster NGC 6231 (Caldwell 76) in the IAU constellation Scorpius, also known as the Northern Jewel Box, The Table of Scorpius, and the Crocodile. It is located a half a degree north of Zeta (ζ) Scorpii. It was discovered by Italian astronomer Giovanni Battista Hodierna before 1654, who called it Luminosae (Italian for “bright”). It is listed in the *General Catalogue* of 1864 as GC 4245 and in John Herschel’s catalogue as h 3652. The cluster forms the head of the “false comet”, with stars running north from Zeta (ζ) Scorpii and NGC 6231 to a point roughly halfway to Mu (μ) Scorpii. The tail is formed by two clusters: Collinder 316 and Trumpler 24. Trumpler 24 is surrounded by the emission nebula IC 4628 (the Prawn Nebula) which gives the impression of the false comet’s tail fanning out. According to the Saguaro Astronomy Club asterisms list, this name originated in Australia.

False Cross:

This diamond-shaped asterism is composed of four stars. Two are in the IAU constellation Vela: Delta (δ) Velorum (Alsephina) and Kappa (κ) Velorum (Markab). Two are in the IAU constellation Carina: Epsilon (ε) Carinae (Avior) and Iota (ι) Carinae (Aspidiske). Although its component stars are not quite as bright as those of the Southern Cross (see Southern Cross below), it is somewhat larger and better shaped than the Southern Cross, for which it is sometimes mistaken, causing errors in astronavigation. Like the Southern Cross, three of its main four stars are whitish and one orange.

False Kids:

This asterism is in the IAU constellation Auriga and is the stars Upsilon (υ), Nu (ν), and Tau (τ) Aurigae. The asterism Kids (see below) is actually located near the star Alpha (α) Aurigae (Capella). This is listed in Brazilian astronomer Bruno Alessi's BDCC 7.6 list.

False Pleiades:

This **telescopic** asterism is made up of the stars of the IAU constellations Cepheus and Ursa Minor close to Alpha (α) Ursae Minoris (Polaris). The seven stars include 2 Ursae Minoris, HIP 115746, 109693, 112833, 113116 and 112519. It is also known as the "Seven Sisters of the Pole".

False Scale Beam:

This Arabic asterism "al-mīzān al-baṭīl", later latinized to "Mizan Batil" is made up of three stars in the IAU constellation Orion in the "sword" of Orion:

- 42 Orionis (Mizan Batil I)
- Theta (θ) 2 Orionis (MIzan Batil II), and
- 49 Orionis (Mizan Batil III).

Compare this to the Arabic asterism Scale Beam (see below). NOTE: In his *Star Names* in 1899, R. H. Allen lists the stars as 42 Orionis, Theta (θ) Orionis, Iota (ι) Orionis (which are all in the "sword") and Kappa (κ) Orionis (which is one of the "feet" of Orion and off line with the sword).

False Spouse of Leo:

This **telescopic** asterism "Pseudocónjunx Leónis" is the barred spiral galaxy NGC 2874 (Arp 307) in the IAU constellation Leo. This was discovered in 1784 by English astronomer William Herschel who listed it once as "II 58" and later as "II 547". John Herschel listed it as h 598 and later as GC 1840 and GC 1847 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as "NGC 2874 is positioned close to NGC 2872 but does not form a physical pair with it".

False Tail of Cetus:

This **telescopic** asterism "Pseudúrus Céti" is the barred spiral galaxy NGC 151/3 in the IAU constellation Cetus. It was discovered by English astronomer William Herschel in 1785. Lewis Swift observed it in 1886 and catalogued it as NGC 153, but it was later discovered to be NGC 151. This is GC 74 in the General Catalogue of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010): They called it this as it appears to have a tail.

Familiar Gods:

This Byzantine asterism "Ἑφέστιοι" ("Eféstioi") is the IAU constellation Gemini as listed by 5th century theologian Theodoret of Cyrus.

Family:

This Wichi asterism "Patsezlai" is the Pleiades cluster in the IAU constellation Taurus (Mariani 2017). They also call it the Hunters (see above). There are several stories relating to this. In one the Moon is their father and the Star Woman Venus their mother. As they grow up, they fall to the Earth and impregnate the soil. In another they are grandchildren of jaguar who have fled into the sky. Another

makes Patsezlai a being that can steal the husek (roughly equivalent to a soul) of infants or children who stare too intently at the sky.

Family Group:

This Assyrian asterism "Kimtu" or "Kimmatu" is the Pleiades cluster in the IAU constellation Taurus as listed in R. H. Allen's *Star Names* in 1899.

This Syrian asterism "Kīmā" is the Pleiades cluster in the IAU constellation Taurus as listed in R. H. Allen's *Star Names* in 1899. 19th century German scientist and explorer Alexander von Humboldt listed this as "Gemat" in his *Cosmos: A Sketch of a Physical Description of the Universe.*

Family of Aba Bzay:

This Bedouin asterism "Āl Aba Bzay" (آل أبا بزي) is the stars Beta (β) Ursae Minoris (Kochab) and Gamma (γ) Ursae Minoris in the IAU constellation Ursa Minor.

Famine:

This Karanga asterism "Mazhara" is the Small Magellanic Cloud.

This Tswana asterism "Tlala" ("famine" or "drought") is the Small Magellanic Cloud. They called it this as food was scarce when it was in the sky in winter.

This Venda asterism "ndala" is the Large Magellanic Cloud. They called it this as food was scarce when it was in the sky in winter: Compare this to their asterism "tšefefo" (see Winter, below).

This Tswana and Sotho asterism "Tlala le kgora" is the IAU constellation Orion.

Famous Argo:

This Latin asterism "Nobilis Argo" is the asterism Argo's Ship (see above) as listed by Edward Sherburne in his *Sphere of Marcus Manilius* in 1675.

Fan:

This Nahwal (Tanna) asterism "Kelel" (Ramik 2019) is made up of stars in the IAU constellation Orion: Alpha (α) Orionis (Betelgeuse), Gamma (γ) Orionis (Bellatrix), Delta (δ) Orionis (Mintaka), Beta (β) Orionis (Rigel), Kappa (κ) Orionis (Saiph), and Zeta (ζ) Orionis (Alnitak). Compare this to the Netwar asterism "Kilil" (see Palm Fan, below).

There are three **telescopic** "Fan" asterisms:

- One is HII region NGC 2359 (SH 2-298. RCW 5, LBN 1041, Ced 94b)in the IAU constellation Canis Major surrounding the Wolf Rayet star WR7. Size 10' X 15'. It was discovered by English astronomer William Herschel in 1785 who listed it as "V 21" in his catalogue. It is GC 1511 in the *General Catalogue* of 1864. Swedish astronomer Sven Cederblad described it as a "fan shaped object" in 1946. It is also known as the "Duck Nebula", the "Duck Head Nebula", the "Flying Eye Nebula", the "Bust Silhouette", "Thor's Helmet", or the "Whistle Nebula".
- One is O'Neal 4 in the IAU constellation Lepus. René Merting describes it on the *Faint Fuzzies* website as "six equally bright, relatively faint stars form a conspicuous equilateral triangle", this being the "fan", including HIP 27232 and 27185. Two more stars form the "handle". Size 17' X 11'.

- One Japanese Fan is open cluster NGC 6025 (Caldwell 95) I n the IAU constellation Triangulum Australe. This was discovered by French astronomer Abbé Nicolas Louis de Lacaille in 1755. South African astronomer Magda Streicher (2009) described it as a “Japanese Fan”.

Fan-Tailed Cockatoo:

This Boorong asterism “Yurree” is made up of stars of the IAU constellation Gemini as listed by Stanbridge (1857), Morieson (1999), and Hamacher and Frew (2010) and is the fan tailed cockatoo (Cacomantis flabeliformis). The star Alpha (α) Geminorum (Castor) is the body with the fan tail being an arc of stars 70, 71, and 80 Geminorum and HIP 37580 and 38319 forming the base of a triangle with Castor. Yurree is one of the Two Hunters (see below) who pursue Purra (see Red Kangaroo, above).

This Wotjobaluk asterism “Turree” or “Yurree” is Alpha (α) Geminorum (Castor) in the IAU constellation Gemini (Hamacher 2011) and is part of their asterism Two Hunters (see below).

Fang:

See Room, below.

Fanui-tai:

This Polynesian (Tuamotu Archipelago) asterism is the IAU constellation Cygnus.

Farm Hand:

This German star “Landarbeiter” is 80 Ursae Majoris in the IAU constellation Ursa Major as listed by R. H. Allen in his *Star Names* in 1899.

Farm of Capital City:

This Korean asterism “Sudoui Nongjang” (수도의 농장) is a line of two stars in the IAU constellation Virgo: Tau (τ) and Omicron (ο) Virginis.

Farmstead:

This Gond asterism “Medi” is made up of stars of the IAU constellations Canis Major, Leo, Lepus, and Orion (Vahia 2014).

Fast Stars:

This Estonian asterism is the IAU constellation Cygnus and originates on the island of Saaremaa (Kuperjanov 2006).

Fat Camel:

This Arabic star “Al Fatīḳ” is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus as listed Iranian astronomer Abu Rayhan Muhammad ibn Ahmad al-Biruni (973 – c. 1050) and by R. H. Allen’s *Star Names* in 1899.

Fat Month Guiding Star:

The Celtic “PRIN” or guiding star in the Sequani Calendar in the third month, “Riuros” or “Rivros”, is Alpha (α) Leonis (Regulus) in the IAU constellation Leo. Ruiros is probably related to the Old Irish “remor” (stout, fat, thick) and Welsh “rhef” (thick, stout, great, large) so this name probably translates as “fat month”.

Fat One of Aquarius:

This **telescopic** asterism "Páchys Aquárii" is the spiral galaxy NGC 7377 in the IAU constellation Aquarius. It was discovered in 1786 by William Herschel who listed it as "II 598". It became GC 4834 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Fat One of Dorado:

This **telescopic** asterism "Crássa Dorádus" is the elliptical galaxy NGC 1549 in the IAU constellation Dorado. It was discovered by James Dunlop in 1826. It became h 2629 on John Herschel's list and later GC 834 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Fatana-lalo:

See Fatana-lua below.

Fatana-lua:

This Tongan asterism, also known as "Fata-olunga" and "Fata-lalo" is the IAU constellation Coma Berenices.

Fatana-olunga:

See Fatana-lua above.

Father:

This Quechua asterism "Tatalito" is dark nebulosity in the Milky Way (Ciancia 2018). Alternate names include "Llamero" (see Llama Herder, below) and "Hondero" (see Slinger, below).

Father, Mother and Child:

This Tasmanian asterism is made up of stars in the IAU constellations Centaurus and Crux (Robinson 1873, Clarke 2009). The parents are Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) and the child is believed to be Alpha (α) Crucis (Acrux).

Father of All Snakes:

This Barasana asterism "Anya Haku" is the IAU constellation Scorpius. (Hugh-Jones 2006). This is an alternate name for their asterism "Iya Yai" (see Caterpillar Jaguar, above).

Father of Tinniinyaranna:

This Kaurna star "Parnakkoyerli" is Beta (α) Orionis (Rigel) in the IAU constellation Orion (Hamacher 2015) and is related to their asterism "Tinniinyaranna" or "Kukukurkurra" (see Young Hunters, below).

Father of Ursa Major:

This **telescopic** asterism "Úranus Úrsae Majóris" is the interacting galaxy NGC 5218 in the IAU constellation Ursa Major. The two galaxies NGC 5216 and 5218 were discovered in 1790 by English astronomer William Herschel who listed them as "II 841" and "II 842". They became GC 3590 and GC 3592 in the *General Catalogue* of 1864. This system is named Keenan's System after the American astronomer Philip C. Keenan who studied them in 1935 and published a paper on the bridge of galactic

material connecting the two galaxies. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it in reference to the name they gave to NGC 5216 ("Mother of Ursa Major"). They called it "Úranus" as Ouranos was the God who inseminated Gaia, the mother of the Titans.

Father St. James:

The stars of this Quechua asterism "Tata Santiago" are unidentified at present (Ciancia 2018).

Fatigued Warrior:

This Polynesian asterism from the Marquesas Islands "Pao-toa" is the IAU constellation Aquila.

Fatty Tail of a Lamb:

There are three Arabic stars or asterisms with this name:

- One, "alyat al-hamal" (ألية الحمل), is the Pleaides Cluster in the IAU constellation Taurus. NOTE: The Arabic word "hamal" refers to a first-year lamb, not a sheep, but some translate this as "fatty tail of a sheep".
- One, "al-Alyah" (الألية) is the star Theta (θ) Serpentis in the IAU constellation Serpens and later latinized to "Alya" in the *Palermo Catalogue* of Giuseppe Piazzi (1786 – 1846) and "Alga". The IAU approved the name Alya for Theta (θ) 1 Serpentis A. NOTE: English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Alyah… the broad sheep's tail" as a name for Alpha (α) Serpentis (Unukalhai) and for Theta (θ) Serpentis.
- One, "alyat al-hamal" (ألية الحمل), later latinized to "Alioth", "Allioth", "Aliioth", "Alyah", and "Alyat" is the star Epsilon (ε) Ursae Majoris in the IAU constellation Ursa Major:
  - "Alioth" first appeared in the first edition of the *Alfonsine Tables* (1483).
  - English author Geoffrey Chaucer (c.1340s – 1400) listed it as "Aliot" in his *Hous of Fame.*
  - The Constance Celestial Globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists "Alioth"
  - The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) lists "Alioth" for this star.
  - German astronomer Johann Bayer (1572-1625) listed it as "Aliath" and "Risalioth" (quoting French scholar Joseph Justus Scaliger (1540 – 1609)). Johann Bayer's *Uranometria* (1603) lists "Ris Alioth" and "rictius Aliath" ("more correctly Aliath") for this star. NOTE: Bayer lists "Alahague" and "Alangue" as alternate names for Ophiuchus in his *Uranometria*.
  - The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Alioth".
  - Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Alioth".
  - Italian astronomer Giovanni Battista Riccioli (1598 – 1671) listed it as "Alabieth", "Alaioth", "Alhiath", "Alcore", and "Alhaiath".
  - Later editions of the *Alfonsine Tables* and the 1515 edition of the *Almagest* listed "Aliare", and "Aliore".
  - Robert Hues lists "Aliare" and "Aliath" in his *A Learned Treatise of Globes* in 1659.
  - The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) labels this star "Alioth".

- American uranographer William Croswell (1760 – 1834) lists this star as “Alioth” on his *Mercator Map of the Starry Heavens* in 1810.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists “Alioth” in his *Celestial Atlas* in 1822.
- American uranographer Elijah Burritt’s *The Constellations for each Month in the Year* (1835) lists “Alioth”.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Alioth”.
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich list this star as “Alioth”.
- German astronomer Johann Elert Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this star as “Alioth”.
- English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists this star as “Alioth”.
- American astronomer Winslow Upton’s *Star Atlas* (1896) lists this star as “Alioth” and describes it as “the tail-sheep”.
- The 1st edition (1910) and the 14th edition of British schoolmaster Arthur P. Norton’s *A Star Atlas* (1959) list “Alioth” for this star.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists “Alioth” for this star.
- The IAU approved the name Alioth for Epsilon (ε) Ursae Majoris A.

NOTE: R. H. Allen in his *Star Names* in 1899 associates the names “Alioth”, “Alyah”, and “Alyat” with Theta (θ) Serpentis and reports that English astronomer William Henry Smith lists the names “Alangue” and “Ras Alangue” for this star. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Alangue and Ras Alaugue” as names for Alpha (α) Serpentis (Unukalhai) in the *Alfonsine Tables*.

Favdna:

This Sami star “Favdna” or “Favtna” is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes (Persson 2022). Favdna is hunting the reindeer Sarva (see Reindeer, below).

Favdna’s Bow and Arrow:

To the Sami peoples, “Favdna” or “Favtna” was “the Hunter” (Lundmark 1982), the star Alpha (α) Boötis (Arcturus)- see Hunter, below. Favdna’s bow and arrow was the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above). Favdna hunted Sarva the elk (see Elk above)). Favdna had to be very careful as if he missed Sarva and hit the sky support Boahjenaste (Alpha (α) Ursae Minoris (Polaris)- see “Sky Support” below), the sky would fall. The “bow” is the handle of the Big Dipper extended down to Beta (β) Ursae Majoris (Merak). The “arrow” is a line between Gamma (γ) Ursae Majoris (Phecda) and Alpha (α) Ursae Majoris (Dubhe).

Favorable Judge:

This Akkadian star “Dayan Sidi” is Alpha (α) Draconis (Thuban) in the IAU constellation Draco as listed by R. H. Allen in his *Star Names* in 1899.

Fawaris:

See Riders, below.

Fawn:

This star “al Hurr” is Lambda (λ) Aurigae in the IAU constellation Auriga as depicted on the Borgian globe. This is probably a corruption of the Arabic name Al Ḥibāʿ (ألحباع) – see Tent, below.

This Celtic (Gaulish) asterism “Elembos” is the IAU constellation Leo (Boutet 2017). Compare this to their asterism Deer (see above).

Fawns:

This Tiwa asterism is the Belt of Orion in the IAU constellation Orion.

Fearsome Eel:

This Rapanui star “Vari Koreha” or “Veri Koreha” is Beta (β) Orionis (Rigel) in the IAU constellation Orion (Edwards and Edwards 2016, Edwards et al 2018). The Edwards give an alternate translation as “centipede curling into a circle). In 2010 the Edwards described this as “giant eel” and listed the star as Fomalhaut.

Feather:

This Sahtúotine star “k’it’a” is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus (Cannon 2021). It is the fletching of an arrow.

Feather in Hercules’ Cap:

This **telescopic** asterism is a line of stars near Rasalgethi: Starting at 60 Herculis it runs through 34, 33, and 32 Ophiuchi, HIP 83435, HIP 83308, and then widening into a fan of 6th magnitude stars ending at HIP 82028. It was first recorded by Roland Deschesne of the Calgary Centre of the RASC.

Feather of Lynx:

This **telescopic** asterism “Pénna Lýncis” is the peculiar spiral galaxy NGC 2782 (Arp 215) in the IAU constellation Lynx. William Herschel listed this as “I 167”. John Herschel listed this as h 568 and later as GC 1778 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as “the large faint halo at the eastern side of this galaxy looks like a feather”.

Fed:

This American asterism “The Fed” is made up of stars of the IAU constellation Cetus and was created by Brad and Kathryn Templeton for *The Vault of Heaven* star map for the 2004 Burning Man event held in Black Rock Desert in Nevada (Kuperjanov 2006). It is depicted as a federal law enforcement officer on a four wheeled all terrain vehicle: He is using binoculars to watch their asterism the “Hippie” (see below).

Fedora:

This telescopic asterism is in the IAU constellation Vela and is Ennis 52 on the observing list of Canadian astronomer Charles Ennis. Size 75’ X 50’. The “brim” is formed by the stars HIP 40088, HD 68806, the double stars HIP 40183, HD 69023, HIP 40299, HD 69257, the double star HIP 40285, HIP 40155, HIP 40109, and HD 68628. The “crown” of the hat is the stars HIP 40397, HIP 40478, HD 69493, and the double star HIP 40357. This includes stars of Corder 1536 on Jeffrey Corder’s list.

Feet:

The stars of this Kiribati asterism “Wae” or “Te Wae” are currently unidentified (Trussel and Groves 1978).

Feet of the Bulls:

This Flemish asterism “Pedes Se Tauris” is the IAU constellation Crux. Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius lists both this name and “Cruzero” for Crux and depicts it as a crucifix.

Feet of the Old Man:

This Babylonian asterism “GÌR.MESH SHU.GI” is listed in Anthony Hope’s *A Guide to Ancient Near Eastern Astronomy* in 1996 and is Beta (β) Persei (Algol) in the IAU constellation Perseus and is part of their asterism Old Man (see below).

Feet of Suhail:

This Arabic star “Qadam Suhail” is a star near Alpha (α) Carinae (Canopus) in the IAU constellation Carina, and from the description is probably the Large Magellanic Cloud. This was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

Fehrenbach's Star:

This **telescopic** star is HD 116745 in the Omega Centauri globular cluster in the IAU constellation Centaurus. It is named after French astronomer Charles Fehrenbach (1914 – 2008).

Felixvarela:

This **telescopic** Cuban star is HIP 2247 (BD-17 63) in the IAU constellation Cetus (magnitude 7.03). It was given this name in the IAU NameExoWorlds campaign. It is named for a noted science teacher, Félix Varela. It has an exoplanet named Finlay after Carlos Juan Finlay (1833 – 1915), a pioneer in research of yellow fever.

Fellow Player of Cancer:

This **telescopic** asterism “Sympaéstor Cáncri” is the spiral galaxy NGC 2648 (Arp 89) in the IAU constellation Cancer. It was discovered in 1784 by William Herschel who listed it as “III 49”. It became GC 1688 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name because it “appears to play with its small companion MCG+2-22-6”.

Feluco:

This German asterism is the IAU constellation Sagitta as listed by German astronomer Johann Bayer (1572-1625) in his Uranometria (1603) and listed in R. H. Allen’s *Star Names* in 1899. The meaning is obscure, Allen describing it as “unintelligible”.

Female Brolga:

This Boorong asterism “Kourt-chin” or “Kourtchin” refers to the brolga (a species of wetland bird) and was listed by Stanbridge (1857), Morieson (1999) and Hamacher and Frew (2010). This asterism is

made up of the stars of the IAU constellations Dorado, Reticulum, and Volans with the Large Magellanic Cloud in the middle:

- The center of the female brolga's "body" is the Large Magellanic Cloud and the star Theta (θ) Doradus,
- The "wing tips" are Gamma (γ) Hydri and Beta (β) Doradus,
- Its "head" is Beta (β), Kappa (κ), and Zeta (ζ) 2 Reticuli, and
- Its "feet" stretch down to Zeta (ζ) and Delta (δ) Volantis.

See Male Brolga below for comparison and compare this to the Kamilaroi asterism Brolga (see above).

Female Camel:

This Arabic star "Al Muḥdij" is the star Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus as listed Iranian astronomer Abu Rayhan Muhammad ibn Ahmad al-Biruni (973 – c. 1050) and by R. H. Allen's *Star Names* in 1899. Allen calls the stars around it "Little Camels", which suggests that this is a variation of the Arabic asterism Young She Camels (see below).

Female Crow:

This Boorong asterism, "Collowgulloric War", is in the IAU constellation Carina as listed by Stanbridge (1857), Morieson (1999) and Hamacher and Frew (2010). Collowgulloric is the wife of War (see Crow, above) and the stars around her are her children. Her "body" is centered on the star Eta (η) Carinae and the HII region around it, NGC 3372 (Caldwell 92). Her "wings" are two lines of stars:

- One runs from t2 Carinae through s Carinae to HIP 50785, and
- The other runs from HIP 52922A through u Carinae to x Carinae (which is next to NGC 3532 (Caldwell 91), the Wishing Well Cluster, one of our **telescopic** asterisms).

This Wotjobaluk asterism "Collow-collouricwar" is Eta (η) Carinae in the IAU constellation Carina (Hamacher 2011).

Female Giraffe:

This Tswana asterism "Thutlwa a namagadi" is the False Cross (see False Cross, above).

This G/wi and //Gana asterism "n//abedzi" is the IAU constellation Crux (Alcock 2014). There is another version of this: see Female Giraffes (below).

Female Giraffes:

This G/wi asterism "n//abedzi" is the is the Southern Cross in the IAU constellation Crux. Alpha (α) Crucis (Acrux) and Beta (β) Crucis (Mimosa) are mother giraffes and Delta (δ) and Gamma (γ) Crucis are their daughters. Compare this to Giraffe's Eyes, below. Three is another version of this: See Female Giraffe (above).

Female Grape Gatherer:

This Latin star "Vindemiatrix" ("female grape gatherer") is Epsilon (ε) Virginis in the IAU constellation Virgo:

- This name appears in the 15th century *Alfonsine Tables*.

- 1st century Roman writer Lucius Junius Columella listed it as “Vindemiator” and Publius Ovidius Nasso (Ovid) listed it as “Vindemitor”.
- 1st century Roman architect Vitruvius listed it as “Provindemiator” and “Provindemia Major”.
- This star appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as “Vindemiator”.
- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) lists it as “Protrigetrix” and another variation is “Protygetor”.
- Johann Bayer’s *Uranometria* (1603) lists “Vindemiatrix”, “Vindemiaor, and “Vindemitor”.
- “Praevindemiator”, “Praevindemiatrix”, “Antevindemiatrix”, “Vindemiator”, and “Provindemia” ares listed for this star in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
- This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as “Vindemiatrix”.
- Edward Sherburne lists it as “Praevindemiarix” and “Vindemiatrix” in his *Sphere of Marcus Manilius* in 1675.
- Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists this star as “Vindemiatrix“.
- American uranographer William Croswell (1760 – 1834) lists “Vindemiatrix” on his *Mercator Map of the Starry Heavens* in 1810.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists “Vindemiatrix” in his *Celestial Atlas* in 1822.
- This is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852 as “Vindemiatrix”: The author is unknown, but it is based on Jamieson’s *Celestial Atlas*.
- German astronomer Johann Elert Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this star as “Vindemiatrix”. Compare this to Grape Gatherer (below) and Fruit Pickers (below).
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich lists this star as “Vindemiatrix”.
- English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists this star as “Vindemiatrix”.
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), does **not** list the name Vindemiatrix, but does state: “It is a curious fact that the star Epsilon (ε) in Virgo has more many ages been known as the Grape Gatherer”.
- NOTE: R. H. Allen writes in his *Star Names* in 1899 that “Vindemitor” and “Vindemiator” have also been used for Alpha (α) Virginis (Spica).
- *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists “Vindemiatrix, Roman vintage star”.
- The 1st edition of British schoolmaster Arthur P. Norton’s *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) lists “Vindemiatrix” for this star.
- The IAU approved the name Vindemiatrix for Epsilon (ε) Virginis.

Female Guide of Virgo:

This **telescopic** asterism “Dúctrix Vírginis” is the elliptical galaxy NGC 4374 (Messier 84) in the IAU constellation Virgo. It was discovered by Charles Messier in 1781. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it

this name due to its being at one end of Markarian's Chain (see below). It is also part of the "Great Galactic Face" (see below).

Female Hartebeest:
This /Xam star is Alpha (α) Orionis (Betelguese) in the IAU constellation Orion (Alcock 2014). She is the mate of the Male Hartebeest (see below).

Female Lions:

This /Xam asterism is the three brightest stars of the Southern Cross in the IAU constellation Crux: Alpha (α) 1 Crucis (Acrux), Beta (β) Crucis (Mimosa) and Gamma (γ) Crucis (Gacrux).

Female Llama:

There are two Inca asterisms with the name "Catachillay", or "Qatachillay":

- One is described by some as being in the IAU constellations Centaurus and Scorpius (Moyano 2011). The body of the llama is the dark nebulosity in the Milky Way stretching between Centaurus and Scorpius and its eyes are the stars Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) (see Eyes of the Llama, below). It is similar to their asterism "Yacana" (see Black Llamas, above). Nearby they have a male llama "Urcochillay" (see Male Llama below).
- One is part of a triangle of stars in the IAU constellations Aquila, Cygnus, and Lyra: Alpha (α) Lyrae (Vega), Alpha (α) Aquilae (Altair) and Alpha (α) Cygni (Deneb), with Deneb being Catachillay and Deneb being Urcochillay (Gamarra & Gamarra 2009).

This Quechua asterism "Catachillay" or "Orochillay" is the IAU constellation Crux (Urton 1980).

Female Officer:

This Korean asterism "Yeojang-gyo" (여장교) is a quadrilateral of stars in the IAU constellation Ursa Minor: Eta (η) Ursae Minoris, HIP 81854A, 80480, and 78661.

Female Protocol:

This Chinese xing guan "Nǚshǐ" (女史) is the star Psi (ψ) Draconis in the IAU constellation Draco. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan "Nǚshǐ" is the star Chi (χ) Draconis in the IAU constellation Draco.

Female Revolving One:

This Diné asterism "Náhookǫs Bi'áád" or "Na´hookos ba'a´adii" is part of their three-part asterism "Náhookǫs", the other two parts being "Náhookǫs Bi'ką" (see Male Revolving One, below) and Náhookǫs Bikǫ' (see Central Fire of Náhookǫs, above). It is made up of the stars of the IAU constellations Andromeda, Cassiopeia, Cepheus, and Perseus (Childrey 2008):

- Her "body" is an hour-glass shape including the "W" asterism of Cassiopeia (see W below), with the "hips" being the stars Beta (β) Cassiopeiae (Caph) and Zeta (ζ) Cassiopeiae (Fulu), her "waist" being the stars Gamma (γ) Cassiopeiae (Navi) and Delta (δ) Cassiopeiae (Ruchbah), and her "shoulders" being HIP 7984A and 10000,
- Her "neck" runs between Epsilon (ε) Cassiopeiae (Segin) and HIP 10388,
- Her "head" is a square of the stars Iota (ι) Cassiopeiae and HIP 9909, 10557, and 12222,
- Her "hands" are the stars A Cassiopeiae and Eta (η) Persei, and
- Her "feet" are the stars Delta (δ) Cephei and Lambda (λ) Andromedae.

Of course, this asterism has this name because it revolves around the Hearth Fire (see Central Fire of Náhookǫs above) represented by the star Alpha (α) Ursae Minoris (Polaris).

Female Stars:

This Ukrainian asterism "Baby-Zvizdy"(Баби-Звізди) is the Pleiades cluster in the IAU constellation Taurus. This refers to ancient female tribal deities who dance traditional round dances.

Female Steenbok:

There are two versions of this G/wi (San) asterism "g≠eisa":

- One is the star Alpha (α) Aquilae (Altair) in the IAU constellation Aquila (Slotegraaf 2013, Alcock 2014). The call the star Alpha (α) Lyrae (Vega) the Male Steenbok. This is part of their asterism Steenboks (see below).
- Another is the star Alpha (α) Pavonis in the IAU constellation Pavo (Slotegraaf 2013).

Female Thrower of Virgo:

This **telescopic** asterism "Jaculátrix Virginis" is the giant elliptical galaxy NGC 4486 (Messier 87, Arp 152) in the IAU constellation Virgo. It was discovered by Charles Messier in 1781. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010)": They called it this because of "the famous jet projected from the centre of this galaxy". It is also known as Virgo A (see below) and the "Smoking Gun" (see below).

Female Tortoises:

This /Xam (San) asterism is the sword of Orion in the IAU constellation Orion.

Female Twin of Cetus:

This **telescopic** asterism "Geméllа Céti" is the lenticular galaxy NGC 274 (Arp 140) in the IAU constellation Cetus, which is interacting with NGC 275. It was discovered in 1785 by English astronomer William Herschel who listed it as III 429. It is GC 156 in the General Catalogue of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010).

Female Warrior:

This Latin star "Bellātrix" or "Bellatrix" is Gamma (γ) Orionis in the IAU constellation Orion:

- "Bellatrix" first appears in the works of Persian astrologer Abu Ma'shar al Balkhi (787 – 886) and translator Johannes Hispalensis (1100 – 1180), where it first appeared it originally was used in reference to Alpha (α) Aurigae (Capella) but was transferred to Gamma (γ) Orionis in the 15th century by the Vienna school of astronomers.
- The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.170v-171r lists "Bellatrix".
- "Bellatrix" was listed by German astronomer Johann Bayer in 1603 in his *Uranometria*.
- "Bellatrix" and "Bellator" are names listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
- Bellatrix appears in reprints of the *Alfonsine Tables* (Kunitzsch 1986).
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Bellatrix".

- William Herschel lists "Bellatrix" in his *Catalogue of 500 new Nebulae* in 1802.
- American uranographer William Croswell (1760 – 1834) depicts "Bellatrix" on his *Mercator Map of the Starry Heavens* in 1810.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists this star as "Bellatrix" in his *Celestial Atlas* in 1822.
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich list this star as "Bellatrix".
- This star is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Bellatrix": The author is unknown, but it is based on Jamieson's *Celestial Atlas*.
- German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this star as "Bellatrix".
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as "Bellatrix".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Bellatrix".
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as "Bellatrix" and incorrectly translates "Betelgeuse" as "martial star".
- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Bellatrix: and describes it as a "Female warrior".
- R. H. Allen lists this star as "Amazon Star" in his *Star Names* in 1899.
- *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists this as "Bellatrix – Female Warrior".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list "Bellatrix" for this star.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this star as "Bellatrix".
- The IAU approved the name Bellatrix for Gamma (γ) Orionis.

Female Water Snake:

This Greek asterism is the IAU constellation Hydra as originally described in Ptolemy's *Almagest* (2nd century). See Hydra, below.

Female Wedge Tailed Eagle:

This Boorong asterism, "Collowgulloric Warepil", is made up of stars of the IAU constellations Eridanus, Lepus, and Orion and was listed by Stanbridge (1857), Morieson (1999), and Hamacher and Frew (2010). She is the wife of Warepil (see below). Her "body" is made up of the stars Lambda (λ) Eridanus and Beta (β) Orionis (Rigel). From Lambda (λ) Eridanus her "wings" are two lines of stars:

- One runs through Psi (ψ) Eridanus to Omega (ω) Eridanus, and
- The other runs through Iota (ι) and Kappa (κ) Leporis to Mu (μ) Leporis.

Note: Duane Willis Hamacher II in his excellent *On the Astronomical Knowledge and Traditions of Aboriginal Australians* (2011) asserts that Collowgulloric Warepil is the variable star Eta (η) Carinae as Stanbridge's description of this did not refer to a group of stars.

For the male wedge-tailed eagle "Warepil", see Wedge Tailed Eagle, below.

Fence for Sheep:

This Sardinian asterism “su achile” is the IAU constellation Auriga (Putzolu 2019).

This Italian (Piedmont and Ligurian Alps) asterism “Parc” (“fence”) is the Great Square asterism in the IAU constellation Pegasus (see Great Square below). This was a sort of sheep fence, a mystical place the souls of the dead resided.

Ferry Boat:

This ancient Egyptian asterism “Djat” is made up of stars in the IAU constellations Puppis and Vela. It is a line between the two stars Zeta (ζ) Puppis and Gamma (γ) Velorum.

Ferry of Sky:

This Korean asterism “Haneul-ui Peli” (하늘의 페리) is an irregular oval of stars in the IAU constellation Cygnus. One side starts at Zeta (ζ) Cygni and runs through Upsilon (υ) Cygni, Tau (τ) Cygni, Nu (ν) Cygni, Alpha (α) Cygni (Deneb), and Omicron (ο) Cygni, ending at Delta (δ) Cygni. From here the other side runs back through Gamma (γ) and Epsilon (ε) Cygni, ending up back at Zeta (ζ) Cygni.

Ferryman Phrixi:

This Latin asterism “Portitor Phrixi” is the IAU constellation Aries. This refers to the Greek myth where Phrixus and his mother Helle are rescued by a golden ram.

Fertile of Leo Minor:

This **telescopic** asterism “Astridecórus Leónis Minóris” is the barred spiral galaxy NGC 3344 in the IAU constellation Leo Minor. It was discovered by English astronomer William Herschel in 1785 who listed it as “I 81” in his catalogue. It is GC 2178 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to the number of star forming regions in this galaxy. It is also known as the “Sliced Onion” (see below). Stephen James O’Meara’s *Hidden Treasures Catalogue* (2007) lists this as O’Meara 55 without a name.

Festivity of the Ascending Bird:

This Polynesian (Society Islands) star “Ta’aurua-i-te-ha’apara’a-manu” is Alpha (α) Cygni (Deneb) in the IAU constellation Cygnus. They also call it “Pira’etea” (see White Sea Swallow, below).

Festivity Whence Comes the Flux of the Sea:

This Society Islands star “Taurua-e-tupu-tai-nanu” is Alpha (α) Carinae (Canopus) in the IAU constellation Carina.

Fetus Nebula:

This **telescopic** asterism is nebula NGC 7008 in the IAU constellation Cygnus. It was discovered by English astronomer William Herschel in 1787 who listed it as “I 192”. It is GC 4627 in the *General Catalogue* of 1864. Size 1.4’ X 1.1’. It is also known as the Coat Button Nebula.

Feudal Kings:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a long line of stars in the IAU constellation Taurus: It starts with the determinative star Tau (τ) Tauri and runs through Iota (ι), 105, 108, 109, and 114 Tauri.

This Chinese xing guan “Zhūwáng” (诸王) is a long line of stars in the IAU constellation Taurus: Tau (τ), 99, 103, 118, 125, and 136 Tauri.

This Chinese Chenzhuo xing guan “Zhūwáng” is a bending line of stars in the IAU constellation Taurus: Starting at 109 Tauri it runs through 103 Tauri, 98 Tauri, HIP 22697, and HIP 21819 to Phi (ϕ) Tauri.

Feudal Kings and Three Excellencies:

This Chinese star “Zhuhousangong” from the 3 Kingdoms and Ming Dynasty Period is Lambda (λ) Ursae Majoris in the IAU constellation Ursa Major and is part of their asterism Three Steps (see below).

Fiddle in the Sky:

This Bohemian asterism “Hauslicky na Nebi” is the IAU constellation Lyra.

Fiddle Shaped of Eridanus:

This **telescopic** asterism “Panduráta Erídani” is the elliptical galaxy NGC 1700 in the IAU constellation Eridanus. It was discovered in 1785 by English astronomer William Herschel who listed it as “IV 32”. It became GC 932 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as “the X-ray images by the Chandra satellite show that this galaxy… has the shape of the body of a fiddle”.

Fiddlehead:

This **telescopic** asterism is NGC 772 (Arp 78), an interacting spiral galaxy in the IAU constellation Aries. It was discovered by English astronomer William Herschel in 1785, who listed it as “I 112”. It is GC 463 in the General Catalogue of 1864. This name appears as “Volúta Aríetis” (”Fiddlehead of Aries”) in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). It is also known as the “Nautilus Galaxy” (see below).

Fidicula:

This Latin asterism “Fidicula”, “Fidis”, or “Fides” (as described by Lucius Junius Moderatus) is the IAU constellation Lyra. A fidicula was a small lyre. Compare this to Cithara, above:

- The *De ordine ac positione stellarum in signis* (“*On the order and position of the stars in the signs*”) in the Salzburg compilation (810 – 818) of Abbot Arno of Salzburg (785 – 821) lists “Fides” and “Fidis”.
- Johann Bayer’s *Uranometria* (1603) lists the names “Fides”, Fidicen”, and “Fidicula” for Lyra.
- The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch lists “Fidicula” as a name for Cygnus.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Fidicula”, “Fidis”, and “Fides” for the constellation Lyra.

This Latin star “Fidis” is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra as described by Roman statesman Marcus Tullius Cicero (106 – 43 B.C.E.), and Roman writer Lucius Junius Columella (4 – c. 70 C.E.), and Pliny the Elder (23 – 79 C.E.) in his *Naturalis Historia*.

Field:

This Babylonian asterism from the MUL.APIN tablets “ASH.IKU” or “Iku” (Hunger 1992) and “ASH.GÁN” or “ikû” (Anthony 1996), also known as “One”, is the Great Square of Pegasus in the IAU constellations Andromeda and Pegasus (see Great Square below). It appears in later Seleucid sky lore. It is listed in the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) as “MUL.AS.GAN” (Hunger 1992) and in the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period as “mul as.gan” (Koch-Westenholz 1995), and on planisphere K 8538 as “mulĂS-iku” (Koch 1989). Leitz lists it as “As-gana” in 2019 and lists Psi (ψ) Pegasi inside this square as the “altar of heaven”.

This Sumerian asterism “mulikux (AŠ+GÁN)” listed in the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is the Square of Pegasus in the IAU constellations Andromeda and Pegasus (see Great Square below).

This Assyrian and Akkadian asterism listed in the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) “IKU” is the Great Square of Pegasus in the IAU constellations Andromeda and Pegasus (see Great Square below). It is listed in the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) as “i-ku-ú”. NOTE: R. H. Allen lists “Ku”, “I-ku”, or “I-ku-u” is listed as an Akkadian name for the AIU constellation Aries and for Alpha (α) Arietis (Hamal) in *Star Names* in 1899 and translates this as “Prince” or “Leader” and gives the Assyrian name as “Rubū”.

This Egyptian Dendera asterism (Hoffman 2017) is basically identical to the Babylonian asterism ASH.IKU (see Field). It is depicted as the Egyptian hieroglyph for “water”, suggesting a fishpond.

Field Mouse:

This Babylonian asterism “Harriru” from the MUL.APIN tablets is the IAU constellation Eridanus.

Field of Offering:

This Egyptian asterism from the Pyramid Texts is star clusters on the northern side of the Milky Way (Abdel-Hadi and Yehia, 2009).

Field of Rushes:

This Egyptian asterism is mentioned in the Pyramid Texts and is star clusters, etc., which have at this time not been positively identified (Abdel-Hadi and Yehia, 2009).

Field of the Nebulae:

This American telescopic asterism is an early name for the Virgo Supercluster in the IAU constellation Virgo. *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), uses this name to describe the large number of what were believed to be “nebulae” in that constellation and defines the area by stating: “It will be observed that the stars ε, δ, γ, η, and β, mark two sides of a quadrilateral figure of which the opposite corner is indicated by Denebola in the tail of Leo”. Of course, this was before anyone recognized that these were galaxies.

Field Shot with Diamond Dust:

This American asterism is the Double Cluster (NGC 869 and 884) in the IAU constellation Perseus as described by Amateur American astronomer Charles Edward Barns (1862 – 1937) in his *1001 Celestial Wonders* in 1931.

Fierce Hunter:

This Latin asterism “Acer Venator” is the IAU constellation Centaurus.

Fiery:

This Gaulish asterism “Cuti Prinnios” is the IAU constellation Aries and appears in the *Coligny Calendar* (Boutet 2001, 2014).

Fiery Hair of Sculptor:

This **telescopic** asterism “Ignicapíllus Sculptóris” is the flocculent spiral galaxy NGC 7793 in the IAU constellation Sculptor. It was discovered by American astronomer George Phillips Bond (1825 - 1865) in 1850 at Harvard College Observatory. It is GC 6233 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of “its many disordered spiral arms full of star formation activity”. It is also known as “Bond’s Galaxy”.

Fiery Red:

This Chaldean star “mul ma-ak-ru-u” is listed in the *Great Star List* (Koch-Westenholz 1995) but the stars have not been identified.

Fiery Red of Hydra:

There are two **telescopic** “Fiery Red of Hydra” asterisms:

- One asterism “Pyrrhazusa Hýdrae” is the lenticular galaxy NGC 2784 in the IAU constellation Hydra. It was discovered in 1784 by William Herschel who listed it as “I 59”. It became GC 1778 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).
- One asterism “Pýrrha Hýdrae” is the elliptical galaxy NGC 3923 in the IAU constellation Hydra. It was discovered in 1791 by William Herschel who listed it as “I 259”. It became GC 2586 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Fiery Spirited of Cetus:

This **telescopic** asterism “Pýrithymus Céti” is the barred spiral galaxy Messier 77 (NGC 1068) in the IAU constellation Cetus. This was discovered by French astronomer Pierre Méchain in 1780 and listed by his colleague Charles Messier. William Herschel described it as a “star cluster” and his son John Herschel did also, including it on his list as h 262. It was listed in John Herschel’s 1864 *General Catalogue* as GC 600. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). They gave it this name as due to its “very bright nuclear region”. It is also known as the “Squid Galaxy” (see below).

Fifth:

This Bedouin star “al-Ḫamis” (الخامس) is Epsilon (ε) Ursae Majoris in the IAU constellation Ursa Major.

Fifth Ostrich:

This Arabic star “Al Khamis al Na'amah” (الخامس النعامة) is Gamma (γ) Andromedae in the IAU constellation Andromeda as listed in the *Calendarium* of Al Achsasi al Mouakket in 1650 . This was later latinized to “Quinta Struthionum”.

Fig Bird:

This Latin asterism “Avis Ficarius” is the IAU constellation Corvus and relates to the myth of Corvus loitering at a fig tree (see Corvus, above).

Fighter Jet:

This **telescopic** asterism is Vastagh 6, listed in 2009 by Hungarian astronomer László Vastagh, which is in the IAU constellation Coma Berenices. Its size is 30’ X 27’. Vastagh describes it as “in the shape of a fighter jet. Its brightest star is located at the location of the engine of the imaginary plane, which is the 6.43 mag (HR4873). It has 13 members, evenly distributed. The nose of the fighter, as well as the delta wing and wingtips are perfectly outlined.”

Fighters:

This Macedonian asterism “Komiti” is the Big Dipper asterism in the IAU constellation Ursa Major (Cenev 2014). This represents fighters against Turkish occupation.

Fighting Dragons of Ara:

See Dragons of Ara.

Figure:

This Seleucid asterism “GU” (see Great One, below) or “sal-mu” (“figure”) in the tablet SBTU II No 43 (W 22646) from the Seleucid (Hellenistic) period (275 B.C.E. – 116 C.E.) is the IAU constellation Aquarius (Foxvog 1993).

Figure Eight:

This **telescopic** asterism is planetary nebula NGC 2371-2 in the IAU constellation Gemini. It was discovered by English astronomer William Herschel in 1785, who described it as “Two. Sp-nf, distance 1’, chevelure mixed. Both faint, small, equal, having a nucleus”. Herschel listed it as “II 316 and II 317” in his catalogue. It is GC 1519 and 1520 in the *General Catalogue* of 1864. It seemed to English astronomer John Louis Emil Dreyer (1852 – 1926) to be two objects and so was entered as NGC 2371 and 2372 in the *New General Catalogue of 1888*. It is actually a single planetary nebula. It is also known as the Double Bubble Nebula, the Ant Nebula, the Doughnut (Cut in Half), the Mini Dumbbell, or the Gemini Nebula. Size 1’ X 1’. American astronomer Steve Coe (1949 – 2018) described it as “a figure 8 with a star involved, a dark lane cuts the “8” shape into two fairly equal pieces”.

Figure Outline:

This **telescopic** asterism is the open cluster NGC 6664 in the IAU constellation Scutum. It was discovered by English astronomer William Herschel in 1785 who listed it as “VIII 12”. It is GC 4426 in the *General Catalogue* of 1864. South African astronomer Magda Streicher (2008) describes it as a “figure outline”. It is also known as the Teacup (see below) and Santa’s Sleigh (see below).

Filial Duty Stars:

This Japanese sei shuku or lunar station “Oyakoukou Boshi” is the belt of Orion in the IAU constellation Orion. They see it as a child holding up his/her parents or two parents and a child standing together.

Filamentary Nebula:

This **telescopic** asterism is the planetary nebula NGC 6960 (C 34, LBN 191, PGC 3517;684, Ced 128a) in the IAU constellation Cygnus. It was discovered by English astronomer William Herschel in 1784 who listed it as “V 15”. It is GC 4600 in the *General Catalogue* of 1864. This is also known as the West Veil Nebula (see below), Cirrus Nebula (see above), or Witch’s Broom Nebula (see below).

Filly:

This German asterism “Füllen” is the IAU constellation Equuleus.

Final Generation:

This Coptic lunar mansion “Artulosia” is the stars Beta (β) Pegasi (Scheat) and Alpha (α) Pegasi (Markab) as listed in R. H. Allen’s *Star Names* in 1899, which he associates with the Arabic asterism Back Side of the Bucket for Water Pouring (see above). W.B. Yeats listed this in *A Vision* in 1917, which was derived from German Jesuit astronomer Athanasius Kircher’s *Lingua Aegyptiaca Restituta* in 1636, in which Kircher described it as “Posterior Germinatio” (“Posterior Germination” or “later budding”).

Fine Ring Nebula:

This **telescopic** asterism is planetary nebula Shapley 1 in the IAU constellation Norma. It was discovered by American astronomer Harlow Shapley in 1936.

Finger of Grus:

This **telescopic** asterism “Digitus Grúis” is the edge-on barred spiral galaxy NGC 7462 in the IAU constellation Grus. This was discovered in 1834 by John Herschel who listed it as h 3968 and later as GC 4885 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Finish Fire:

This Naron star is two stars, one possibly Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius (Alcock 2014). One (Antares) is the Mother Star and the other her son. Compare this to the !Kung star Fire Finish Finish (see below), the /Gwi star Fire Finisher (below), and the !Xu star Fire Finishing Star (see below).

This //Gana and !Xo star is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes (Alcock 2014).

Fire:

This Dakota/Lakota/Nakota asterism “Peta” is made up of the stars of the IAU constellation Leo. This is a semi-circle of stars: Eta (η), Gamma (γ), Zeta (ζ), Mu (μ) and Epsilon (ε) Leonis. It is also known as “Oceti” (see Fireplace, below).

There are two **telescopic** “Fire” stars:

- One is the Icelandic star “Funi” (“fire” or “blaze”) is HIP 61177 (HD 109246) in the IAU constellation Draco (magnitude 8.74). It was given this name in the IAU NameExoWorlds campaign. It has an exoplanet named Fold (“earth” or “soil”).

- One is the Latvian star “Liesma” is HIP 66192 (HD 118203) in the IAU constellation Ursa Major (magnitude 8.06). Liesma is a character in the poem *Staburags un Liesma*. This name was given to the star in the IAU NameExoWorlds campaign. It has an exoplanet named Starburags.

Fire Carrier:

This Kokatha and Ngalea star is Alpha (α) Scorpii in the IAU constellation Scorpius.

Fire Drill:

This Tzotzil, Mixe, Totonac, and Nahua asterism is the belt and sword of Orion in the IAU constellation Orion. This is a Spanish term “astillejos” from the *Nebrija* dictionary of the colonial period. Some colonial dictionaries link this to the stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini. This might be because some sixteenth century star charts link the stars of the constellations Gemini, Orion, and Taurus. Compare this to the Aztec asterism “Mamalhuaztli” (see Two Sticks, below).

Fire Finish Finish:

This !Kung star “Da Toa Toa” (“fire finish finish”) is probably Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes (Alcock 2014).

Fire Finisher:

This G/wi star “/edzini” is Alpha (α) Leonis (Regulus) in the IAU constellation Leo (Slotegraaf 2013, Alcock 2014). NOTE: Alcock cites Silberbauer (1981) as the source of this and cites Marshall (1991) as identifying this star as Arcturus and calls it the Fire Finisher’s Child (see below).

Fire Finisher’s Child:

This !Xõ star, also known as “the fire finishing star,” is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius (Slotegraaf 2013, Holt and Slotegraaf 2022).

This G/wi star “/edzinig /wa” is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes (Marshall 1991, Alcock 2014).

Fire Finishing Star:

See Fire Finisher’s Child, above.

Fire Kindler:

This Greek asterism “Πυρκᾱεύς” (“Pyrkáéfs”) is the IAU constellation Cepheus. Compare this to the Arabic asterism On Fire (see below).

Fire Month Guiding Stars:

The Celtic PRIN or guiding stars in the Sequani Calendar in the eleventh month, Edrinios (Fire Month, related to the Old Irish áed (“fire” or “heat”), is the IAU constellation Eridanus (Benigni).

Fire Poker:

This Kamilaroi/Euahlayi asterism is the sword of Orion in the IAU constellation Orion. It is part of their asterism “Birray Birray” (see Uninitiated Boys, below). The star Beta (β) Orionis (Rigel) is their campfire.

Fire Serpent:

This Aztec asterism “Xiuhcoatl” from the Codex Borgia is stars in the IAU constellation Scorpius (Milbrath 2014).

Fire Spinner:

This American asterism is made up of stars of the IAU constellations Andromeda, Aries, Pisces, and Triangulum and was created by Brad and Kathryn Templeton for *The Vault of Heaven* star map for the 2004 Burning Man event held in Black Rock Desert in Nevada (Kuperjanov 2006). One “fire wand” of the spinner is Triangulum. The other “fire wand” is the line between Alpha (α) Arietis (Hamal) and Beta (β) Arietis (Sheratan). One “foot” is the stars Eta (η) and Zeta (ζ) Andromedae and the other “foot” is Chi (χ) and Psi (ψ) 1 and 2 Piscium.

Fire Star:

This Diné star “Na´hookos bokho´h” is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Childrey 2008)**.**

This Chinese star “Huo” (火) or “Huo Hsing” was mentioned in the oracle bone inscriptions from the Shang Dynasty (c. 16th to 11th century B.C.E.) and is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius. It also appears in the *Shangshuyaodian* 尚书尧典 (*Canon of Yao* of the *Book of Documents*-2300 B.C.E.), a collection of political documents from the legendary Emperor Yao. It is also known as “Ta Huo” (see Great Fire, below).

Fire Tail:

This Gaelic asterism “Drag Bhod” or “An Dreag Bhod” is the Little Dipper asterism in the IAU constellation Ursa Minor. R. H. Allen lists it as “Drag Blod” in his *Star Names* in 1899.

Firebird:

This Chinese xing guan “Huǒniǎo” (火鸟) has two curving lines representing “wings” running out from the central star Alpha (α) Phoenicis (Ankaa) in the IAU constellation Phoenix. You might think that this would resemble the IAU constellation Phoenix, since that is a firebird too, but this version includes stars from the IAU constellation Sculptor:

- One “wing” runs out from Alpha (α) Phoenicis through Kappa (κ) and Epsilon (ε) Phoenicis, HIP 116602, and Iota (ι) Phoenicis, ending at Beta (β) Sculptoris, and
- The other “wing” runs out from Alpha (α) Phoenicis through Mu (μ), Lambda (λ), and Beta (β) Phoenicis to Gamma (γ) Phoenicis.

Firefly Party:

This **telescopic** asterism is the open cluster NGC 3532 (Caldwell 91) in the IAU constellation Carina. It was discovered by French astronomer Abbé Nicolas Louis de Lacaille in 1751 and was listed as II 10. It is GC 2308 in the General Catalogue of 1864. English astronomer William Herschel thought it to be one of the finest star clusters he’d seen. It is also known as the Wishing Well Cluster (see below), the Fish Cluster (see above), the Football Cluster (see below), the Black Arrow Cluster (see above), and the Pincushion (see below). It is located between the constellation Crux and the False Cross asterism (see False Cross, above).

Fireman’s Hat:

This **telescopic** asterism is in the IAU constellation Auriga and is Ennis 44 on the observing list of Canadian astronomer Charles Ennis. Size 30'. The "brim" of the hat starts at the double star HIP 27198 and runs Gaia DR3 3454548436485479296, and HIP 27123 to HD 246901 and an 8th magnitude star. The "top" of the hat is two stars: HD 38113 and Gaia DR3 3454560187520863232. This is Corder 917 on Jeffrey Corder's list: Corder simply describes it as a "loose group".

Fireplace:

This Dakota/Lakota/Nakota asterism "Oceti" is made up of stars of the IAU constellation Leo. This is a semi-circle of stars: Eta (η), Gamma (γ), Zeta (ζ), Mu (μ) and Epsilon (ε) Leonis. It is also known as "Peta" (see Fire, above).

This Kamilaroi star is Alpha (α) Muscae in the IAU constellation Musca. This is a fireplace in Bulimah where all mothers go after death. It is also known as Byaambe's Campfire (see above).

Fireworks Galaxy:

This **telescopic** asterism is NGC 6946 (Caldwell 12, Arp 29), a face-on intermediate spiral galaxy in the IAU constellation Cygnus. It was discovered by English astronomer William Herschel in September 1798 who listed it as "IV 76". It is GC 4594 in the *General Catalogue* of 1864. It was originally thought to be part of the Local Group but is now believed to be beyond its confines and part of the Virgo Supercluster. It has this name due to the large number of supernovae that have been observed in this galaxy. Size 11.5' X 9.8'. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010) as "Pyróbolus Cýgni" ("Firework of Cygnus").

First Big One:

This Diné asterism, "Átsé Etsoh" or "Átsé'etsoh", is made up of stars in the IAU constellations Libra, Lupus, Ophiuchus, and Scorpius(Childrey 2008):

- His "head" is a quadrilateral of stars: Delta (δ) Ophiuchi, HIP 79545, 80840, and 80862,
- His "neck" runs from the stars HIP 80248 to 80016,
- His large "body" is an irregular quadrilateral running from the star HIP 80016 to a "shoulder" at Xi (ξ) Scorpii, then down through Delta (δ) and Eta (η) Scorpii to his "right hip" at Rho (ρ) Scorpii, then over to his "left hip" at Tau (τ) Scorpii, then up his left side through Omega (ω) and Phi (ϕ) Ophiuchi to his "left shoulder" at Zeta (ζ) Ophiuchi,
- His "arms" and "legs" are as follows:
    - Left "arm": Zeta (ζ) to Eta (η) Ophiuchi,
    - Right "arm": Xi (ξ) Scorpii to an "elbow" at Gamma (γ) Librae, and a "hand" at Theta (θ) Librae, with a "walking stick" running out through Upsilon (υ) Librae to Phi (ϕ) Lupi,
    - Right "leg": Rho (ρ) Scorpii to a "knee" at Chi (χ) Lupi and a "foot" at Eta (η) Lupi, and
    - Left "leg": Tau (τ) Scorpii to a "knee" at Epsilon (ε) Scorpii and a "foot" at Mu (μ) 2 Scorpii.

Átsé Ets' Ózí is never seen in the sky at the same time as their asterism "Átsé Etsoh" (see First Slender One, below).

First Connected of Hydra:

This **telescopic** asterism "Concatenáta Prima Hýdrae" is the Seyfert galaxy NGC 2992 (Arp 245) in the IAU constellation Hydra, which is interacting with NGC 2993. It was discovered in 1785 by William Herschel

who listed it as "III 277". It became GC 1918 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

First Dancer:

This German star with the Greek name "Χορευτής πρώτη" ("Choreftís próti") is Delta (δ) Ursae Minoris as listed by German astronomer Johann Bayer (1572-1625). It is part of the Latin asterism Dancers (see above).

First Dog:

This Latin asterism "Canis Primus" is the IAU constellation Canis Minor, so called as it rises before Canis Major. This name is listed in Johann Bayer's *Uranometria* (1603). The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Canis Primus".

First Dog of the Shepherd:

This Arabic star is Alpha (α) 1 Herculis (Rasalgethi) in the IAU constellation Hercules and is also known as the "First Dog of the Southern Shepherd". It is part of their asterism Desert Garden and the Goats (see above). Dorn (1829) describes this as "the Shepherd's Dog" as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283).

First Donkey Colt:

This Latin star "Asellus Primus" is Theta (θ) Boötis in the IAU constellation Boötes and is part of their asterism Donkey Colts (see above). Compare this to the Arabic asterism Whelps of the Hyenas (see below). German astronomer Johann Bayer (1572-1625) listed it under the name Asellus Primus.

First Frog:

This Arabic star "Al Ḍifdi' al Awwal" is Alpha (α) Piscis Austrini (Fomalhaut) in the IAU constellation Piscis Austrinus:

- English Admiral Henry William Smyth's *Prolegomena* lists "Difda" and his *Bedford Catalogue* in 1844 lists "Difda al auwel".
- R. H. Allen lists this in his *Star Names* in 1899. The "second frog" is Diphda (see Second Frog, below).

First Giedi:

This Latin star "Prima Giedi" is Alpha (α) 1 Capricorni (Giedi) in the IAU constellation Capricornus. Alpha (α) Capricorni is a triple star system. Alpha (α) 1 Capricorni has been called Prima Giedi as it is next to Alpha (α) 2 Capricorni (Algedi- see Kid, above):

- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Prima Giedi", from al jedi, the goat."
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list "Prima Giedi" for this star.
- Alpha (α) 1 Capricorni has not yet been assigned an approved name by the IAU.

First Great One:

This Chinese xing guan "Tàiyǐ" (太乙) is the star HIP 66798 in the IAU constellation Draco. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

First Horse:

This Latin asterism "Equus Primus" or "Equus Prior" is the IAU constellation Equuleus. It was called this as it rose before Pegasus. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Equus prior".

This Arabic asterism "Al Faras al Awwal" is the IAU constellation Equuleus. It was called this as it rose before Pegasus.

First in the Paw:

This Arabic star "Aoul al Dzira" is Alpha (α) Geminorum in the IAU constellation Gemini and was listed in the *Calendarium* of Al Achsasi al Mouakket in 1650.

This Latin star "Prima Brachii" is Alpha (α) Geminorum (Castor) in the IAU constellation Gemini.

First Leap of a Gazelle:

There are two Arabic asterisms with the name "(al-Qafzat) ul-Ūla'" (القفزة الأولى) or "Al Karzah al Ūla":

- One, latinized to "Alkafzah", "Alkaphrah", or "El Koprah" and listed by Persian astronomer Ulugh Beg Mirza (1394 – 1449) as "Al Firkrah", is the line of stars Nu (ν) and Xi (ξ) Ursae Majoris in the IAU constellation Ursa Major and is part of their asterism Three Leaps of a Gazelle (see below).
    - American uranographer Elijah Burritt (1794 – 1838) listed it as "Acola" and "Al Kaphrah",
    - German astronomer Christian Ludwig Ideler (1776 – 1846) listed it as "Awla"
    - English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "al úla", "Al kafzah al úla", "Alula Australis", and "Al úla Borealis" as the first leap.
    - The *Standard Dictionary of Facts* (1908 – 1924) listed it as "El Kophrah".
- One, latinized to "Alkaphrah", "Kafzatania", or "Al Kaprha", is the star Kappa (κ) Ursae Majoris:
    - This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "el Kaphzah": The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822.
    - The name Alkaphrah was approved for Kappa (κ) Ursae Majoris A by the IAU's Working Group on Star Names in 2017.

NOTE: Nu (ν) Ursae Majoris later became further latinized as "Alula Borealis" and Xi Ursae Majoris as "Alula Australis". The IAU approved the name Alula Australis for Xi Ursae Majoris Aa and the name Alula Borealis for Nu (ν) Ursae Majoris.

First Observatory:

This Chinese Chenzhuo xing guan "Touguan" is the star Alpha (α) Draconis (Thuban) in the IAU constellation Draco. It is part of their xing guan Purple Forbidden East Wall.

First of the Aṣāḍhā:

This Vedic nakshatra (lunar mansion) “Purva Ashadha” or “Poorvashada” (translated as “First of the Aṣāḍhā”, “Aṣāḍhā the Invincible One”, “early victory”, or “first invincible one”) is in the IAU constellation Sagittarius and is the stars Delta (δ) and Epsilon (ε) Sagittarii. Ivanković (2021) lists this as “Asādhā” from the *Rig-Veda* and “Pūrvā Asādhā” from the *Taittirīya Brāhmana* and relates it to the Apah, who are Hindu Goddesses of rain. Leitz (2019) lists “Purva Asadha” as appearing in the *Atharveda* and on the nakshatra list of the scholar Varahamihir but identifies this as “the star Sagittarii”: Of course, Sagittarii is a suffix which could be applied to any star in Sagittarius. Leitz also writes that the maharshi Parasara listed the stars Gamma (γ), Delta (δ), Epsilon (ε), and Lambda (λ) Sagitarii, but the *Brhat Samhita* only lists Delta (δ) and Epsilon (ε) Sagittarii. W. Brennand lists this as “Purvashadha” in his *Hindu Astronomy* in 1896 and translates this as “a couch”. Bhagwath (2019) lists its symbols as either an elephant tusk, a fan, or a winnowing basket.

This Myanmar nekkhat (lunar mansion) “Pyobba Than” (ပြုပ္ဗာသင္ဍ) is in the IAU constellation Sagittarius and is the stars Delta (δ) and Epsilon (ε) Sagittarii.

This Tibetan gyukar (lunar house) “Chu Stod” or “Chutö” is in the IAU constellation Sagittarius and is the star Delta (δ) Sagittarii (Johnson-Groh 2013).

First of the Dabaran:

This Arabic star “Awwal al Dabarān” is Gamma (γ) Tauri in the IAU constellation Taurus as listed in the *Calendarium* of Al Achsasi al Mouakket in 1650 and in R. H. Allen’s *Star Names* in 1899. Compare this to First of the Hyades, below.

First of the Hyades:

This Latin star “Prima Hyadum” or “Primus Hyadum” is Gamma (γ) Tauri in the Hyades cluster in the IAU constellation Taurus. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists it as “Hyadum primus, or leader of the Hyades”. The IAU approved the name Prima Hyadum for the star Gamma (γ) Tauri A in 2017. Compare this to First of the Dabaran, above.

First of the Sacred Feet:

This Vedic moon station consists of the stars Alpha (α) Pegasi (Markab) and Beta (β) Pegasi (Scheat) in the IAU constellation Pegasus, which form one side of the Great Square of Pegasus (see Great Square below).

First of the Virgins:

This Arabic star “al-ʿAdhāriy” (الْعَذَارِي), “first of the virgins/nymphs”, later latinized to “Adhara”, is Epsilon (ε) Canis Majoris in the IAU constellation Canis Major and is part of their asterism “Virgins” (see below). The IAU approved the name Adhara for Epsilon (ε) Canis Majoris A.

This Latin star “Prima Virginum” is Epsilon (ε) Canis Majoris in the IAU constellation Canis Major.

First Ostrich:

This Arabic star “awwal al-naʿām” or “awwil al naʿāmāt” (ول ألنعمة), later latinized to “Aoul al Naamet” or “Aoul al Naamat”, is Eta (η) Ceti in the IAU constellation Cetus. Aoul al Naamat is listed in the *Calendarium* of Al Achsasi al Mouakket in 1650. It is part of their asterism “Hen Ostriches” (see below). Compare this to “First Returning Ostrich” (see below).

This Latin star “Prima Struthionum” is Eta (η) Ceti in the IAU constellation Cetus.

First Ranking Son of Anu:

See Heir of the Temple, below.

First Reddish One:

This Vedic nakshatra (lunar mansion) “Purva Phalguni” or “Pūrva Phalgunī” (Ivanković 2021) is in the IAU constellation Leo and is the stars Delta (δ) and Theta (θ) Leonis. It is related to the deity Bhaga, God of wealth and marriage. It is also translated as “Front Feet of Marriage Bed”. Leitz (2019) lists “Purva Phalguni” as appearing in the *Atharveda* and on the nakshatra list of the scholar Varahamihir but identifies the star as “the star Leonis”: Of course, Leonis is a suffix that could be applied to any star in Leo. The maharshi Parasara listed eight stars for this asterism. It appears as “Pūrve Phálgunī” in the *Taittirīya Brāhmana* (Ivanković 2021). W. Brennand lists this as “Purva Phalguni” in his *Hindu Astronomy* in 1896 and translates it as “a bedstead”. Bhagwath (2019) lists its symbols as the front legs of a bed, a hammock, or a fig tree. Along with their asterism Uttara Phalguni (see Second Reddish One, below) this is known as “Phálgunyau” (“Reddish Ones”).

This Myanmar nekkhat (lunar mansion) “Pyobba Baragonni” (ပြုပ္ဗာ ဘရဂုဏ္ဏီ) is in the IAU constellation Leo and is the stars Delta (δ) and Theta (θ) Leonis.

This Tibetan gyukar (lunar house) “Bre”, “Dre”, or “Ta Chung” is in the IAU constellation Leo and is the star Delta (δ) Leonis (Johnson-Groh 2013).

First Returning Ostrich:

This Arabic star “awwal al-naʿām al-ṣādira”, later latinized to “Aoul al Sadirah” or “Prima τού al Sadirah” is Phi (φ) Sagittarii in the IAU constellation Sagittarius (Knobel 1895) and is part of their manzil Ostriches (see below). Compare to their asterism First Ostrich (see above).

First Seen of Triangulum:

This **telescopic** asterism “Primovísus Triánguli” is the quasar 3C 48 in the IAU constellation Cassiopeia. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because this “is one of the first known quasars and the first that was optically identified (in 1960)”.

First Slender One:

This Diné asterism, “Átsé Ets’ Ózí” or “Átsé’etsózí” (“first slender one” or “first slim one”) is made up of the stars of the IAU constellation Orion (Childrey 2008):

- His “head” is a quadrilateral of stars: HIP 28686, 28171A, 29138, and 29508,
- His “neck” runs from Mu (μ) Orionis to Alpha (α) Orionis (Betelgeuse),
- Betelgeuse forms the top of his “body”, which is a triangle with the “hips” being the belt of Orion,
- His “arms” and “legs” are as follows:
    - Two “arms” run out from Betelgeuse to the stars Lambda (λ) Orionis and Gamma (γ) Orionis (Bellatrix),
    - One “leg” runs from Zeta (ζ) Orionis (Alnitak) to his “knee” at the sword of Orion and his “foot” at Kappa (κ) Orionis (Saiph), and

- One “leg” runs from Delta (δ) Orionis (Mintaka) to a “knee” at Eta (η) Orionis and a “foot” at Beta (β) Orionis (Rigel).

Átsé Ets’ Ózí is never seen in the sky at the same time as their asterism “Átsé Etsoh” (see First Big One, above).

First Son of the Sun:

This Lokono (Arawak) asterism is the Pleiades cluster in the IAU constellation Taurus (Rybka 2018). The Sun had twin sons, one of whom was swallowed by the sky anaconda and became the star Antares (see Second Son of the Sun, below). The other the Sun placed in a safe place in the sky as the Pleiades. The rising of the Pleiades marks the new year and the beginning of horticultural activities in the coastal regions of Guiana.

This Kalina (Carib) asterism is identical to the Lokono asterism First Son of the Sun.

First Spout:

This Arabic manzil “al-fargh al-awal” (الفرغ الأول) is in the IAU constellations Andromeda and Pegasus and is the stars Alpha (α) Andromedae (Alpheratz) and Beta (β) Pegasi (Scheat) and was a name listed by Ibn Qutayba (d. 889 C.E.) and Iranian astronomer Abu Rayhan Muhammad ibn Ahmad al-Biruni (973 – c. 1050) and is listed in R. H. Allen’s *Star Names* in 1899. It is also known as Front Side of the Bucket for Water Pouring (see below) and is part of their asterism Two Spouts (see below). Compare this to the Vedic nakshatra Purva Bhadrapada (see Early Blessed One, above).

First Star:

This Hawaiian star **“**Nanamua” is Alpha (α) Geminorum (Castor) in the IAU constellation Gemini.

First Star of the Butting One:

This Arabic star “al-awwal min al-nath” is Gamma (α) Arietis in the IAU constellation Aries as it appears on the star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003). Compare to Butting (above).

First Two:

This Bedouin asterism “Al Khilj”or “al-Ḫilj” (الخلج) is the stars Alpha (α) Ursae Majoris (Dubhe) and Beta (β) Ursae Majoris (Merak) in the IAU constellation Ursa Major. It is also known as “al-Ḫilj al-awwalāt” (“the First Khilj”).

First Two Crossbars of the Bucket:

This Arabic asterism “‘arquwata ad-dalw al-ulayan” (العرقوتا الدلو الأليان) is two stars in the IAU constellations Andromeda and Pegasus: Alpha (α) Andromedae (Alpheratz) and Beta (β) Pegasi (Scheat). They were part of their rain stars calendar. It is also known as First Spout (see above) and Higher Crossbar of the Bucket (see below).

Fish:

This Babylonian asterism “MUL.KU” (Hunger 1992), or “KU” or “nunu” (Anthony 1996) from the MUL.APIN tablets and listed in the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) and “mul.ku” from the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period is the IAU constellation Piscis Austrinus. It appears in later Seleucid sky lore.

- The “body” starts the “nose” at Alpha (α) Piscis Austrini (Fomalhaut) and runs around through Epsilon (ε), Tau (τ), Theta (θ), Iota (ι), Mu (μ), and Beta (β) Piscis Austrini.
- From the “nose” two lines run out from Fomalhaut:
- One goes to Gamma (γ) Piscis Austrini, and
- One goes to Delta (δ) Piscis Austrini.

This Sumerian asterism “mulku” from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is the IAU constellation Piscis Austrinus.

This Akkadian asterism “nu-ú-nu” from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is the IAU constellation Piscis Austrinus.

This Assyrian asterism “Kua” is the IAU constellation Piscis Austrinus.

This Babylonian asterism “Nūnu” is the IAU constellation Pisces as listed by R. H. Allen in his *Star Names* in 1899.

This Persian asterism “Mahīk” is the IAU constellation Pisces as listed in R. H. Allen’s *Star Names* in 1899.

This Turkish asterism “Balīk” is the IAU constellation Pisces as listed in R. H. Allen’s *Star Names* in 1899.

This Chinese xing guan “Yú” (鱼) is the open cluster Messier 7 (NGC 6475, the Ptolemy Cluster) in the IAU constellation Scorpius and is identical to the Korean asterism “Fish” (see below). This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan is the open cluster Messier 7 (NGC 6475) in the IAU constellation Scorpius.

This Korean asterism “Saengseon” (생선) is the open cluster Messier 7 (NGC 6475, the Ptolemy Cluster) in the IAU constellation Scorpius and is identical to the Chinese xing guan “Fish” (see above).

This Syrian asterism “Nano” is the IAU constellation Pisces as listed by John Hill in his *Urania* in 1754. R. H. Allen lists it as “Nūno” in his *Star Names* in 1899.

This Hebrew asterism “Dagim” is the IAU constellation Pisces as listed in their list of constellations of the zodiac (mazzaroth) in their *Talmud* and is related to their month Adar. Edward Sherburne lists it as “Dagáim” in his *Sphere of Marcus Manilius* in 1675 and translated this name as “Duo Pisces” (“two fish”).

This Chakavian asterism “Rybôj” is the IAU constellation Piscis Austrinus.

This German asterism “Fische” is the IAU constellation Pisces as depicted in the *Nördliche Sternhimmel* sky map of O. S. Reuters based on the work of German astronomer Johann Elert Bode (1747 – 1826).

This English asterism “Piscis, the Southern Fish” is the IAU constellation Piscis Austrinus. English astronomer Richard Anthony Proctor gave it this name in 1873 as he believed that shortening the name would make more room on astronomical charts. “Piscis” is listed in Proctor’s *A New Star Atlas* (1887) as an official constellation “recognized in the catalogue of the British Association”.

This Chinook star is Alpha (α) Canis Majoris (Sirius). It is part of a three-part asterism which includes the Little Canoe (see below) and Big Canoe (see above) which are in a race in a river (the Milky Way) for this “fish”.

There are four **telescopic** "fish" asterisms:

- One is in the IAU constellation Lyra and is Ennis 82 on the observing list of Canadian astronomer Charles Ennis. Size 140' X 40'. The fish's "body" is the oval of stars including HIP 90551, 90612, 90488, 90393, 90258, 90079, 89914, and the double stars HIP 90283A and 90370A. The fish's "tail" is four stars: HIP 90999, 90908, 90831, and 90886.
- One is Vastagh 18, listed in 2009 by Hungarian astronomer László Vastagh, which is in the IAU constellation Cassiopeia. Its apparent diameter is 77'. Vastagh describes it as "consisting of 120-150 members bright (3.9 mag.) NY. The members of the set form a trapezoid with rounded corners, the head of the fish-shaped [asterism]. The mouth of the fish is marked by the 6.44 magnitude star HD 5459. The trunk snake-shaped, in the shape of the letter 'S'. The caudal fin is the letter 'V' with a curved stem. Both the head and the tail are oversized compared to the body of the fish. The aforementioned snake-shaped trunk is none other than ASCC 4 marked NY."
- One is the "Fish Cluster", open cluster NGC 3532 (Caldwell 91), in the IAU constellation Carina as listed by South African astronomer Auke Slotegraaf. This was discovered by French astronomer Abbé Nicolas Louis de Lacaille in 1751 and was listed as II 10. It is GC 2308 in the General Catalogue of 1864. English astronomer John Herschel (1792 – 1871) described it as "the most brilliant object of the kind I have ever seen". It is also known as the Wishing Well Cluster, the Football Cluster, the Firefly Party, the Black Arrow, and the Pincushion. Auke notes that "Dieter Willasch sees 5th magnitude star X Carinae as the eye of the fish… but I trace it differently, with X Carinae not a part of the fish, but looking rather like a lure cast by a celestial angler".
- One, "der Füsch" is Gebauer 2 (SG 2) in the IAU constellation Draco. German amateur astronomer Sarah Gebauer discovered this in September 2023. The most prominent stars in this asterism are HIP 90502, Gaia DR3 2267194080282211328, and Gaia DR3 2267169994105609728.

Fish and Chips Galaxies:

This **telescopic** asterism is NGC 4567 and NGC 4568, a pair of colliding unbarred spiral galaxies in the IAU constellation Virgo: They are part of the Virgo Cluster. These were discovered by English astronomer William Herschel in 1784 who listed them as "IV 8" and "IV 9". His son John Herschel listed them as "1358" and "1359" in his catalogue. They are GC 3108 and GC 3109 in the *General Catalogue* of 1864. They are also known as the Butterfly Galaxies (see above) or the Siamese Twins (see below).

Fish Bucket:

This Babylonian star "Kullat Nunu" is Eta (η) Piscium in the IAU constellation Pisces.

Fish Farm Fencing:

This Tupi asterism "Ararapari" is the belt of Orion in the IAU constellation Orion (De Freita Mourão 2009).

Fish Fry Egret:

This Barasana asterism "Imika Yehe" is the stars surrounding Alpha (α) Persei (Mirfak) in the IAU constellation Perseus (Hugh-Jones 2006).

Fish Grill:

This Tukano asterism “Waikasa” or “Wai Kasabo” (“a kind of grill to cook fish”, also known as “Moquém”, is the Hyades cluster in the IAU constellation Taurus (Cardoso 2015, Cardoso 2016).

This Barasana asterism “Wai Kasabo” (“fish smoking rack”) is the Hyades cluster in the IAU constellation Taurus (Hugh-Jones 2006). This is also known as “Masu Ya Kasabo” (see Man’s Rack, below) and “Timia Ya Kasabo” (see Otter’s Rack, below).

This Tupi (São Luís Island) asterism “Seychouioura” is the IAU constellation Corvus. Compare this to the Tupi asterism “Muquentaúa” (see Cane Grill, above). Note: some experts dispute this and say that it is the Great Square of Pegasus (see Great Square below).

Fish Head Nebula:

This **telescopic** asterism is HII region IC 1795 (LBN 645, Ced 6) in the IAU constellation Cassiopeia. IC 1795 was first recorded by American astronomer Edward Emerson Barnard (1857 – 1923)

Fish Hooked:

This **telescopic** asterism is in the IAU constellation Cancer and was listed by American astronomer John A. Chiravalle. Jeffrey Corder lists it as Corder 1568. The “fish’s body” includes the stars HIP 41325, 41398, 41430, and 41532. The “tail” includes HIP 41569 and 41550.

Fish Mouth:

This Latin star “Os Piscis Notii” is Alpha (α) Piscis Austrinus (Fomalhaut) in the IAU constellation Piscis Austrinus.

- “Os Piscis Notii” is listed by 14th century Greek geographer and astronomer Georgius Chrysococcas.
- Johann Bayer’s *Uranometria* (1603) lists “Os Piscis”.

This **telescopic** asterism is the dark bay that extends from the north into the bright region of the Orion Nebula known as “Sinus Magnus” in the IAU constellation Orion.

Fish Net:

The Tukano asterism is made up of stars in the IAU constellation Orion (Bucur 2022): The belt of Orion plus the stars Alpha (α) Orionis (Betelgeuse) and Gamma (γ) Orionis (Bellatrix). The Tukano also call this “Circulo de Dança” (see Circle dances, below) and “Sioyahpu” or “Cabo do Enxó” (literally – “instrument to carve wood”, see Adze Handle, above).

Fish of Horologium:

This **telescopic** asterism “Ichthyódes Horológii” is the barred spiral galaxy IC 2000 in the IAU constellation Horologium. It was discovered by DeLisle Stewart in 1899. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of “the fish like shape”.

Fish of Horus:

This Coptic lunar mansion “Pi-Kutorion” is the star Beta (β) Arietis (Sheratan) in the IAU constellation Aries. John Hill gives it the Latin name “Statio Hori” in his *Urania* in 1754 and translates that as “Station

of Horus", but this is actually the Latin name of the Coptic lunar mansion "Ôrias" (see Station of Horus, below). W.B. Yeats listed it in *A Vision* in 1917, which was derived from the works of German astronomer Athanasius Kircher (1602 – 1680), who called it "Piscis Hori" ("fish of Horus") and "Caput Arietis" ("Head of Aries").

Fish of the Sky:

This Akkadian asterism "Nunu" or "Nun same" ("fish of the sky") from the *Astrological Reports to the Kings* of the late Assyrian period (Hunger 1992) is the IAU constellation Piscis Austrinus.

Fish on the Platter Nebula:

This **telescopic** asterism is dark nebula is Barnard 144 in the IAU constellation Cygnus.

Fish Snake:

This postclassic Mayan asterism from the *Paris Codex* is the IAU constellation Sagittarius (Milbrath 2014). Compare this to the Mayan asterism "Xoc" (see Shark, below).

Fish Trap:

This Yupik asterism "Taluyaq" is the IAU constellation Boötes.

This Tupi asterism "Cacuri" is the IAU constellation Crux (De Freita Mourão 2009).

This Tupi Guarani asterism "Cacuri" is the IAU constellation Crux (Lima and De M. Figueirôa, 2007).

This Sama asterism "Bupu" is the Big Dipper asterism in the IAU constellation Ursa Major (Ambrosio 2008). This is a rectangular bamboo fish trap. The stars of the "handle" of the Dipper are the rope used to pull the trap out of the water.

This Kiribati asterism "Ma ni kataenako" is a horseshoe shaped group of stars in the IAU constellation Eridanus (Trussel and Groves 1978). This is probably the loop of stars Delta (δ), Epsilon (ε), Zeta (ζ), Eta (η), and Tau (τ) 1, 3, 4, 5, and 6 Eridani. They are also known as "toriba ni Maiaki".

Fisher:

This German asterism is the IAU constellation Orion as depicted in the *Nördliche Sternhimmel* sky map of O. S. Reuters based on the work of German astronomer Johann Elert Bode (1747 – 1826).

This Anishinaabe and Ojibwe asterism "Odjiig" is the Big Dipper asterism in the IAU constellation Ursa Major (Lee et al 2014, Berezkin 2005). The fisher's "tail" is the "handle" of the Big Dipper, and he has an arrow in his tail represented by the stars 24 Boötis and 13 Boötis in the IAU constellation Boötes. NOTE: this animal is in the weasel family (Martes Pennanti).

This Ininew asterism "Ochekatak" or "Ochekatchakosuk" (Buck 2016) is identical to the Anishinaabe asterism "Odjig" (see above).

Fisher Star:

This Anishinaabe star "Ojiig Anung" is Alpha (α) Ursae Minoris (Polaris). It is called this as their asterism Fisher (see above) revolves around it (Lee et al 2014).

Fisherman:

This Hungarian asterism "halász" appears on the celestial map of Hungarian uranographer Sandor Nagy (1915) lists this asterism. It is depicted as a fisherman drawing a net into his boat. Caught in this net is

the Fishtail (see below). NOTE: Nagy's 1915 chart is beautifully illustrated, but some of the labels are hard to make out and I find it difficult to match the hand drawn stars on his chart with actual star patterns in the sky. The stars are currently unidentified.

Fishermen:

This Tupi asterism "Piracaçaras" is the stars Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus (De Freita Mourão 2009). These fishermen are chasing their asterism "Juaraúa" (see Manatee, below).

This Tupi Guarani asterism is the stars Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus (Lima and De M. Figueirôa, 2007). These fishermen are chasing their asterism "Peixe Boi" (see Manatee, below).

Fishes:

This Greek asterism "Ἰχθύες" ("Ichthýes") is the IAU constellation Pisces as mentioned in Aratus' poem *Phaenomena* (270 B.C.E.) and as originally described in Ptolemy's *Almagest*. The Greeks also used the singular name "Ἰχθύε" ("Ichthýe"). Ptolemy (c.100 – c.170) described the parts of his constellation:

- "ἐπόμενος" ("epómenos" or "next") for the rear or eastern part,
- "ἡγουμένος" ("igouménos" or "prior") for the front or western part, and
- "νότιος" ("nótios" or "southern").

The stars in Ptolemy's Fishes are arranged like this:

- The bent line between the fishes was called "λίνον" ("línon" or "thread") by Ptolemy and is more crooked in the original version than what you see on today's star charts. The two lines run away from Alpha (α) Piscium (Alrescha):
    - One line runs through Omicron (ο), and 102 Piscium to Rho (ρ) Piscium,
    - The other crooked line runs through Xi (ξ), Nu (ν), Mu (μ), 89, 80, Zeta (ζ), Epsilon (ε), Delta (δ), 51, and 41 Piscium to Omega (ω) Piscium,
- At one end the "fish" is two lines of stars running off Omega (ω) Piscium:
    - One line runs through Lambda (λ) and Kappa (κ) Piscium to Gamma (γ) Piscium,
    - The other runs through Iota (ι), Theta (θ), and 7 Piscium to Beta (β) Piscium,
- At the other end the "fish" has two parts:
    - Rho (ρ) Piscium forms one corner of a bent triangle of the stars Phi (φ) Piscium, Psi (ψ) 1, 2 and 3 Piscium, and Chi (χ) Piscium, and
    - One side of the triangle formed by Phi (φ) and Psi (ψ) Piscium is a bending loop of the stars Upsilon (υ), 82, Tau (τ), Sigma (σ), 68, 65, and 67 Piscium.

This Gaulish asterism "Ogroni Prinnios" is the IAU constellation Pisces and appears in the Coligny Calendar (Boutet 2001). Compare to their asterism Winter Month Guiding Star (below).

This Romanian asterism "Peștii" is the IAU constellation Pisces (Ottescu 2009).

Fishhook:

This Kiribati asterism "Te Ngea" is the IAU constellation Corona Australis (Trussel and Groves 1978). Ngea is a hardwood used to make large fishhooks for catching sharks.

There are nine **telescopic** fishhook asterisms:

- One is HII region SH 2-245 (LBN 839) in the IAU constellation Taurus. It is also known as the Eridanus Loop.
- One from *Pattern Asterisms* by American astronomer John A. Chiravalle is in the IAU constellation Taurus and is 3 degrees north of the Hyades cluster. The star 56 Tauri is the end of the "hook", and the curve of the "hook" runs through the stars 51 Tauri, 53 Tauri, HIP 20417A, HIP 20493, Kappa (κ) 1 and 2 Tauri, and Upsilon (υ) Tauri, ending at 72 Tauri. Size 100' X 50'.
- One is NGC 4656 and 4657 in the IAU constellation Canes Venatici. This was discovered in 1787 by English astronomer William Herschel: He listed them as "I 176" and "I 177". The became GC 3189 and GC 3190 in the *General Catalogue* of 1864. It is also known as the Crowbar Galaxy (see above), the Hook (see below), the Hockey Stick Galaxies (see below), and the Hummingbird (see below). NOTE: It was originally thought that these were two galaxies, hence the name. However, it is now believed that this is one tidally distorted galaxy interacting (in radio wavelengths) with NGC 4631. Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) lists the names "Crowbar Galaxy", "Fishhook Galaxy", and "Hockey Stick Galaxy".
- One is listed by René Merting on the *Faint Fuzzies* website and is in the IAU constellation Scutum. The top end is R Scuti (HIP 92202) and runs through HIP 91960, HIP 91880, HIP 91751, to HIP 91728A. From HIP 91728A a curve of 8th magnitude stars forms the "hook". Its size is 120' X 60'.
- One is Corder 2623 in the IAU constellation Boötes and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 75'. This is nine stars north of Alpha (α) Boötis (Arcturus): The "hook" includes HIP 69592, 69715, 69899, and 69918. HIP 69594 provides a "barb" at one end.
- One is Simonic 5AB from the list of Hungarian astronomer Ilona Simon Mogyorósi, which is in the IAU constellation Triangulum. This includes HD 9844, Gaia DR3 302921951738569728, Gaia DR3 302921058385377664, SAO 74811, HIP 7356 and 7374. This is Ennis 12 listed by Canadian astronomer Charles Ennis.
- One is in the IAU constellation Draco and is Corder 3359 on the observing list of American astronomer Jeffrey Corder. Size 35' X 25'. This is ten 8th – 10th magnitude stars including HIP 86982.
- One is the open cluster NGC 6704 in the IAU constellation Scutum. It was discovered by German astronomer August Winnecke in 1854. It is GC 4435 in the *General Catalogue* of 1864. It was given this name by American astronomer Steve Coe, who describes it as a "fish hook shape that is surrounded by a dark lane that rings the cluster" on the DOCdb database. Also known as the Bull's Eye (see above).
- One is made up of stars of the IAU constellation Aquila and Scutum. It was posted by Will Rothfuss on *Cloudy Nights* in July 2022. It starts at Lambda (λ) Aquilae and runs through 12 Aquilae, Eta (η) Scuti, HIP 92391, and HIP 92202 to Beta (β) Scuti. Rothfuss uses it to star hop to Messier 11.

Fishhook Lure:

This Samoan asterism "Faipā" is stars in the IAU constellation Scorpius (Fitisemanu 2022): Upsilon (υ), Lambda (λ), Kappa (κ), Iota (ι) 1, Theta (θ), Eta (η), Zeta (ζ) 1, Mu (μ) 1, and Epsilon (ε) Scorpii. This is associated with the legend of 'Alo'alolelā and the magic fishhook (pā).

Fishhook of Leo:

This **telescopic** asterism "Hámus Leónis" is the barred spiral galaxy NGC 3509 (Arp 335) in the IAU constellation Leo. It was discovered in 1786 by William Herschel who listed it as III 598. It became GC 2292 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Fishhook of Scorpius:

This Western asterism is made up of stars of the "tail" of the IAU constellation Scorpius (Fitisemanu 2022): Upsilon (υ), Lambda (λ), Kappa (κ), Iota (ι) 1, Theta (θ), Eta (η), Zeta (ζ) 1, Mu (μ) 1, and Epsilon (ε) Scorpii.

Fishing Basket:

This Sama (Tawi-Tawi) asterism "Bubu" is the Big Dipper asterism in the IAU constellation Ursa Major (Masong 2017).

Fishing Rod:

This Kiribati asterism "kai n roa" is made up of the stars of Grus plus the "tail" of the IAU constellation Scorpius (Trussel and Groves 1978). This is also used to describe a stick with a string and a vessel for drawing water from a well.

This **telescopic** asterism is Streicher 60 in the IAU constellation Lacerta. It was discovered by South African astronomer Magda Streicher. Size 14' X 14'. René Merting lists it on the *Faint Fuzzies* website and describes it as "a fine line of stars, which stretches like a fishing rod from north to SSW- at 72X eight equally bright stars are equally spaced and recognizable as if pulled on a string, the string ends at a brighter star in the SW.

Fish's Head:

This asterism is in the Orion Nebula, Messier 42 (NGC 1976, SH 2-281, LBN 974, Ced 55d) in the IAU constellation Orion. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 describes this nebula as "familiarly called the Fish's head, with its streaming appendages, certainly has an irregular resemblance to the head of some monster of the polyneme genus" and describes the Trapezium asterism (see Trapezium, below) as being "in the Fish's mouth".

Fist of Cassiopeia:

This **telescopic** asterism "Pygmaéus Cassiopéiae" is the irregular galaxy IC 10 in the IAU constellation Cassiopeia. It was discovered by American astronomer Lewis Swift in 1887. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it appears to them as "the shape of a fist". It is also known as the "Starburst Galaxy" (see below).

Five Bull Reindeer:

This Chukchi asterism is the W asterism of the IAU constellation Cassiopeia. They see these reindeer standing in a pebbly river, which is the Milky Way.

Five Chariots:

This Chinese xing guan “Wǔchē” (**五**车) is a curve of five stars in the IAU constellations Auriga and Taurus: Alpha (α) Aurigae (Capella- the determinative star), Iota (ι) Aurigae, Beta (β) Aurigae (Menkalinan), and Theta (θ) Aurigae, and Beta (β) Tauri (Elnath). This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Wǔchē” (**五**车) is a loop of stars in the IAU constellations Auriga and Taurus: Starting at Beta (β) Tauri (Elnath, “Sikong” (“Minister of Works”) it runs through Theta (θ) Aurigae (“Tiancang” (“Celestial Barn”), Beta (β) Aurigae (Menkalinan, “Yu” (“Prison”)), and Alpha (α) Aurigae (Capella, “Tianku” (“Celestial Arsenal”) to Iota (ι) Aurigae (“Xiang” (“Village”).

Five Corners:

This Basque asterism “Bost Kantoinak” is the IAU constellation Auriga ((Knörr 1999, Frank 2021).

Five Dromedaries:

This asterism “Quinque Dromedarii” (“the Five Dromedaries”) was created by German astronomer Petrus Apianus in 1533 in his *Horoscopion Apiani General*. It represents four camels with a baby camel in their middle and is made up of stars between the IAU constellations Draco and Lyra. It is centered on the “head” of the constellation Draco and includes stars between Draco and Lyra. NOTE: It was likely inspired by the Bedouin asterism Mother Camels (see below). Johann Bayer’s *Uranometria* (1603) lists “Quinque Dromedarii“ but attributes it to “Azophi Arabi”.

Five Feudal Kings:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is made up of a line of five stars in the IAU constellation Gemini:

- Kappa (κ) Geminorum: “Taishi” (“Court Historian”),
- Upsilon (υ) Geminorum: “Boshi” (“Doctor”),
- Iota (ι) Geminorum: “Sangong” (“Three Excellencies”),
- Tau (τ) Geminorum: “Diyou” (“Emperor Friend”), and
- Theta (θ) Geminorum: “Dishi” (“Emperor Teacher”). This is the determinative star.

This Chinese xing guan “Wǔzhūhóu” (**五**诸**侯**) is made up of five stars in the IAU constellation Gemini: Theta (θ), Tau (τ), Iota (ι), Upsilon (υ), and Phi (ϕ) Geminorum.

Five Lords:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a bent line of five stars in the IAU constellation Coma Berenices: Starting with the determinative star 6 Comae Berenices, it runs through 11, 20, 26, and 35 Comae Berenices.

This later Chinese xing guan “Wǔzhūhóu” (**五**诸**侯**), despite the name, has become line of only three stars in the IAU constellation Coma Berenices: 6, 36, and 39 Comae Berenices.

This Korean asterism “Daseos Yeongju” (다섯 영주) is a line of five stars in the IAU constellation Gemini: Kappa (κ), Upsilon (υ), Iota (ι), Tau (τ), and Theta (θ) Geminorum.

Five Petals of Phoenix:

This **telescopic** asterism “Pentaphýlla Phoenícis” is the intermediate spiral galaxy NGC 7689 in the IAU constellation Phoenix. This was discovered by James Dunlop in 1826. John Herschel listed this as h 3996

and later as GC 4978 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of its "five arms".

Five Pin Bowling Alley:

This **telescopic** asterism is the Pleiades cluster in the IAU constellation Taurus. Chris Vaughan put out a challenge for a name for the stars surrounding Eta (η) Tauri (Alcyone) in the 6 June 2023 edition of the podcast *Insider's Guide to the Galaxy*. Dave Robertson or "Halifax 6 Dave" suggested a 10-pin bowling alley. NOTE: As this cluster has 6 primary stars including Alcyone, I'm making it a five-pin game.

Five Stars:

This Arabic asterism "Al Ḥams" or "Ḥamsah" is the principal stars of the IAU constellation Sagitta: Alpha (α) Sagittae (Sham), Beta (β) Sagittae, Delta (δ) Sagittae, Gamma (γ) Sagittae, and Eta (η) Sagittae:

- The 1521 edition of the *Alfonsine Tables* listed this as "Alahance" and the *Almagest* of that period as "Albanere"
- "Alhance" is listed by French scholar Joseph Justus Scaliger (1540 – 1609)
- "Alchanzato" is listed by German astronomer Wilhelm Schickard (1592 – 1635)
- Johann Bayer's *Uranometria* (1603) lists "Alahance" and "Alhance".
- "Alhance" is listed by R. H. Allen in his *Star Names* in 1899.

This Quechua asterism "Pisqa Collyur" is the Hyades cluster in the IAU constellation Taurus (Urton 1981). Compare this to their asterism Five Storehouses (see below).

Five Stars Woman:

This Mongolian asterism "Hun Tavan Od" is the "W" of the IAU constellation Cassiopeia (Lagain & Rousseau 2015).

Five Storehouses:

This Quechua asterism from Sonqo, "Pisqa Collca, is stars between the belt of Orion and the Hyades cluster in the IAU constellation Taurus (Urton 1981). Compare this to their asterism Five Stars (see above).

Five Times:

This Gallic asterism "Quinio" is made up of stars of the IAU constellations Libra and Scorpius. The Gallo-Roman historian and Bishop Gregory of Tours (538 – 594) created this to help monks use certain stars in the sky to determine the time for prayers. This is roughly a diamond shape, with Alpha (α) Scorpii (Antares) at one end, the three stars Beta (β) Scorpii (Acrab), Delta (δ) Scorpii, and Pi (π) Scorpii in the middle, and Alpha (α) Librae (Zubenelgenubi) at the other end.

Five Troops:

This complex Korean asterism "Daseos Gundae" (다섯 군대) is in the IAU constellations Lupus and Norma. The center is a quadrilateral of stars: Gamma (γ), Delta (δ), Epsilon (ε), and g Lupi. From each of these stars as many as two lines run out:

- From g Lupi two lines run out, one to Eta (η) Normae and the other to Delta (δ) Normae,

- From Epsilon (ε) Lupi two lines run out, one to Eta (η) Lupi and the other to Beta (β) Lupi,
- From Delta (δ) Lupi a line runs out to Psi (ψ) Lupi, and
- From Gamma (γ) Lupi a line runs out to Eta (η) Lupi.

Fixed Projection:

This Hawaiian star “Kio-pa'a” or “Kio-pa” is Polaris (Alpha (α) Ursae Minoris) in the IAU constellation Ursa Minor. It is also known as “Hokupa’a” (“Fixed Star”), “Noho-loa” ("Eternal"), “Kumau” ("Standing Perpendicularly"), “Kia-pa'akai” (Biblical: "Pillar of salt"), or “Maka-holo-wa'a” ("Sailing-canoe eye" or "Star of the sailing canoe").

Fixed Star:

This Hawaiian star “Hokupa’a” is Polaris (Alpha (α) Ursae Minoris) in the IAU constellation Ursa Minor. It is also known as “Noho-loa” ("Eternal"), “Kumau” ("Standing Perpendicularly"), “Kio-pa'a” or “Kio-pa” ("Fixed projection"), “Kia-pa'akai” (Biblical: "Pillar of salt"), or “Maka-holo-wa'a” ("Sailing-canoe eye" or "Star of the sailing canoe").

Fixed Star of the North:

This Tibetan star is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Johnson-Groh 2013).

Flag:

This Scottish asterism “Vexillum” was created by Scottish mathematician Michael Scot in 1225. It is made up of stars in the IAU constellations Leo and Virgo. Scot’s *Liber introductorius* depicts it as a flag mounted on a lance and shows eight stars. German astronomer Christian Ludwig Ideler (1776 – 1846) called it “Fahne” (“banner”). The identity of the precise stars is uncertain.

This Basque asterism “Bandera” is the IAU constellation Lyra (Knörr 1999, Frank 2021) and their name for the star Alpha (α) Lyrae (Vega) is “Begi Urdina” (see Beautiful Face, above).

This Kiribati star “Maro” is Epsilon (ε) Ursae Majoris in the IAU constellation Ursa Major (Trussel and Groves 1978).

Flag Bearer of Serpens:

This **telescopic** asterism “Vexillárius Serpéntis” is the spiral galaxy UGC 9829 in the IAU constellation Serpens. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “the flag, to which the name refers, is the rectilinear streak at the end of the northern arm of this galaxy”.

Flag of Emperor:

This Korean asterism “Hwangje-ui Gisbal” (황제의 깃발) is a bent line of stars in the IAU constellation Eridanus. The line starts at HIP 23166A and runs through R and 60 Eridani to 59 Eridani, where it bends and runs through 58 Eridani and HIP 22028 to 54 Eridani, where it bends and ends at HIP 22086.

Flag of Saam:

This Korean asterism “Sam-ui Guggi” (삼의 국기) is a line of stars in the IAU constellation Orion. Starting at Eta (η) 6 Orionis, it runs through Eta (η) 5, 4, 3, 2, and 1 Orionis, 6, and Omicron (o) 2

Orionis, ending at 11 Orionis. NOTE: This refers to the Korean asterism and lunar mansion Saam (see Three Stars, below).

Flag of the Drum:

This Chinese Chenzhuo xing guan is three lines of stars radiating out of a central star in the IAU constellation Aquila: The central star is Delta (δ) Aquilae, from which three lines run out:

- One runs to Mu (μ) Aquilae,
- One runs to Sigma (σ) Aquilae, and
- One runs through Nu (ν) Aquilae, Iota (ι) Aquilae, Eta (η) Aquilae, Theta (θ) Aquilae, and 69 Aquilae to HIP 101345.

Flag of Wine Officer:

This Korean asterism "Podoju Jang-gyoui Gisbal" (포도주 장교의 깃발) is a triangle of stars in the IAU constellation Cancer: Alpha (α) Cancri (Acubens), Kappa (κ) Cancri, and Eta (η) Cancri.

Flail:

This Southern Estonian asterism "Koot" is a line of three stars in the IAU constellation Orion (Kuperjanov 2006) and appears in the *Sky of Ests (Chudes)* by Aleksander Heintalu (Sass of Vigala): Kappa (κ) Orionis, Alpha (α) Orionis (Betelguese), and Gamma (γ) Orionis (Bellatrix).

Flail and Thresher:

This Lithuanian asterism "Spragilas ir Kūlėjas" is the belt and sword of Orion in the IAU constellation Orion.

Flame:

This "Euphratian" star "Gus-ba-ra" is Alpha (α) Leonis (Regulus) in the IAU constellation Leo as listed in R. H. Allen's *Star Names* in 1899.

This American asterism "the Flame" is the IAU constellation Piscis Austrinus and was created by Brad and Kathryn Templeton for *The Vault of Heaven* star map for the 2004 Burning Man event held in Black Rock Desert in Nevada (Kuperjanov 2006).

This **telescopic** Basque star "Gar" is the red dwarf star GJ 486 in the IAU constellation Virgo (magnitude 11.395). It received this name in the IAU's NameExoWorlds competition in 2022. It has an exoplanet, GJ 438b, "Su", which is the Basque word for "fire". This is related to the popular Basque saying "su eta gar" ("fire and flame"), which signifies passion and enthusiasm.

Flame Nebula:

This **telescopic** asterism is emission nebula NGC 2024 (SH 2-277, LBN 953, Ced 55p) in the IAU constellation Orion. It was discovered by English astronomer William Herschel in 1786 who listed it as "V 28" in his catalogue. It is GC 1227 in the *General Catalogue* of 1864. Size 30' X 30'. This is O'Meara 31 in astronomer Stephen James O'Meara's *Hidden Treasures Catalogue* (2007). It is also known as the Maple Leaf (see below), the Tank Tracks (see below), the Oak Leaf (see below) and the "Christmas Tree" (see above).

Flaming Eye of Leo:

This **telescopic** asterism "Phlógops Leónis" is the spiral galaxy UGC 6614 in the IAU constellation Leo. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They named it this because "the bright inner ring of this faint galaxy brings to mind a flaming eye."

Flaming of Eridanus:

This **telescopic** asterism "Flámmea Erídani" is the elliptical galaxy NGC 1407 in the IAU constellation Eridanus. It was discovered in 1785 by William Herschel who listed it as "I 107". This became GC 752 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): The name refers to the luminosity of this galaxy.

Flaming Star Nebula:

This **telescopic** asterism is the emission nebula IC 405 (Caldwell 31, SH 2-229, vdB 34, LBN 795, Ced 42) in the IAU constellation Auriga. It is also known as Schaeberle's Flaming Star Nebula after American astronomer John Martin Schaeberle (1853 – 1924) who discovered it and described it by this name.

Flamingo:

This Dutch asterism "Phoenicopterus" is the IAU constellation Grus, appearing in Paul Merula's 1605 *Cosmographiae Generalis*. Edward Sherburne lists the names "Grus", "Phaenicopterus" and "Geranos" (Latin "carry us") in his *Sphere of Marcus Manilius* in 1675. John Hill lists it as "Phaenicopterus" in his *Urania* in 1754 and also lists the name "Flammant", which is the Latin word for "blaze", not flamingo: The Latin name for Flamingo is "phoenicopteri". Robert Hues (1659) and John Chilmead (1899) list it as "Phoenicopter" in *A Learned Treatise on Globes.* Hues claimed that it represented the "Bittour", which would be the bittern, a bird in the heron family, and that the "Spaniards called it Flamgengo".

Flank:

There are two Arabic stars with the name "al-Janb" (الجنب), which translates as "the flank" or "al-jānib" (الجانب), which translates as "flank" or "side":

- One is the star Gamma (γ) Pegasi in the IAU constellation Pegasus and later latinized to "Algenib", "Algeneb", "Elgenab", "Genib", "Chenib", "Algemo", or "Alchemb":
  - Alchemb appears in the *Alfonsine Tables* (Kunitzsch 1986).
  - Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) lists this star as "Algenib".
  - In his *A Learned Treatise of Globes* in 1659, Robert Hues lists this star as "Alchcemb" (attributing it to the 15th century *Alfonsine Tables*), "Alchenib", and "Algeneb" (which he attributes to Joseph Justus Scaliger (1540 – 1609)).
  - A wooden precession globe (1730) by German uranographer Johann Georg Puschner (Dekker 2003) simply labels this star "Pegasus".
  - The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) lists this star as "Algenib".
  - Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Algenib".

- Scottish uranographer Alexander Jamieson (1782 – 1850) lists this star as "Algenib" it in his *Celestial Atlas* and his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822).
- German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists the name "Algenib" for this star.
- American uranographer William Croswell (1760 – 1834) lists this star as "Algenib" on his *Mercator Map of the Starry Heavens* in 1810 but also lists the star Alpha (α) Persei with this name.
- American uranographer Elijah Burritt's *The Constellations for each Month in the Year* (1835) lists this star as "Algenib".
- A boxed set of 32 constellation cards called *Urania's Mirror* in 1852 lists "Albenib": The author is unknown, but it is based on Jamieson's *Celestial Atlas*.
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as "Algenib" but also uses this name for Alpha (α) Persei.
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Algenib".
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as "Algenib".
- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Algenib" and describes it as "the side".
- *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Algenib".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list "Algenib" for this star.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists "Algenib" for this star.
- The IAU approved the name Algenib for the star Gamma (γ) Pegasi.
- NOTE: R. H. Allen writes in his *Star Names* in 1899 that some have incorrectly assumed that the name of this star originated in the Arabic "Al Janāḥ" ("the wing") as does Robert Burnham in his *Burnham's Celestial Handbook* in 1978. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 makes this error, claiming that "Algenib" is derived from "Jenáh-al-faras" which he translates as "the horse's wing".

- One, latinized to "Algenib" or "Alchemb" is Alpha (α) Persei (Mirfak):
  - Georgius Chrysococcas, a 14th century Greek geographer and astronomer, named it "Πλευρά Περσάους" ("Plevrá Persáous") or "Perseus' Side".
  - The mid 15th century Wein, Oesterr. National Bibl., manuscript Lat 5415, ff.168v-169r lists this star as "Algenib".
  - The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists this star as "Algenib".
  - Johann Bayer's *Uranometria* (1603) lists the names "Chenib", "Algenib", and "Genib" for this star.
  - American uranographer William Croswell (1760 – 1834) lists this star as "Algenib" on his *Mercator Map of the Starry Heavens* in 1810 but also labels Gamma (γ) Pegasi with this name.
  - Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich list this star as "Algenib".

- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists "Algenib" for this star but also uses it for Gamma (γ) Persei.
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as "Algenib".
- Robert Burnham lists it as "Alchemb or Algenib" in his *Burnham's Celestial Handbook* in 1978.
- The Sloane astrolabe BM SL 54 in the British Museum (1290 – 1300) lists "Algemb" (Dekker 2000).

Flap Eared of Sculptor:

This **telescopic** asterism "Fláccus Sculptóris" is the elliptical galaxy IC 1657 in the IAU constellation Sculptor. It was discovered by Lewis Swift in 1897. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "this galaxy with a small companion on both sides brings to mind a thin face with two protruding ears".

Flashing:

This Chaldean star "mul an.ta.sur.ra", " is listed in the *Great Star List* (Koch-Westenholz 1995) but the stars have not been identified.

Flat Bread of Ursa Major:

This **telescopic** asterism "Plácus Úrsae Majóris" is the spiral galaxy NGC 4062 in the IAU constellation Ursa Major. It was discovered in 1787 by William Herschel who listed it as "I 174". It became GC 2687 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to it being a "flat looking galaxy".

Flat Dish of Canes Venatici:

This **telescopic** asterism "Pátera Cánum Venaticórum" is the lenticular galaxy NGC 5273 in the IAU constellation Canes Venatici. It was discovered in 1785 by William Herschel who listed it as "I 98". It became GC 3637 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it has "a polar ring of dust material".

Flat of Virgo:

This **telescopic** asterism "Plátys Vírginis" is the edge-on spiral galaxy NGC 5170 in the IAU constellation Virgo. It was discovered in 1785 by William Herschel who listed it as "V 22". It became GC 3557 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Flat Road:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of three stars in the IAU constellation Virgo: Starting at the determinative star 74 Virginis it runs through 66 Virginis to 65 Virginis.

This Chinese xing guan “Píngdào” (平道) is a line of two stars in the IAU constellation Virgo: 82 and Theta (θ) Virginis. NOTE: This xing guan crosses the xing guan Horn (see below) forming a cross.

This Chinese Chenzhuo xing guan “Píngdào” is a line of two stars in the IAU constellation Virgo: 74 and 66 Virginis.

Flaxen Thread:

This Arabic asterism “Al Ḥaiṭ al Kattāniyy” is the lines of stars connecting the “fishes” in the IAU constellation Pisces. The two lines run away from Alpha (α) Piscium (Alrescha):

- One line runs through Omicron (ο), and 102 Piscium to Rho (ρ) Piscium,
- The other crooked line runs through Xi (ξ), Nu (ν), Mu (μ), 89, 80, Zeta (ζ), Epsilon (ε), Delta (δ), 51, and 41 Piscium to Omega (ω) Piscium.

Flea Nebula:

This **telescopic** HII region is SH 2-123 (LBN 414) in the IAU constellation Cygnus. It is also known as the Tick Nebula (see below).

Flegetonte:

This Italian star “Flegetonte” is HIP 57370 (HD 102195) in the IAU constellation Virgo and was given this name in the IAU NameExoWorlds campaign. It was named for Phlegethon, and underworld river in Greek mythology mentioned in Dante Alighieri’s *Divine Comedy*. It has an exoplanet named Lete, which is a river of oblivion made of fog in Greek mythology which appears in Dante’s *Divine Comedy*.

Fleming’s Triangular Wisp:

See Pickering’s Triangle, below.

Fleur-de-Lis:

This French asterism “Lilium” (“lily”), also known as “Apes” (see Bee above) and “Musca Borealis” (see Northern Fly, below) was created by French architect Augustin Royer in 1679, using stars of the IAU constellation Aries: 33, 35, 39, and 41 Arietis. The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this “Fleur de Lis” and depicts this next to Triangulum. Compare this to the asterism Bearer (see above) which appears in several cultures and the asterism Wasp (see below).

Flickering:

This Inuit star “Singuuriq” (“flickering” or “it pulsates”) is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (MacDonald 1998).

This Caribou Inuit (Naujaat) star “Singoreq” (“flickering” or “it pulsates”) is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major.

NOTE: Sirius would always appear close to the horizon from their location, so you’d be looking through more atmosphere which would interfere with “seeing”, so it would likely often appear to be flickering.

Flickering Cluster:

This **telescopic** asterism is the globular cluster Messier 62 in the IAU constellation Ophiuchus. It was discovered by French astronomer Charles Messier in 1771 and added to his catalogue eight years later. It is listed in the General Catalogue of 1864 as GC 4261 and in John Herschel’s catalogue as h 3661. This

is one of the 10 most massive globular clusters, and the name is probably a reference to the 245 variable stars that it contains.

Flies:

This Teduray asterism “Kufukufu” is the Pleiades cluster in the IAU constellation Taurus (Santos et al 2019).

Flintlock:

This Filipino asterism is the IAU constellation Aries (Margiza 2022).

Flocculent of Ursa Major:

This **telescopic** asterism “Floccósus Úrsae Majóris” is the spiral galaxy NGC 3675 in the IAU constellation Ursa Major. It was discovered in 1788 by William Herschel who listed it as GC I 194”. It became GC 2413 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They call it this due to the “flocculent nature of the galaxy arms”.

Flock:

This ancient Egyptian decan “Khau” (“flock” or “myriad”) is the Pleiades cluster in the IAU constellation Taurus. In later Hellenistic texts it was named “ερω” or “ⲁⲣⲟⲩ” (“Arat”). In the Testament of Solomon, it became “Kairoxanondalon” or “Iudal”, Aristobulus of Paneas called it “Tourtour”, in Greek Hermeticism it became “Aron”, in Latin Hermeticism “Sarnotois”, 4th century Roman astrologer Julius Firmicus Maternus called it “Aryo” or “Ason”, Cosmas of Maiuma (d. 760) called it “die Horen”, French scholar Joseph Justus Scaliger (1540 - 1609) called it “Viroaso” and German Jesuit astronomer Athanasius Kircher (1602 – 1680) called it “ϵλιτομϵνοc” (“Helitomeos”). Variations include “Aron”. It has been depicted as a woman with scepters in both hands.

Flock:

This Gallic asterism “Massa” is the Pleiades cluster in the IAU constellation Taurus. The Gallo-Roman historian and Bishop Gregory of Tours (538 – 594) created this to help monks use certain stars in the sky to determine the time for prayers. Gregory lists the name “Massa”, which likely is a reference to the Medieval asterism “Massa Gallinae” (see Mass of Hens, below). McKay (2020) also points out that “there is an Old Irish word maisse/masse worth investigating. This is a productive word, signifying both ‘beautiful’, ‘comeliness’, and a word that ‘confers dignity, lustre, renown’. These descriptors are appropriate for the Pleiades, the most beautiful star group in the sky, and of the ritual mace that confers power. However, the word isn’t attested in Old Irish as referring specifically to the Pleiades. The word is used when describing the seven pupils in the eye of the warrior-hero Cú Chulainn, the Pleiades usually given as 6 or 7 seven visible stars”.

Flock of Birds:

This Greek asterism “Πελειάδες” (“Peleiádes”) is the Pleiades cluster in the IAU constellation Taurus as listed by 3rd century Greek rhetorician and grammarian Athenaeus, 7th century B.C.E. Greek poet Hesiod, 6th century B.C.E. Greek lyric poet Pindar, and 6th century B.C.E. Greek lyric poet Simonides of Ceos and listed in R. H. Allen’s *Star Names* in 1899. Allen writes that they saw it as a flock of “Rock pigeons flying from the Hunter Orion”.

Flock of Birds Drinking Water:

This Boorong and Wotjobaluk asterism "Tourt-chinboiong-gherra" or "Tourtchinboionggherra" is the IAU constellation Coma Berenices as listed by Stanbridge (1857), Morieson (1999), Clarke (2009), and Hamacher and Frew (2010). The Boorong viewed it as a flock of birds drinking water from a rain puddle in the crotch of a tree and its appearance marked the dry season. Originally each of the birds had a separate name, but these names have been lost.

Flock of Chickens:

This Taureg asterism is the Pleiades cluster in the IAU constellation Taurus.

Flock of Coma Berenices:

This **telescopic** asterism "Flóccus Cómae Bereníces" is the spiral galaxy NGC 4414 in the IAU constellation Coma Berenices. It was discovered in 1785 by William Herschel who listed it as "I 77". It became GC 2972 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to the "flocky nature of this galaxy". It is also known as the "Dusty Spiral Galaxy" (see above).

Flock of Geese:

This asterism is the open cluster Messier 44 (NGC 2632) in the IAU constellation Cancer. American astronomer Tom Lorenzin, in his 1000+ The Amateur Astronomer's Field Guide to Deep Sky Observing, describes it as including "a prominent open 'v' with apex pointing N like a flock of geese in the spring."

Flock of Mahutonga:

This Māori asterism "Kahui o Mahutonga" or "Kahui-ruamahu" is the Southern Cross in the IAU constellation Crux (see Southern Cross below).

Flock of Sheep:

There are two Arabic asterisms with this name:

- One is the Arabic asterism "al-Firqah" (الفرقة) or "Al Firq" as listed by Persian astronomer Ulugh Beg Mirza (1394 – 1449), which is the star Alpha (α) Cephei (Alderamin), Beta (β) Cephei (Alfirk), and Eta (η) Cephei in the IAU constellation Cepheus:
    - This was later latinized to "Alfirk", "Alphirk", or "Ficares".
    - Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283) applied this name to the star Alpha (α) Cephei (Alderamin).
    - American uranographer Elijah Burritt's *The Constellations for each Month in the Year* (1835) lists this star as "Alphirk".
    - English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Alphirk and Ficares, from the Arabian kawákib al firk, stars of the flock".
    - *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists Beta (β) Cephei as "Alphirk".
    - English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists Beta (β) Cephei as "Alphirk".
    - The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and the 14th edition (1959) list Beta (β) Cephei as "Alphirk".
    - The IAU approved the name Alfirk for the star Beta (β) Cephei Aa.

- One is the Arabic asterism “al-aghnām”, later latinized to “Al Aghnam”, “Alinam”, or “Al Aglenam”, which is the stars Kappa (κ) and Pi (π) Cephei in the IAU constellation Cepheus (I and II Al Aghnam):
    - John Hill lists it as “Aglinam” in his *Urania* in 1754: Hill describes this as an Arabic name for a “cluster of stars in the hands of the constellation Cepheus” and that it “signifies sheep”.
    - NOTE: English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “al Aghnán, the sheep” as a name for the constellation Cepheus.

Flock of Wool of Grus:

This **telescopic** asterism “Mállus Grúis” is the barred spiral galaxy IC 5273 in the IAU constellation Grus. This was first recorded by American astronomer Lewis Swift (1820 – 1913). This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “this rather small galaxy, with its thick and chubby short spiral arms, resembles a flock of wool”.

Flocking Together of Canis Major:

This **telescopic** asterism “Concúrsus Cánis Majóris” is the lenticular galaxy NGC 2293 in the IAU constellation Canis Major. It was discovered in 1835 by English astronomer John Herschel who listed it as 3063 and later as GC 1459 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to its interaction with NGC 2292.

Flood:

This asterism is the IAU constellation Hydra as listed in R. H. Allen’s *Star Names* in 1899. Allen does not identify the cultural source but does indicate that it is a reference to the Biblical flood.

Flood Control:

This Korean asterism “Hongsu Jojeol” (홍수 조절) is a quadrilateral of stars in the IAU constellation Orion: Nu (ν), Xi (ξ), 72, and 69 Orionis.

Flood of Rich People:

This Hungarian asterism ”Dúsdosók árdjzála” appears on the celestial map of Hungarian uranographer Sandor Nagy (1915), who depicts it as five stars falling into some sort of container. NOTE: Nagy’s 1915 chart is beautifully illustrated, but some of the labels are hard to make out and I find it difficult to match the hand drawn stars on his chart with actual star patterns in the sky. The stars are currently unidentified.

Florence:

This asterism “Florensia” was created from stars of the IAU constellation Crater by German astronomer Erhard Weigel (1625 – 99) who produced his *Astrocopium Orbi Europaeo Sacrum* chart in 1661, 1681 and 1688 in which he tried to replace existing constellations a new system based upon the heraldry of the nation states and principalities of seventeenth century Europe, as well as of its principal hierarchies and social classes. It represents Florence and is depicted as a gold ring.

Florid of Aquarius:

This **telescopic** asterism “Florídula Aquárii” is the barred spiral galaxy NGC 7371 in the IAU constellation Aquarius. It was discovered in 1785 by William Herschel who listed it as “II 477” It became GC 4833 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because they describe it as a “humble-looking flower-like galaxy”.

Flounder:

This Māori asterism “Te Patiki” is the Coal Sack Nebula (see Coal Sack Nebula, above).

Flower Garden:

This Lithuanian asterism “Darželis” is the IAU constellation Corona Borealis.

Flower Like of Cassiopeia:

This **telescopic** asterism “Anthemódes Cassiopéiae” is the spiral galaxy NGC 278 in the IAU constellation Cassiopeia. It was discovered in 1786 by English astronomer William Herschel who listed it as I 159. It is GC 158 in the General Catalogue of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as they were “inspired by the flower-like aspect of this galaxy”. It is also known as the “Ninja Star Galaxy” and the “Neon Sign Galaxy”.

Flower of Leo Minor:

This **telescopic** asterism “Flós Leónis Minóris” is the peculiar spiral galaxy NGC 3396 (Arp 270) in the IAU constellation Leo Minor. It was discovered by English astronomer William Herschel in 1785 who listed it as “I 81” in his catalogue. It is GC 2178 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as it looks like a flower from which a hummingbird (NGC 3395) is sucking nectar.

Flower of the Heavens:

This Hawaiian star “Kaulua[-i-ha'i-mohai]” or “[-a-ha'i-mohai]” is the star Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major. It is also known as, “A’a” (‘burning brightly”), “Hiki-kau-[e]-lia” or “Hiki-kau-e-lono” ("The-small-booby-bird-of-Lono"), “Hiki-kau-lono-meha” ("Star of solitary Lono"; also Lono or Lono-meha), “[Hiki] kaulana-o-meha” or “Kau-ano-meha” ("Standing alone and sacred"), “Hoku-kau'opae” ("Star for placing shrimp"), “Hoku-ho'okele-wa'a" ("Canoe-guiding star"), or “Kaulu-lena” or “Kaulua-lena” ("Yellow star").

Flowers on a Celestial Cross:

This Tzotzil (Zinacantán) asterism is a group of stars around a star cross believed to be the IAU constellation Crux (Milbrath 1999). This represents the souls of dead babies.

Flower Vase:

See Crown, above.

Flowing Sweetly of Virgo:

This **telescopic** asterism "Blandiflua Vírginis" is the barred spiral galaxy NGC 4717 in the IAU constellation Virgo. NGC 4716 and 4717 were discovered by Wilhelm Tempel in 1882. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it "seems to caress its partner NGC 4716 with a gracious flowing gesture".

Fluffy of Lepus:

This **telescopic** asterism "Lanuginósus Léporis" is the barred spiral galaxy NGC 2139 (IC 2154) in the IAU constellation Lepus. NGC 2139 was discovered by English astronomer William Herschel in 1784. American astronomer Lewis Swift (1820 – 1913) later recorded it as IC 2154. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Fly:

See Musca, below.

Fly Cluster:

This Gnomish asterism "Sithaloth" or "Sithaloctha" is the Pleiades cluster in the IAU constellation Taurus in the works of J. R. R. Tolkien (1892 – 1973).

Fly Nebula:

This **telescopic** asterism is the bipolar emission and reflection nebula NGC 1931 (SH 2-237, LBN 810, Cr 68, Ced 49) in the IAU constellation Auriga. This was discovered in 1793 by English astronomer William Herschel who listed it as "I 261". It became GC 1137 in the *General Catalogue* of 1864. It is also known as the "Mini Orion Nebula".

Flying:

This Latin asterism "Volucris" or "Volatilis" is the IAU constellation Volans as listed by Edward Sherburne in his *Sphere of Marcus Manilius* in 1675. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Volucris".

Flying Bat Nebula:

This **telescopic** asterism is HII region is SH2-129 in the IAU constellation Cepheus. It is also known as the Squid Nebula.

Flying Bird:

There are three **telescopic** flying bird asterisms:

- One is open cluster NGC 457 (Caldwell 13) in the IAU constellation Cassiopeia. It was discovered by William Herschel in 1787 who labeled it "VII 42" in his catalogue. It is GC 256 in the General Catalogue of 1864. This is the name given to it by American astronomer Wayne Schmidt, who describes it as a 16-arcminute long bird flying towards a tiny cluster of stars. It is also known as the the Kachina Doll Cluster, Dragonfly Cluster, Massed Jewels, and the E.T. Cluster.
- One is PGC 34696, a galaxy in the IAU constellation Leo.
- One is the open cluster Messier 52 (NGC 7654) in the IAU constellation Cassiopeia. It was discovered by French astronomer Charles Messier in 1774. It was given this name by English astronomer William Henry Smyth (1788 – 1865), who described it as a triangular cluster with an 8th magnitude orange star at the apex, resembling "a bird with outstretched wings" in his

Bedford Catalogue in 1844 It is listed in John Herschel's *General Catalogue* of 1864 as GC 4957. This is also known as the Cassiopeia Salt and Pepper Cluster (see above), "October Salt and Pepper Cluster" (see below), "Scorpion" (see below), "Flying Bird", and as a "Crab (Jumping Off a Rock), see above.

Flying Cloud:

This Samoan asterism "Aolele" is the Small Magellanic Cloud in the IAU constellation Tucana (Fitisemanu 2022).

Flying Corridor:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a long line of stars in the IAU constellations Andromeda and Cassiopeia: Starting with the determinative star Phi (ϕ) Andromedae, it runs through Theta (θ), Chi (χ), 44, and Epsilon (ε) Cassiopeiae to HIP 9312.

This Chinese xing guan "Gédào" (㗎道) is a long line of stars in the IAU constellation Cassiopeia: Iota (ι), Epsilon (ε), Delta (δ), Theta (θ), Nu (ν), and Omicron (ο) Cassiopeiae.

This Chinese Chenzhuo xing guan is a bending line of stars in the IAU constellation Cassiopeia: Starting at Iota (ι) Cassiopeia it runs through HIP 9312, Epsilon (ε) Cassiopeiae, HIP 8362, and Delta (δ) Cassiopeiae to Phi (ϕ) Cassiopeiae.

Flying Dragon Nebula:

This **telescopic** asterism is HII region is SH 2-114 (LBN 347) in the IAU constellation Cygnus.

Flying Eagle:

There are two Arabic asterisms with the name "(an-Nisr) uṭ-Ṭā'ir" or "(an-nasr) aṭ-ṭāʾir" (النّسر الطّائر):

- One is the star Alpha (α) Aquilae in the IAU constellation Aquila:
    - "al-Nasr al-Tā'er" and "Al-Nasr al-Tāir" are both listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
    - This star is listed as "[Al-] nasr al-tā'ir" on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992).
    - The star list of Abraham Bar Hiyya in 1104 (Goldstein 1985) lists the Arabic name "al-nasr al-tair" and the Hebrew name "ha-nesher ha me'ofef".
    - The star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985) lists the Arabic name "al-nasr al-tā'ir" and the Hebrew name "ha-nesher ha-me'ofef".
    - The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists "al-nasr al-tā'ir".
    - An anonymous Hebrew star list from 1392 (Goldstein 1985) lists the Arabic name "nasīr al-tā'ir" and the Hebrew name "nesher me'ofef".
    - The rete of the 14th century Spanish astrolabe NMM AST0570 in the National Maritime Museum lists "Altair".
    - "Altair is listed on the Sloane astrolabe BM SL 54 in the British Museum which dates to 1290 – 1300 (Dekker 2000).
    - This was later latinized to "Altair", "Althair", "Athair", and "Attair".
    - "Altair" and "al tāyir" are listed on a 14th century Christian Spanish astrolabe #4560 (King 2002).

- The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.168v-169r labels this star as “Altair” and the constellation as “Vultur Volans”.
- The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists the name “Alkayr” for this star.
- The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) lists the name “alkaÿr Martius” for the this star.
- Dutch uranographer Hugo Grotius (1583 – 1645) lists the name “Alcair”
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Altair” and “Alcair”.
- German astronomer Johann Bayer (1572-1625) lists “Alcar”, “Alcair”, and “Atair” in his Uranometria (1603).
- The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch lists “Attair” and “Attayro”.
- The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) lists this star as “Altair”.
- Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists this star as “Athair”.
- Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this star as “Altare” in his *Della Specola Astronomica De’ Regj Studj Di Palermo* (1792).
- German astronomer Johann Elert Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this star as “Atair”.
- Scottish uranographer Alexander Jamieson (1782 – 1850) listed this star as “Althair” in his *Celestial Atlas* and his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822) it is listed as “Altair”.
- English Admiral Henry William Smyth’s *Prolegomena* of 1844 lists “Altair” and his *Bedford Catalogue* in 1844 lists “El nesr el táīr, the flying eagle”.
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich list this star as “Altair”.
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as “Altair”.
- English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists this star as “Altair”.
- German astronomer Hermann Joseph Klein (1844 – 1914) lists “Altair” in his *Star Atlas* (1893).
- American astronomer Winslow Upton’s *Star Atlas* (1896) lists this star as “Altair” and describes it as “the bird”.
- John Chilmead (1899) lists “Altayr”, which he derived from Robert Hues’ *A Learned Treatise of Globes* (1659), where Hues lists it as a name for the constellation Aquila, along with the “Arabic” name “Aquila Albhakkab”, which he translates as the “flying vulture” (see Flying Vulture, below).
- *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists “Altair”.
- The 1st edition of British schoolmaster Arthur P. Norton’s *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list “Altair” for this star.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists the name “Altair” for this star.
- The IAU approved the name Altair for the star Alpha (α) Aquilae.

- One is a line of three stars in the IAU constellation Aquila: Beta (β) Aquilae (Alshain), Alpha (α) Aquilae (Altair), and Gamma (γ) Aquilae. Dorn (1829) lists this as "Eagle" as depicted on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283). "Vultur Volans" ("flying eagle") is a Latin variation of the name for the IAU constellation Aquila (see Aquila, above).

Flying Eye Nebula:

See Thor's Helmet, below.

Flying Fish:

This Chinese xing guan "Fēiyú" (飞鱼) is made up of stars in the IAU constellation Volans and the name relates to the original name of the constellation Volans: Piscis Volans ('flying fish"). Five lines of stars run off to one side of Alpha (α) Volantis. The stars at the end of each of the five lines are: Beta (β), Delta (δ), Gamma (γ) 1 and 2, Zeta (ζ), and Kappa (κ) 1 and 2 Volantis.

This **telescopic** asterism is in the IAU constellation Octans and is Corder 2045 on the observing list of American astronomer Jeffrey Corder. Size 25' X 15'. This is five 7^{th} – 8^{th} magnitude stars including HIP 51723 and 52020.

Flying Foxes:

This Wardaman asterism is the stars of the IAU constellations Ara and Pavo.

Flying Geese:

This **telescopic** asterism, also known as the Ghost Bush Cluster (see below), the Seacrest Cluster (see below), and the Silk Fan Cluster (see below), is the open cluster NGC 6939 in the IAU constellation Cepheus. It was discovered by William Herschel in 1798 who listed it as VI 42. It is GC 4590 in the *General Catalogue* of 1864. It lies 0.6 degrees northwest of the spiral galaxy NGC 6946 and 2 degrees southwest of the star Eta (η) Cephei.

Flying Ghost:

This **telescopic** asterism is the interactive galaxies NGC 520 (Arp 155) in the IAU constellation Pisces. It was discovered in 1784 by William Herschel who listed it as "III 253". It became GC 303 in the *General Catalogue* of 1864. It is also known as the "Entangled of Pisces" (see above).

Flying Grype:

This Old English asterism is the IAU constellation Aquila as listed in R. H. Allen's *Star Names* in 1899. NOTE: English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Falling Grype" as a name for the constellation Lyra, claiming that this name was derived from the asterism "Vultur Cadens" (see Falling Vulture above).

Flying Horse:

This asterism "Equus Volans" is the IAU constellation Pegasus. This name is listed in Johann Bayer's *Uranometria* (1603).

Flying Jaw Nebula:

This **telescopic** asterism is the planetary nebula NGC 2899 in the IAU constellation Vela. This was discovered by English astronomer John Herschel in 1847 and listed as h 3169 on his list. It is GC 1859 in the *General Catalogue* of 1864. It is also known as the Glowing Butterfly (see Butterfly, above).

Flying Machine:

This **telescopic** asterism is made up of stars of the IAU constellation Scorpius. It was posted by Marty in March 2022 on *Cloudy Nights*. It is made up of two lines of stars: The first is the stars HIP 78246, 3 Scorpii, 2 Scorpii, and 1 Scorpii. From 2 Scorpii a line runs through HIP 77858 to HIP 77859.

Flying Minnow:

See Mini Delphinus, below.

Flying Owl Nebula:

This **telescopic** asterism is the nebulosity around NGC 2029, 2034, and 2062 in the IAU constellation Dorado, which is part of the Large Magellanic Cloud.

Flying Saucer:

There are two **telescopic** "flying saucer" asterisms:

- One is Deschesne 1, discovered at the Mount Kobau star party by Calgary Center RASC member Roland Deschesne in 2006, who was using 25 X 100 binoculars at the time. It consists of 9th – 10th magnitude stars about 30 arcminutes NNE of Epsilon (ε) Pegasi (Enif) in the IAU constellation Pegasus. Five 9th magnitude stars form a triangle, with the star Tycho TYC 1125-1586-1 at the apex which is the "top" of the flying saucer. 10th magnitude stars to either side form the "sides" of the flying saucer.
- One is Picot 1 (See Napoleon's Hat, below).

Flying Serpent:

This large Chinese xing guan from the Three Kingdoms to the Ming Dynasty is made up of stars in the IAU constellations Andromeda, Cassiopeia, and Lacerta. The determinative star is Alpha (α) Lacertae, from which two long lines (forming the "body") and five short lines (forming the "head") run out:

- One long line runs through HIP 113388, 3, 7, 8, 11, Lambda (λ), and Kappa (κ) Andromedae to Iota (ι) Andromedae,
- One long line runs through HIP 112761, 113501, 114162, 114924, 117299, Rho (ρ) Cassiopeiae, and Tau (τ) Cassiopeiae to HIP 115990,
- One line runs to 5 Lacertae,
- One line runs to 4 Lacertae,
- One line runs to HIP 109521,
- One line runs to Beta (β) Lacertae, and
- One line runs to 9 Lacertae.

This large Chinese xing guan "Téngshé" (螣蛇) is made up of stars in the IAU constellations Andromeda, Cassiopeia, Cygnus, and Lacerta:

- One end starts at Iota (ι) Andromedae then runs in a line through Kappa (κ) Andromedae to Psi (ψ) Andromedae, where it bends into a line through Lambda (λ), 8, 7, and 3 Andromedae to a bend at 9 Lacertae,
- At 9 Lacertae the line then loops up through AR, Tau (τ), Rho (ρ) and Sigma (σ) Cassiopeiae to Beta (β) Lacertae, and

- At Beta (β) Lacertae the star line then loops through Epsilon (ε) and 13 Cephei, IC 1396, HIP 105064, Eta (η) 1 and 2 Cygni, and 4 Lacertae, ending up at Alpha (α) Lacertae. This is also translated as Flying Vulture (see below) and is part of the asterism Two Vultures (see below).

This Chinese Chenzhuo xing guan "Téngshé" is made up of stars of the IAU constellations Andromeda and Cassiopeia: The "body" is the line of two stars 3 Andromedae and HIP 114162. From each of these stars three lines run out:

- From 3 Andromedae:
  - One line runs to HIP 113288,
  - One line runs to HIP 113327, and
  - One curving line forming a "wing" runs through 7 Andromedae, 8 Andromedae, 11 Andromedae, Lambda (λ) Andromedae, Kappa (κ) Andromedae, Iota (ι) Andromedae, and 10 Andromedae to Omega (ω) Andromedae, and
- From HIP 114162:
  - One line runs to HIP 113501,
  - One line runs to HIP 112641, and
  - One curving line forming a "wing" runs through HIP 114924, HIP 118077, Sigma (σ) Cassiopeiae, Rho (ρ) Cassiopeiae, and Tau (τ) Cassiopeiae to a loop formed by HIP 115990, HIP 115395, 1 Cassiopeiae, and HIP 114622.

Flying Squirrel:

This American asterism "Sciurus Volans" was created from the stars of the IAU constellation Camelopardalis in 1810 by eccentric American educator and uranographer William Croswell (1760 – 1834). Croswell depicts on his *Mercator Map of the Starry Heavens* in 1810 as a flying squirrel.

This **telescopic** asterism is in the IAU constellation Hydra and is listed as Corder 1679 on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 9'. This is a roughly X-shaped group of six 9th magnitude stars.

Flying Star:

This **telescopic** English star, listed by British astronomer Stephen Groombridge as Groombridge 1830 in his *Catalogue of Circumpolar Stars* in 1838, is HIP 57939 in the IAU constellation Ursa Major (magnitude 6.45). Groombridge called it the "Flying Star" or "Runaway Star" because at the time it was believed to have the greatest velocity of any star. It is also known as "Argelander's Star" after Friedreich Wilhelm Argelander, who observed it in 1842. *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists this star as the "Runaway Star".

Flying Sugarcane:

This Rapanui asterism "Nga Toa Rere" is stars in the IAU constellation Ursa Major (Edwards and Edwards 2010, Edwards and Edwards 2016, Edwards et al 2018).

Flying Unicorn:

This **telescopic** asterism is the open cluster NGC 6709 in the IAU constellation Aquila. It is GC 4440 in the *General Catalogue* of 1864. The stars in this cluster form a line for the body with two parallel lines

branching out to form the legs and a blue/white star the horn. It is also known as the Bull's Head (see above).

Flying Vulture:

This Arabic asterism "An-nasr at-ta'ir" is made up of stars in the IAU constellation Aquila: Alpha (α) Aquilae (Altair), Beta (β) Aquilae (Alshain), and Gamma (γ) Aquilae (Tarazed). It is part of their asterism Two Vultures (see below). This is also translated as "Flying Eagle" (see above). NOTE: Robert Hues listed the "Arabic" name "Aquila Albhakkab" in his A Learned Treatise of Globes in 1659 as well as the name "Altayr" for the constellation Aquila.

This Latin star "Vultur Volans" is Alpha (α) Aquilae (Altair) in the IAU constellation Aquila.

Flying Wing:

There are two **telescopic** "flying wing" asterisms:

- One, also known as the HD 4798 Group, resembles a bird's wing. It is in the IAU constellation Pisces, 40 arcminutes north of the star 65 Piscium. Includes HIP 3914 (HD 4798).
- One is open cluster NGC 7086 in the IAU constellation Cygnus. This was discovered by English astronomer William Herschel in 1788 who listed it as "VI 32". It is GC 4676 in the *General Catalogue* of 1864. It was given this name by American astronomer Wayne Schmidt, who describes it as a flying wing 8 arcminutes tall.

Flying Witch:

This asterism is the Coma Berenices Cluster, Melotte 111.

Flyswatter:

There are two **telescopic** "flyswatter" asterisms:

- One, the fly and flyswatter, Biever 1 on the asterism list of Barb Biever of the Rancho Bernardo-Murietta Astronomical Society, can be found in the IAU constellation Hydra, with the "fly" being the reddish carbon star U Hydrae. The "handle" is the three stars HIP 51832, 156057, and 51491. The "swatter" is the stars HIP 51832, 51933, 52003, and 52113.
- One, known as Poskus 1, is in the IAU constellation Delphinus, and is made up of 11th to 12th magnitude stars next to the star Gamma (γ) Delphini, with a curve of six stars forming the swatter, and two in the handle. American astronomer Sue French calls it the mandolin, and others call it the lute. This is listed in *Asterisms: Small Star Patterns for Telescopes and Binoculars* by Dutch astronomer Demelza Ramakers in 2011.

Foal:

This Arabic star "al-Ruba'" (الربع) is a binary star HIP 86782 in the middle of the "head" of the IAU constellation Draco:

- "al-Ruba'" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- This was later latinized to "Alruba".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists this as "Al ruba', the camel's foal" and describes it as a "small star of the Borgian globe… described as being of 6th magnitude".
- The IAU approved the name Alruba for HIP 86782.

Foal of Pegasus:

This **telescopic** asterism "Púllus Pégasi" is the dwarf galaxy UGC 12613 in the IAU constellation Pegasus. It was discovered by A. G. Wilson in the 1950s. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). It is also known as the Pegasus Dwarf.

Foam:

This Quechua asterism "Posuqu" or "Posuku" is the Milky Way between the IAU constellations Carina and Crux (Urton 1981 & 2022). They see the Milky Way as a river ("Mayu") which splits into two channels which then merge here in the sky, causing the colliding waters to foam here.

Foam Egret:

This Barasana asterism "Somo Yehe" is the IAU constellation Coma Berenices (Hugh-Jones 2006).

Focus:

This Latin asterism is the IAU constellation Ara.

- Johann Bayer's *Uranometria* (1603) lists "Focus" for this constellation.
- John Hill's *Urania* lists "Focus" in 1754. Hill attributes this to "old Latin writers".
- Other Latin names for hearth also applied to this constellation by Hill include "Hearth" (see below) and "Ignitabulum" (see below).

Fodder:

This Korean asterism "Macho" (마초) is a bent line of four stars in the IAU constellation Cetus: 80, Epsilon (ε), Rho (ρ), and Sigma (σ) Ceti.

Fog:

This Persian asterism "Ka-mus.niku.a" from the list of Masu stars from the lists K 250 and VAT 9418 from the Persian (Achaemenid) Period (539 – 331 B.C.E.) has been identified as stars of the IAU constellation Andromeda and interpreted as "fog" (Boll 1918). Since the stars of this constellation make up the Babylonian asterism Anunitu (see above) and since the "head" of that asterism is Messier 31 (Andromeda Galaxy), which can easily be seen in a dark sky with the unaided eye, this is clearly a reference to that galaxy.

This Latin asterism "Nebula" is open cluster Messier 44 in the IAU constellation Cancer as listed in 16th and 17th century charts and translations of the *Almagest*.

Foggy Nebula:

"Girus ille nebulosus" is the open cluster Messier 6 (NGC 6405) in the IAU constellation Scorpius as listed in the 1551 edition of the Almagest. This was identified by a star cluster by Abbe Louis de Lacaille in 1752. Persian astronomer Ulugh Beg Mirza (1394 – 1449) referred to it as "Stella nebulosa quae sequitur aculeum Scorpionis" ("the cloudy ones which follow the sting"). It is Lac III 12 in de Lacaille's catalogue, and GC 4318 in the *General Catalogue* of 1864.

Folding of Virgo:

This **telescopic** asterism "Cólpias Vírginis" is the barred spiral galaxy NGC 4535 in the IAU constellation Virgo. This was discovered by English astronomer William Herschel in 1785 who listed it as "II 500" It is GC 3080 in the General Catalogue of 1864.This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the beautiful curves of the inner arms of this spiral galaxy". It is also known as the "Lost Galaxy of Copeland" (see below).

Folding Screen:

This Korean asterism "Byeongpung" (병풍) is a quadrilateral of stars in the IAU constellation Virgo: Eta (η), Omicron (o), Xi (ξ), and Nu (ν) Virginis.

Foliated Crosses:

Classic Maya monuments from the 7th century in Palenque depict two foliated tree crosses with their associated temples aligned with IAU constellations:

- The Temple of the Cross is oriented to the setting of the IAU constellation Crux.
- The Temple of the Foliated Cross is oriented to the setting of the star Alpha (α) Cygni (Deneb) in the IAU constellation Cygnus, the Northern Cross (see Northern Cross below).

Follower:

There are three Arabic asterisms by this name:

- The first is the Arabic manzil "Nāʾir al Dabarān" ("bright one of the follower") or "Al-Debran" or "ʾAd-Dabarān" ("follower" (of Al Thurayya) ٱلدَّبَرَان), which is in the IAU constellation Taurus and is the star Alpha (α) Tauri (Aldebaran) and the Hyades star cluster:
  - This star has been known by this name in Arabic culture since the 6th century when it appeared in the poetry of Muhalhil (d. 531 C.E.) and was listed by 'Abd al-Rahman al-Sufi (903 – 986) and Ibn Qutaybah (828 - 889) and in the poetry of Muhammad al-Murki and Mohammad al-Qadhi (d. 1868). Some versions would describe it as the Hyades and Pleiades clusters together.
  - "al-Dabarān" and "al-Tāb'" ("follower") are listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
  - The star list of Abraham Bar Hiyya in 1104 (Goldstein 1985) lists the Arabic name "al dabarān" and the Hebrew name as "eyn ha-shor".
  - The star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985) lists the Arabic name "al dabarān" and the Hebrew names "'eyn ha-shor" and "ha-semoli".
  - The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists "al-dabarān".
  - An anonymous Hebrew star list from 1392 (Goldstein 1985) lists the Arabic name "al-dabaran" and the Hebrew name "'eyn ha-shor".
  - Dorn (1829) lists the name of Aldebaran as the Spanish Arabic "Debran" and the Hyades cluster as "Al debran" and attributes these names to Ulugh Beg Mirza (1394 – 1449) and Al Tizini.
  - The rete of astrolabe NMM AST 0570 in the National Maritime Museum lists "Aldevara" (Dekker 2000).
  - The Sloane astrolabe BM SL 54 in the British Museum (1290 – 1300) lists this as "Aldebran" (Dekker 2000).

- The 14th century Christian Spanish astrolabe #4560 lists the Spanish Arabic "Dbran" and "dabrän" (King 2002).
- English author Geoffrey Chaucer (c.1340s – 1400) called it "Aldeberan" in his *A Treatise on the Astrolabe.*
- The celestial globe (1480) of German mechanic Hans Dorn (c 1430 – 1506) lists the name "Aldebora" for this star.
- The 1483 edition of the *Alfonsine Tables* does not include Aldebaran, but the first edition of the *Alfonsine Tables* in 1252 does include it as "Aldebaran id est oculus vel cor Tauri" ("Aldebaran is the eye or heart of Taurus"), with "Al Dabaran" appearing in the 1515 edition of the *Almagest* and "Aldebaran" appearing in the 1521 *Alfonsine Tables* (Kunitzsch 1986).
- The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists "Aldebran".
- Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) lists "Aldebaran" for this star.
- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) lists "Aldebara
- English poet Edmund Spenser (1552 – 1599) called it "Aldeboran" in his poem *Faerie Queen*.
- German astronomer Wilhelm Schickard (1592 – 1635) called it "Aldebiris" and "Debiron".
- Johann Bayer's *Uranometria* (1603) lists "Aldebaran".
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Aldebaran".
- The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch lists this star as "Aldebaran".
- This star is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "Aldebaran".
- Edward Sherburne lists it as "Aldebaran or Southern eye" in his *Sphere of Marcus Manilius* in 1675.
- A wooden precession globe (1730) by German uranographer Johann Georg Puschner (Dekker 2003) lists this star as "Aldebaran".
- English astronomical writer George Costard (1710 – 1782) called it "Aldebaron" in his *History of Astronomy*.
- French astronomer Jérôme Lalande (1732 – 1807) also listed this star as "Aldeberan".
- The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) lists this star as "Palilicium Aldebaran".
- The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) lists this star as "Aldebaram (sic)".
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Aldebaran".
- Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists "Aldebaran" in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).
- The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer lists this star as "Aldebaran".
- American uranographer William Croswell (1760 – 1834) lists "Aldebaran" on his *Mercator Map of the Starry Heavens* in 1810.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists "Aldebaran" in his *Celestial Atlas* and his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822).

  - Admiral William Henry Smyth's *Prolegomena* of 1844 lists "Aldebaran".
  - German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this star as "Aldebaran".
  - *An Improved Moveable Planisphere* (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, lists "Aldebaran".
  - Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich list this star as "Aldebaran".
  - This star is listed as "Al-debaran" in the third edition of Rev. Thomas William Webb's *Celestial Objects for Common Telescopes* in 1873: Webb translates it as "the hindmost".
  - *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as "Aldebaran".
  - German astronomer Hermann Joseph Klein (1844 – 1914) lists "Aldebaran" in his *Star Atlas* (1893).
  - W. Brennand lists this as "Al-Debasan" in his *Hindu Astronomy* in 1896, describes it as the Hyades, and attributes it to Persian astronomer Ulugh Beg Mirza (1394 – 1449).
  - *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as "Aldebaren" on its chart but "Aldebaran" in the text.
  - English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Aldeboran".
  - American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Aldebaran" and describes it as "the follower".
  - *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Aldebaran".
  - The 1st edition (1910) and the 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) list "Aldebaran" for this star. *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists "Aldebaran" for this star.
  - Aldebaran is a name currently recognized by the IAU for the star Alpha (α) Tauri.
- The second is the star G Scorpii in the IAU constellation Scorpius. This is called "the follower" as it rises behind the "tail" of Scorpius.
- The third is the Arabic asterism "Al Radif" which is the IAU constellation Cepheus. R. H. Allen lists this in his *Star Names* in 1899 and attributes it to "a translator of Al Ferghani's *Elements of Astronomy*". This would be the 9th century astronomer Aben al Khethir of Fergana (known as Alfergan, Alferganus, Alfragani, Al Ferghani, and Alfraganus). It was translated by the Dutch translator Jakob Gohl (Golius) and published after his death in 1669.

This Yemeni manzil "Dabarān" is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus (Varisco 1995). This appears in the *Kitāb al-Tabşira Fī'ilm al-Nujūm* of 13th century Rasulid ruler al-Malik al-Ashraf 'Umar ibn Yūsuf (d 1296).

This Persian lunar station "Paha" is the star Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus as listed in R. H. Allen's *Star Names* in 1899.

This Sogdian and Khorasmian lunar station "Baharu" is the star Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus as listed in R. H. Allen's *Star Names* in 1899.

This Coptic lunar mansion “Πιώριων” (“Piórion”) is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus as listed in R. H. Allen’s *Star Names* in 1899. This is listed by English author W. B. Yeats in *A Vision* in 1917, which was derived from German Jesuit astronomer Athanasius Kircher’s *Lingua Aegyptiaca Restituta* in 1636, where Kircher listed it as “Statio Hori Major” (“major station of Horus”) and “the eye of Taurus”.

Follower of the Star:

This Arabic star or “tabi’ an-najm” is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus. It is called this because it rises after “an-Najm”, “the Star”, which is an Arabic name for the Pleiades (see Star, below).

- “Tāb’ al-Najm” is listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- “tabi’ an-najm” appears in the list of “rain stars” of Qutrub (d. 821 C.E.) but as an indicator of the second period of summer heat.
- Compare to the asterism Driver of Al Thurayya (above) and Follower (above).

Followers:

This Egyptian asterism “Ennead” is the Pleiades cluster in the IAU constellation Taurus.

This Titan (Cotabato Province) asterism represents the followers of their hero Lagey Linguwos, who guided the people of Tiruray in planting, and is the Pleiades cluster in the IAU constellation Taurus.

Following Rādhā:

This Vedic nakshatra (lunar mansion) “Anuradha” or “Anurādhā” is in the IAU constellation Scorpius and is the stars Beta (β) Scorpii (Acrab), Delta (δ) Scorpii, and Pi (π) Scorpii as listed by the maharshi Parasara. It is related to their nakshatra “Rahda” (see Forked, below). It is related to the deities Mitra (“friend” or “binding oath”, one of their names for the morning Sun) and Varuna (the evening Sun). In 2019 Leitz lists “Anuradha” as appearing in the *Atharveda* and on the nakshatra list of the scholar Varahamihir but oddly identifies this as “the star Scorpionis”. Ivanković (2021) lists this as “Anurādhā” from the Rig Veda and “Anūrādhāh” from the *Taittirīya Brāhmana*, translates it as “success/happiness/joy”, and relates it to the God Mitra, who is the guardian of “rtá” which has many interpretations such as “truth” and “order” and was increasingly associated with the light of dawn. W. Brennand lists this as “Anuradha” in his *Hindu Astronomy* in 1896 and translates this as “an obligation to the gods”. Bhagwath (2019) lists its symbols as either a triumphal archway or a lotus.

This Myanmar nekkhat (lunar mansion) “Anuyada” (အနုရာဓ) is in the IAU constellation Scorpius and is the stars Beta (β) Scorpii (Acrab), Delta (δ) Scorpii, and Pi (π) Scorpii.

This Tibetan gyukar (lunar house) “Lha Tsham” or “Lhatsam” is in the IAU constellation Scorpius and is the star Delta (δ) Scorpii (Johnson-Groh 2013).

Fomalhaut:

See Mouth of the Whale, below.

Food Bearer:

This Lithuanian star “Nešėja valgio”, or “Walgio nešėja” is the star Alpha (α) Aurigae (Capella) in the IAU constellation Auriga. “Food Bearer” is listed in R. H. Allen’s *Star Names* in 1899. Compare this to the Latin asterism Horn of Plenty, above.

Food Carrier:

This Lithuanian asterism “Walgio neszėjis” is the IAU constellation Cassiopeia.

Food Gatherers:

This Northern Sotho asterism “Maselatheko” is the stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini.

Fool:

This Hebrew asterism “Kesil” (בסיל) or “K’sil” (Rubin 2019) is the IAU constellation Orion, associated with their month Kislev. The origins of this name are unsure. This term can be translated as “foolish”, “impious”, “inconstant”, or “self-confident”. One possibility is that the name is actually derived from “kesel” or “kisla” (כֶּסֶל, כִּסְלָה) which means “hope” or “positiveness”.

- Johann Bayer’s *Uranometria* (1603) lists “Kesil” for this constellation.
- Robert Hues lists “Kesil” and “Chesil” in his *A Learned Treatise of Globes* in 1659.
- R. H. Allen suggests in his *Star Names* in 1899 that as it is associated with that month, it may refer to “tempestuous weather”.
- NOTE: English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Chesil” as a name for Scorpio.

Fool's Gold Galaxy:

See Spindle (Messier 102), below.

Foot of Al-Jawza’:

This Arabic star “ar-rijl al-jawzāʾ al-yasrá” (الرجل الجوزاء اليسرى) or “Rijl Jauzah al Yusrāʿ”, meaning “the left leg (foot) of Al Jawza’”, or “(Rijl) ul-Jabbār” (رجل الجبار), meaning “the foot of the giant”, is Beta (β) Orionis (Rigel) in the IAU constellation Orion and is part of their asterism Giant (see below):

- “Rijl al-Jauzā’” was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- It was later latinized to “Algebar”, “Elgebar”, or “Rigel”.
- The star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985) lists the Arabic name “rijl jawzā” and the Hebrew name “regel te’omim”.
- The IAU reports that the name Rigel first appeared in the 1252 edition of the *Alfonsine Tables* (published in 1483), but R.H. Allen writes in his *Star Names* in 1899 that it first appeared in the *Alfonsine Tables* of 1521.
- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists “rijl al-jawzā’”.
- An anonymous Hebrew star list from 1392 (Goldstein 1985) lists the Arabic name “rijl al-jawzā” and the Hebrew name “regel te’omim”.
- Johann Bayer’s *Uranometria* (1603) lists “Rigel”, “Elgebar”, “Algebar“, and “Algebra”.

- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Elgebar" and "Elgease".
- Robert Hues lists it as "Rigel Algeuze" or "Rigel Algibbar" in his *A Treatise of Globes* in 1659.
- A 14th century Christian Spanish #4560 astrolabe lists "Rigel" (King 2002). German poet Philipp von Zesen (1619 – 1689) lists the name "Ragulon" but applies it to the entire constellation.
- The rete of the 14th century Spanish astrolabe NMM AST0570 in the National Maritime Museum lists "Rigel" and The Sloane astrolabe BM SL 54 in the British Museum (1290 – 1300) lists "Rigil" (Dekker 2000).
- Kunitzsch (1986) reports that the *Alfonsine Tables* of 1521 lists "& dictur Algebar. Nominatur etiam Rigel" ("and it is called Algebar. It is also called Rigel.").
- "Ragulon" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
- This star is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "Rigel Algebar".
- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) listed it as "Regel".
- German astronomer Wilhelm Schickard listed it as "Riglon"
- John Chilmead listed it as "Rigel Algueze" and "Algibbar" in his *A Learned Treatise on Globes* in 1889.
- Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) lists this star as "Regel Algebar".
- John Hill lists it as "Rai Al Giauza" in his *Urania* in 1754. It also appears as "rijl al-jabbār" (رجل الجبار), later latinized to "Algebar" or "Elgebar".
- English Admiral Henry William Smyth's *Prolegomena* of 1844 lists "Rigel" and his *Bedford Catalogue* in 1844 lists "Rijl-al-jauzá, the giant's leg; and Recorde assure us, it was called 'Algebar by the Arabitians'".
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists this star as "Rigel" in his *Celestial Atlas* in 1822.
- This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Rigel": The author is unknown, but it is based on Jamieson's *Celestial Atlas*.
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list "Rigel" for this star..
- The IAU approved the name Rigel for Beta (β) Orionis A.

This Bedouin star "Riğl al-Ğawza " (رجل الجوزا) is Kappa (κ) Orionis (Saiph) in the IAU constellation Orion.

Foot of Al Ayyuq:

This Arabic star is Iota (ι) Aurigae in the IAU constellation Auriga and is part of their asterism "Al-Ayyuq and the Posts (see Obstructor and the Posts, below).

Foot of Monoceros:

This **telescopic** asterism "Pes Monocerótis" is the spiral galaxy UGCA 127 (PCG 18855) in the IAU constellation Monoceros. It was discovered by A. G. Wilson in 1955. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "it is located close to the foreleg of the unicorn… according to a drawing in the Uranographia atlas of Hevelius of 1690."

Foot of the Barking Dog:

This Arabic star "rijl al-ʿawwāʾ", later latinized to "Rijl al Awwa" or "Rigilawwa" is Mu (μ) Virginis in the IAU constellation Virgo. R. H. Allen lists this as "Rijl al ʿAwwā" in his *Star Names* in 1899 and attributes it to the *Calendarium* of Al Achsasi al Mouakket in 1650.

Foot of the Centaur:

This Arabic star "Rijl ul-Qanṭūris" (رجل القنطورس) is Alpha (α) Centauri in the IAU constellation Centaurus:

- "Rijl Qantūris" is listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists "rijl qintūrus al-yumnā al-thāni huwa al-zāfir" ("the right, second, foot of Centaurus: it is the hoof").
- "Rijl ul-Qanṭūris" is listed by Persian astronomer Ulugh Beg Mirza (1394 – 1449).
- This was later latinized to "Al Rijl al Kentaurus", "Rigilken" or "Rigil Kentaurus".
- The star list of Abraham Bar Hiyya in 1104 (Goldstein 1985) lists this star as "regel ha-sus ha-mequddam" and gives the Arabic name as "rijl al-faras muqaddama".
- Georgius Chrysococcas, a 14th century Greek geographer and astronomer, gives it the Greek translation "ποῦς κοντούρος" ("poús kontoúros") in his *Syntaxis ton Person (Persian Compendium).*
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists the name of this star as "Rigil Kent".
- The IAU approved the name Rigil Kentaurus for the star Alpha (α) Centauri A.
- NOTE: The *Century Dictionary* of 1889 incorrectly gives it the name Rigel, which is the star Beta (β) Orionis.

Foot of the Chained Woman:

This Arabic star "Al Rijl al Musalsalah" is Gamma (γ) Andromedae in the IAU constellation Andromeda:

- "Rijl al-Musalsala" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- The star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985) lists the Arabic name "rijl al-mar'a al-yusrā" and the Hebrew name "regel ha-ishsha ha-semoit".
- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists "rijl[ay] al-musalsala". NOTE: For some reason the plural form of foot, "rijlay" appears on this list.
- Dorn (1829) list this as "Foot of the Chained Lady" and attributes this to Ulugh Beg Mirza (1394 – 1449)
- "Al Rijl al Musalsalah" is attributed to English orientalist Thomas Hyde (1636 – 1703) by R. H. Allen in his *Star Names* in 1899. Allen translates this as "chained woman".
- **Foot Star:**

This Semelai (Lake Bera) asterism "Bintang Jong" is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Jaafar and Khairuddin 2014). Compare to the Orang Asli asterism "Bintang Jong" (see Sailing Vessel Star, above).

Footprint Nebula:

This **telescopic** asterism is proto-planetary nebula Minkowski 1-92 (M1-9) in the IAU constellation Cygnus, discovered by German American astronomer Rudolph Minkowski (1895 – 1976). It is also known as Minkowski's Footprint.

Footstool of Al-Jawza:

There are three Arabic asterisms with this name:

- One, "al-kursi al-muqadam" (الكرسي المقدم) or "front footstool" or "Kursiyy al-Jauzah" ("footstool of Al-Jawza") is made up of four stars in the IAU constellations Eridanus and Orion: Psi (ψ) Eridani (Kursi al Jauzah I), Lambda (γ) Eridani (Kursi al Jauzah II), Beta (β) Eridani (latinized to "Cursa" or "Kursa"), and Tau (τ) Orionis. It is also known as "al-kursi al-muqadam" the Front Footstool. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists it as "Cursa, from the Arabic al-kursá, a chair or throne" and "Giant's throne", which is clearly a reference to Al Jawza (see above). The IAU approved the name Cursa for the star Beta (β) Eridani.
- One "kursīy al-jabbār" or "Al Kursiyy al Jabbār", later latinized to "Kursi al Jabbar" is the star Gamma (γ) Leporis in the IAU constellation Lepus. It is also known as "al-kursi al-mu'akhar" ("rear footstool").
- One, "Cursa" or "Kursa", is the star Beta (β) Eridani in the IAU constellation Eridanus:
    - Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Cursa".
    - The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists this star as "Cursa" and "Kursa", but his 14th edition (1959) only lists this star as "Kursa".

Football:

This **telescopic** asterism is the open cluster NGC 3532 (Caldwell 91) in the IAU constellation Carina. It was discovered by French astronomer Abbé Nicolas Louis de Lacaille in 1751 and was listed as II 10. It is GC 2308 in the General Catalogue of 1864. William Herschel thought it to be one of the finest star clusters he'd seen. It is also known as the Wishing Well Cluster, the Fish Cluster, the Black Arrow Cluster, the Firefly Party, and the Pincushion. It is located between the constellation Crux and the False Cross asterism (see False Cross, above).

Ford:

This Chaldean asterism "mu ne-be-num" is listed in the *Great Star List* (Koch-Westenholz 1995) and the stars are not identified.

Fore-Foot:

This Latin asterism "Antepes" and "Antepedes" is the IAU constellation Sagittarius as listed by Roman statesman Marcus Tullius Cicero (106 – 43 B.C.E.).

Forearm:

There are two Arabic stars named "Al Dhirāʿ":

- One is Gamma (γ) Persei in the IAU constellation Perseus and is part of their asterism Al Thurayya (see Little Abundant One, below).

- One is Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion as listed in R. H. Allen's *Star Names* in 1899.

This Coptic lunar station "Pimafi" is the stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini.

Forearm of the Horse:

This Arabic star "Yed Alpheras" is Alpha (α) Pegasi (Markab) in the IAU constellation Pegasus:

- The Constance Celestial Globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists "Yed".
- "Yed Alpheras" is listed by German astronomer Johann Bayer (1572-1625) in his *Uranometria* in 1603.
- Edward Sherburne lists it as "Sa'd Alpharas" in his *Sphere of Marcus Manilius* in 1675.
- "Yed Alpheras" is listed by R. H. Allen in his *Star Names* in 1899.
- Robert Burnham lists "Yed Alpheras" in his *Burnham's Celestial Handbook* in 1978.

Forecast:

This Korean asterism "Yecheug" (예측) is a pentagon of stars in the IAU constellations Ara and Telescopium: Alpha (α) Arae, Theta (θ) Arae, Sigma (σ) Arae, Epsilon (ε) Telescopii, and HIP 87846.

Forecast Calamity:

This Korean asterism "Jaenan-eul Yecheughada" (재난을 예측하다) is a line of three stars in the IAU constellation Orion: 71 and Chi (χ) 1 and 2 Orionis.

Forehead:

This Coptic asterism is the Sickle of Leo asterism in the IAU constellation Leo as listed in R. H. Allen's *Star Names* in 1899: Epsilon (ε) Leonis, Mu (μ) Leonis, Zeta (ζ) Leonis, Gamma (γ) Leonis, Eta (η) Leonis, and Alpha (α) Leonis (Regulus).

There are two Arabic asterisms with the name "Forehead":

- One is the Arabic or Bedouin manzil "Al-Ǧabhah" (الجبهة), "ʾAl-Jab'hah" (ٱلْجَبْهَة), or "Al-jabha" (الجبهة), later latinized to "Al-Jabhah". This is in the IAU constellation Leo and is the stars Zeta (ζ) Leonis (Adhafera), Gamma (γ) Leonis (Algieba), Eta (η) Leonis, and Alpha (α) Leonis (Regulus). It is also known as "jabhat al-asad" ("forehead of the lion") and is part of their asterism Lion (see below).
    - Dorn (1829 lists this as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283).
    - English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists this as the tenth manzil.
    - W. Brennand lists it as "Al-Giebha" in his *Hindu Astronomy* in 1896 and translates this as "the lion's forehead".
- One is the Arabic star "al-Jab'hah" ("forehead" (of the lion) الجبهة). This is Gamma (γ) Leonis in the IAU constellation Leo:
    - This is later latinized to "Al jeb-bah", "Algieba", "Algeiba", or "Al Geiba".

- The star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985) lists the Arabic name "al-munīr alladhī fī 'unq al-asad" and the Hebrew name "ha-me-ir be-savar ha-aryeh".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Algieba, from Al jeb-bah, the forehead" but Smyth states that he doesn't understand this name "for no representation of the Lion, which I have examined, will justify that position".
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich list this star as "Algieba".
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), simply lists this star as "Gamma Leo".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists Gamma (γ) 1 Leonis as "Algeiba".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists both "Algeiba" and "Algieba" for this star, but his 14th (1959) lists "Algeiba"
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists the name "Algeiba" for this star.
- The IAU approved the name Algieba for Gamma (γ) 1 Leonis.

This Yemeni manzil "Jabha" is the stars Zeta (ζ) Leonis, Gamma (γ) Leonis, Eta (η) Leonis, and Alpha (α) Leonis (Regulus) in the IAU constellation Leo (Varisco 1995). This appears in the *Kitāb al-Tabṣira Fī'ilm al-Nujūm* of 13th century Rasulid ruler al-Malik al-Ashraf 'Umar ibn Yūsuf (d 1296).

This Coptic lunar mansion "Ti-tehni" is stars in the IAU constellation Leo. W. B. Yeats lists it as "Tree in Leaf" in *A Vision* in 1917, which George Yeats derived from German Jesuit astronomer Athanasius Kircher's *Lingua Aegyptiaca Restituta* in 1636, where Kircher lists it as "Frons Leonis" ("forehead of Leo"). This is probably the stars Zeta (ζ) Leonis (Adhafera), Gamma (γ) Leonis (Algieba), Eta (η) Leonis, and Alpha (α) Leonis (Regulus), which form the Arabic manzil "Al-Ǧabhah" (see above).

Forehead Jewelry:

This Banjara asterism "Shirser Jhumko" or "Jhumko Tara" is the Pleiades cluster in the IAU constellation Taurus (Vahia et al 2014).

Forehead of the Scorpion:

There are three Arabic stars with this name:

- One is "al-Jab'hah" (الجبهة), later latinized to "Al Jabhah" and "Dschubba", which is the star Delta (δ) Scorpii in the IAU constellation Scorpius. American uranographer Henry Whitall's planisphere (1871) lists "Dschubba". The IAU approved the name Dschubba for Delta (δ) Scorpii A.
- One is "al-Jab'hah" (الجبهة) is the star Nu (ν) Scorpii in the IAU constellation Scorpius and later latinized to "Jabbah". The IAU approved the name Jabbah for Nu (ν) Scorpii Aa.
- One is the optical pair Omega (ω) 1 and 2 Scorpii, "Jabhat al Akrab" or "Jabhat Acrabi I and II". R. H. Allen lists "Jabhat al 'Aḳrab" in his *Star Names* in 1899.

Foreleg:

This Persian star “pīshpāy” (پیش‌پای), later latinized to “Pish Pai”, is Mu (μ) Geminorum in the IAU constellation Gemini. NOTE: R. H. Allen suggests that this is a name for Eta (η) Geminorum in his *Star Names* in 1899. Compare this to the Persian asterism Forerunners, below.

Forerunner:

This Sesotho star “Torobela” (“forerunner”, “vanguard”, “brave warrior”) is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major.

Forerunners:

This Persian lunar station “Pish Parvis” is made up of the three stars 35s, 39s, 41, and Mu (μ) Arietis in the IAU constellation Aries. Compare this to the Persian asterism Foreleg, above.

This Sogdian lunar station “Barv” is made up of the three stars 35, 39, 41, and Mu (μ) Arietis in the IAU constellation Aries.

This Khorasmian lunar station “Farrankhand” is made up of the three stars 35, 39, 41, and Mu (μ) Arietis in the IAU constellation Aries.

John Hill lists “Protrugetes” as a “bright star in the right wing of the constellation Virgo” in his *Urania* in 1754. Hill does not further specify which star. The brightest stars in Virgo visible from the Northern hemisphere are Alpha (α) Virginis (Spica- magnitude 0.95) and Gamma (γ) Virginis (Porrima- magnitude 3.04). Since the Greek name translates as plural, perhaps the original asterism includes both stars.

Forest:

This asterism “Seliquastri”, “Seliquastrum”, and “Siliquastrum” is the IAU constellation Cassiopeia. This name is listed in Johann Bayer’s *Uranometria* (1603).

This French asterism “Foret” is an alternate name for the asterism “Terebellum” (see Drill, above) given to it by French astronomer Camille Flammarion (1842 – 1925).

Forgotten One:

This Arabic star “al-Suhā” (السها), meaning “the forgotten one” or “the neglected one”, later latinized to “Alcor”, is 80 Ursae Majoris (Alcor) in the IAU constellation Ursa Major:

- “al-Suhā” was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010). Al-Sufi called it this because good vision is required to see it.
- Dorn (1829) lists this as “Al-soha”, translates it as “forgotten” or “concealed” and describes it appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya’ al-Qazwini (1203 – 1283).
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Suhà”.
- Compare this to Faint One, above.

Fork:

This asterism “Fouca” is the IAU constellation Canis Minor. This name is listed in Johann Bayer’s *Uranometria* (1603).

This Estonian asterism “Harg” is the IAU constellation Taurus and appears in the *Sky of Ests (Chudes)* by Aleksander Heintalu (Sass of Vigala) (Kuperjanov 2006).

This **telescopic** asterism “Gebel mit zwei Zinken” (“fork with two prongs”) is Basel 7 in the IAU constellation Monoceros. Size 5’ X 5’. René Merting describes it on the *Faint Fuzzies* website: “some shining stars from a fork with two prongs, which are bent inward- the fork points north.”

Fork Bearer of Hydra:

This **telescopic** asterism “Fúrcifer Hýdrae” is the barred spiral galaxy NGC 4304 in the IAU constellation Hydra. It was discovered by John Herschel in 1834 who listed it as h 3387 and later as GC 2879 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name because of the “two small protrusions at the west side of this galaxy, emerging at approximately the same spot where the northern arm starts”.

Forked:

This Vedic Nakshatra (lunar mansion) “Vishākhā”, “Visakha”, “Vishakha”, or “Vaisakha” (“forked” or “having branches”), also known as “Radha” or “Rādhā” (“the gift”) is in the IAU constellation Libra and is the double star Alpha (α) Librae (Zubenelgenubi), and the stars Beta (β) Librae (Zubeneschamali), and Iota (ι) Librae. In 2019 Leitz lists “Vaisakha” as appearing in the *Atharveda* but identifies this as “the star Librae”: Of course, Librae is a suffix that could be applied to any star in Libra. Leitz also writes that its alternate name is “Radha”. Leitz also lists “Vaishakha” as appearing on the nakshatra list of the scholar Varahamihir, and notes that in the *Brhad Samhita* five stars are listed. One version translated as “Well Branched” is made up of 10 stars (see Well Branched, below). The older Atharvaveda system only lists the star Alpha (α) Librae (Zubenelgenubi). Ivanković (2021) lists it as “Vishākhā” from the Rig Veda and “Visākhe” from the *Taittirīya Brāhmana* and describes it as the stars Alpha (α) Librae (Zubenelgenubi), Beta (β) Librae (Zubeneschamali), and Gamma (γ) Librae. Ivanković relates it to the Vedic God of fire, Agni. W. Brennand lists this as “Visacha” in his *Hindu Astronomy* in 1896 and translates this as “a festoon of leaves”. Bhagwath (2019) lists the symbols of this nakshatra as either a triumphal arch or a potter’s wheel.

This Myanmar nekkhat (lunar mansion) “Withaka” (ဝိသာခါ) is in the IAU constellation Libra and is the double star Alpha (α) Librae (Zubenelgenubi), and the stars Beta (β) Librae (Zubeneschamali), and Iota (ι) Librae.

Former Footstool:

This Vedic asterism “Pūrvā Prósthapadā” is in the IAU constellation Pegasus and is the stars Alpha (α) Pegasi (Markab) and Beta (β) Pegasi (Algol) as listed in the *Taittiriya Samhita* and appearing as “Pūrve Prosthapadāh” in the *Taittiriya Brahmana* (Ivankovic 2021). Leitz (2019) lists this as “Prosthapada”, describes it as the IAU constellation Pegasus as listed in the *Rig Veda,* and translates it as “Horse in the Sky”. This is an older name for their nakshatra Purva Bhadrapada (see Early Blessed One, above).

Former Fruitful:

This Vedic moon station in the IAU constellation Leo consists of the stars Delta (δ) and Theta (θ) Leonis.

Former Invincible One:

This Vedic moon station consists of the stars of the IAU constellation Sagittarius:

- One end is a triangle of stars: Sigma (σ), Zeta (ζ), and Delta (δ) Sagittarii,
- From Delta (δ) Sagittarii three lines of stars run out:
    - One line goes to Gamma (γ) Sagittarii,
    - One line goes through Lambda (λ) Sagittarii to Mu (μ) Sagittarii, and
    - One line goes through Epsilon (ε) Sagittarii to Eta (η) Sagittarii.

Formosa:

See Beautiful, above.

Fornax:

None of its stars are brighter than 4th magnitude and the stars of this constellation only show up in 52 of the asterisms of this handbook.

This IAU constellation (IAU abbreviation For) was created by French astronomer Abbé Nicolas Louis de Lacaille, who originally called it "le Fourneau Chymique" (the chemical furnace"), before shortening this to "le Fourneau" in 1752. De Lacaille had observed it during a two-year stay at the Cape of Good Hope. Lacaille's *Planisphère des Étoiles Ausralea* (1756) labels this "Fourneau" and depicts this as a long rectangular work bench with a opening in the front in which one can see the flames of the furnace and having some chemical glassware on top.

In 1763 he translated the name into Latin: "Fornax Chimiae", and later it appeared as "Fornax Chemica".

German astronomer Johann Elert Bode named it "Apparatus Chemicus" in 1782 and named it "Chemische Apparat" in his *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820), and also used the names "Chymische Ofen", and "l'Apparat Chimique" (the last name meant to honor celebrated chemist Antoine Laurent Lavoisier).

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "le Fourneau" ("the furnace") as a bench with a built in wood fireplace and a set of glassware on top.

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Chymische Ofen" and depicts it as a bench with furnace built in and glassware on the top.

This constellation is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) with the abbreviated label "Apparat Chem": He indicates the borders of this constellation on the chart but offers no illustration of it.

Scottish uranographer Alexander Jamieson (1782 – 1850) listed it in his *Celestial Atlas* in 1822 as "Officina Chemica" on one chart and as "Fornax Chemica vel Fornais la Caille" on another chart.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts "Fornax Chemica" as a long oven with chemical flasks lined up on top.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts "Fornax Chemica" as a set of chemical laboratory glassware around a cylindrical furnace.

This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Officina Chemica": The author is unknown, but it is based on Jamieson's *Celestial Atlas*.

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Fornax, The Furnace" as an official constellation "recognized in the catalogue of the British Association".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Fornax" and describes it as the "Furnace".

The original name of this constellation was shortened to Fornax by the IAU when it was made one of the official constellations in 1922.

The 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) lists "Fornax" and gives the "original form" as "Fornax Chemica", describing it as a "Furnace".

A standard IAU chart depicts this constellation as a line of the two stars Alpha (α) Fornacis (Dalim) and Beta (β) Fornacis.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Fornax in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* as a line of three stars: Alpha (α) Fornacis (Kitalpha), Beta (β) Fornacis, and Nu (ν) Fornacis. *Sky and Telescope Magazine*, founded in 1941, depicts Fornax in their magazine and publications in the same way as Hlad et al.

Fornax A:

This **telescopic** asterism is the lenticular galaxy NGC 1316 (Arp 154) in the IAU constellation Fornax. It was discovered by James Dunlop and became 2527 on John Herschel's list and GC 697 in the *General Catalogue* of 1864. It is also known as "Zygote of Fornax" (see below).

Fornax B:

This **telescopic** asterism is the barred spiral galaxy NGC 1317 (AKA 1318) in the IAU constellation Fornax. It was discovered by Julius Schmidt in 1865. It became GC 5312 in the *General Catalogue* of 1864. It is also known as "the Small Cell of Fornax" (see below).

Fornax Dwarf:

This **telescopic** asterism is the dwarf galaxy PGC 10074 (ESO 356-4) in the IAU constellation Fornax. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010) as "Nána Fornácis" ("female dwarf of Fornax").

Fortuna:

This Latin asterism is the IAU constellation Virgo. Fortuna was the Roman Goddess of fortune, luck, and fate:

- in Johann Bayer's *Uranometria* (1603) lists "Fortuna" as an alternate name for Virgo.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Fortuna".
- "Fortuna" is listed in John Hill's *Urania* in 1754.

Fortunate Rain:

See Auspice of Rain, above.

Fortune:

This Latin star "Fortuna Fortunarum" is Beta (β) Aquarii (Sadalsuud) in the IAU constellation Aquarius as listed in R. H. Allen's *Star Names* in 1899.

Fortunate:

This Arabic star "al-sa'ad", later latinized to "Alsad" is Zeta (ζ) Aquarii in the IAU constellation Aquarius.

Fortunate Stars:

See Auspicious Asterisms:

Forward Foot:

This Greek star "Πρόπους" ("Própous" or "Propus") is Eta (η) Geminorum in the IAU constellation Gemini as named by Ptolemy (c.100 – c.170) and Hipparchus (190 – 120 B.C.E.). It is called this as it is Castor's left foot:

- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) listed it as "Πρόπος" ("Própos").
- "Propus Praepes" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
- Edward Sherburne lists it as "Propus" in his *Sphere of Marcus Manilius* in 1675. Compare this to the Persian star Foreleg (see above).
- John Hill lists "Propus" in his *Urania* in 1754.
- William Herschel lists "Propus" in his *Catalogue of 500 new Nebulae* in 1802.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists it as "Propus" on some of his charts and "Hor vel Propus" on others in his *Celestial Atlas* in 1822.
- This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Propus": The author is unknown, but it is based on Jamieson's *Celestial Atlas*.

NOTE: In his *Star Names* in 1899 R. H. Allen writes that the "Standard Dictionary" gave the name "Propus" to Iota (ι) Geminorum: I believe this to be the *Standard Dictionary of Facts* (1908 – 1924). Allen points out that this is clearly an error since Iota (ι) Geminorum "lies between the shoulders of the twins". The IAU approved the name Propus for Eta (η) Geminorum in 2016.

Forward Precursor:

This L-shaped Anutan asterism "Taki Mua" is the "front legs and shoulder" of the IAU constellation Pegasus. One angle is the stars Alpha (α) Pegasi (Markab) and Beta (β) Pegasi (Scheat), with the other angle running off Beta (β) Pegasi to Iota (ι) Pegasi and Kappa (κ) Pegasi.

Forward Right Foot of the Serpent Charmer:

This Arabic star "Rijl al-hawwā al-yamini al-muqaddam" is Rho (ρ) Ophiuchi in the IAU constellation Ophiuchus as listed on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992).

Forward Right Hand of the Serpent Charmer:

This Arabic star “Yad al-hawwā al-yumnā al muqaddam” is Delta (δ) Ophiuchi in the IAU constellation Ophiuchus as listed on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992).

Fossil Footprint:

This **telescopic** asterism is the HII region NGC 1491 (SH 2-206, LBN 704, Ced 25) in the IAU constellation Perseus. This was discovered in 1790 by English astronomer William Herschel who listed it as “I 258”. It became GC 793 in the *General Catalogue* of 1864. It got this name as it looks like a three-lobed fossil footprint. It has an 11th magnitude star at its center.

Foster Father of Virgo:

This **telescopic** asterism “Trópheus Virginis” is the Magellanic barred spiral galaxy NGC 4496A (NGC 4505) in the IAU constellation Virgo. It was discovered in 1784 by William Herschel who listed it as “II 36”. It became GC 3045 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010)”: They called it this because “NGC 4496A is interacting with the smaller NGC 4496B and accordingly brings to mind the relationship of a parent with a child”. NOTE: A month later Herschel observed it again and listed it as NGC 4505, not realizing that it was the same object that he’d observed earlier.

Foundation Stone:

This Babylonian star “Temennu” is Eta (η) Tauri in the IAU constellation Taurus as listed in R. H. Allen’s *Star Names* in 1899.

Fountain:

This Romanian star “Fântâna” is Gamma (γ) Cygni in the IAU constellation Cygnus (Ottescu 2009). NOTE: This is sometimes assigned to Alpha (α) Cyngi (Deneb) as it is brighter.

Fountain of Cetus:

This **telescopic** asterism “Fóns Céti” is the interacting galaxy NGC 145 (Arp 19) in the IAU constellation Cetus. This is GC 70 in the General Catalogue of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010).

Fountain of the Crossroads:

This Romanian star “Fântâna din Răscruci” is Gamma (γ) Cygni in the IAU constellation Cygnus (Ottescu 2009). NOTE: This is sometimes assigned to Alpha (α) Cyngi (Deneb) as it is brighter.

Four Advisors:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a quadrilateral of stars in the IAU constellations Camelopardalis and Ursa Minor: HIP 72573, UY UMi, HIP 51384, and HIP 56253.

This later Chinese asterism “Sìfǔ” (四辅) became a triangle of stars in the IAU constellation Ursa Minor: HIP 51384, 51502, and 58874.

This Chinese Chenzhuo xing guan “Sìfǔ” is a “box” of four stars in the IAU constellation Ursa Minor: HIP 72573, HIP 62572, HIP 59504, and HIP 63340.

Four Channels:

This Chinese xing guan “Sìdú” (四渎) is a line of four stars in the IAU constellation Monoceros: Epsilon (ε), 13, and 17 Monocerotis, and HIP 34033. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Sìdú” is a line of four stars in the IAU constellation Gemini: 51 Geminorum, 45 Geminorum, HIP 33914, and 38 Geminorum.

Four Customary Ways:

This Netwar (Lenakel) asterism “Suatu Kywer” (“four customary ways” or “four roads”) is their name for the IAU constellation Crux (Ramik 2019). Three other peoples from this region have identical asterisms:

- Nahwal (Tanna): “Suatu Kuas”,
- Melsisi: “Wamso nan Kawolwol”, and
- Sesivi (Daakaka): “Lébuowuo”.

Four Eyed Fish:

There are two versions of the Carib asterism “Kutaiyuman” or “Kutai”:

- One is made up of stars of the IAU constellation Sagitta. The rising of this version marks the beginning of the fishing season for this fish.
- One is made up of stars in the of Scorpius (Magaña, and Jara, 1982), probably Lambda (λ) Scorpii and Upsilon (υ) Scorpii.

Four Guardians of Heaven:

This Persian asterism “Four Guardians of Heaven” or “Four Royal Stars” (Massoume 2001, Steiner 2017) marked the four cardinal points and marked the equinoxes and solstices 5,000 years ago and is their stars:

- “Hastorang” (“watcher of the south”): Alpha (α) Piscis Austrini (Fomalhaut) in the IAU constellation Piscis Austrinus (winter solstice),
- “Venant” (“watcher of the north”): Alpha (α) Leonis (Regulus) in the IAU constellation Leo (summer solstice),
- “Tascheter” (“watcher of the east”): Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus (vernal equinox), and
- “Savetis” (“watcher of the west”): Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius (autumnal equinox).

Compare this to Archangel Stars (above). Massoume (2001) notes that the modern equivalents would be Eta (η) Tauri (Alcyone in the Pleiades cluster), Regulus, Beta (β) 1 and 2 Cygni (Albireo) and Alpha (α) Centauri (Rigil Kentaurus).

Four Horse Chariot Team of Grus:

This **telescopic** asterism “Quadrigárius Grúis” is the Grus Quartet of galaxies in the IAU constellation Grus. The galaxies were discovered by James Dunlop in 1826. The galaxies in this asterism are:

- Barred spiral galaxy NGC 7552
- NGC 7599
- NGC 7590
- Spiral galaxy NGC 7582

This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Four Hundred Southerners:

This Aztec asterism "Centzon Huitzinahua" is all the stars in the sky, which they believe Coatlicue gives birth to each night. Coatlicue is the mother of their Gods.

Four Hunters Returning to Earth:

This Dëne Suhne asterism is made up of stars in the IAU constellation Orion (Cannon 2021): Sigma (σ) Orionis, 42 Orionis, and Iota (ι) Orionis.

Four-Leaf Clover:

This **telescopic** asterism is the open cluster NGC 1664 in the IAU constellation Auriga. It was discovered by English astronomer William Herschel in 1786 who listed it as "VIII 59" in his catalogue. It is GC 907 in the *General Catalogue* of 1864. American astronomer Walter Scott Houston describes it as a "4-leaf clover". It is also known as the Kite (see below) or the 4-H Cluster (see above).

Four Spirit of River:

This Korean asterism "Ne Gaeui Gang Yeonghon" (네 개의 강 영혼) is a line of four stars in the IAU constellations Gemini and Monoceros: 38 Geminorum, and 15, 13, and Epsilon (ε) Monocerotis.

Four Stars of the Chest of the Eagle:

This Babylonian and Sumerian ziqpu "four stars of the chest of ur-a" is Alpha (α) Leonis (Regulus), Eta (η) Leonis, Gamma (γ) Leonis, and Zeta (ζ) Leonis in the IAU constellation Leo and is listed as ziqpu 22 in the star catalogue BM 78161 (Liechty 1988).

Four Streams of Aquarius:

This **telescopic** asterism "Quadríflua Aquárii" is the spiral galaxy IC 1438 in the IAU constellation Aquarius. It was discovered by French astronomer Stéphane Javelle in 1892. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "[French astronomer Gerard] De Vaucouleurs recognizes four rings in this face on galaxy, two inner rings (one very elliptical) and two outer rings (one best seen in infrared).

Four Supports:

This Japanese lunar station "Shiho" is the Great Square of Pegasus (see Great Square, above) and is depicted on the ceiling of the 17th or 18th century Takamatsuzuka (Miyajima 2014).

Four Supports of Heaven:

This Chinese xing guan from the *Zhuanxu Calendar* of the Xia Dynasty (2180 – 1600 B.C.E.) is the Great Square of Pegasus (see Great Square, above). It is also known to them as the Yingshi (see below), Palace of Darkness, and as the Ancestral Temple.

Fourcade-Figueroa Object:

This **telescopic** asterism the Fourcade-Figueroa Object or Fourcade-Figueroa Galaxy is PGC 47847 (ESO 270-17), a galaxy shred in the IAU constellation Centaurus. It is also known as the "Fragment of Centaurus" (see below). It was discovered by astronomer C.R. Fourcade and his assistant Figueroa in 1970.

Fourth Ones:

This Bedouin asterism "al-Rubbaʿ" (الربّع) is the stars Gamma (γ) Ursae Majoris and Delta (δ) Ursae Majoris in the IAU constellation Ursa Major.

Fourth Ostrich:

This Arabic star "raabi al naʿāmāt" (رابع ألنعامة), later latinized to "Rabah al Naamat", is Zeta (ζ) Ceti in the IAU constellation Cetus and is part of their asterism Hen Ostriches (see below) as listed in the *Calendarium* of Al Achsasi al Mouakket in 1650.

This Latin star "Quarta Struthionum" is Zeta (ζ) Ceti in the IAU constellation Cetus.

Fourth Son Behind the King:

This Babylonian star "Maru-sha-arkat-Sharru" ("fourth son behind the king" or "four-year-old son") is Rho (ρ) Leonis in the IAU constellation Leo as listed in R. H. Allen's *Star Names* in 1899.

Fowl of Sky:

This Korean asterism "Haneulsae" (하늘새) is a line of two stars in the IAU constellation Aquila: 37 and Kappa (κ) Aquilae.

Fox:

This Babylonian asterism "MUL.KA.A" (Hunger 1992) from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) and "mul ka.a" in the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period (Koch-Westenholz 1995) is the stars Zeta (ζ) Ursae Majoris (Mizar) and 80 Ursae Majoris (Alcor) in the IAU constellation Ursa Major (Hunger and Pingree 1989). Anthony Hope lists it as "KA.A" and "shelebu" in his *A Guide to Ancient Near Eastern Astronomy* in 1996 and describes it as "Ursae Majoris (?)".

This Akkadian asterism "Selabu" (Hunger 1992) from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) or "še-el-le-bi" from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is the stars Zeta (ζ) Ursae Majoris (Mizar) and 80 Ursae Majoris (Alcor) in the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above).

This Sumerian asterism "mul ka-aka-a" from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is the stars Zeta (ζ) Ursae Majoris (Mizar) and 80 Ursae Majoris (Alcor) in the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above).

This Greek star "Ἁλώπηξ" ("Álópix") is 80 Ursae Majoris in the IAU constellation Ursa Major as listed by R. H. Allen in his *Star Names* in 1899.

This Egyptian Dendera star is Epsilon (ε) Ursae Majoris in the IAU constellation Ursa Major (Hoffman 2017) and part of their asterism Ox Thigh (see below).

This Macedonian asterism "Lisica" or "Lysitsa" is a bent line of stars in the IAU constellation Taurus (Cenev 2004 & 2014): Alpha (α) Tauri (Aldebaran), HIP 21251B, HIP 21517, and HIP 22176 in the IAU constellation Taurus. It is the enemy of Kvachka (see the Mother Hen below) and Petal (see Rooster below).

This Belarussian asterism "Lisa" is the constellation Orion (Avilin 2009). It is also known as "Kryzhe" (see Cross, above), "Kosy" (see Scythes, below), "Matawila" (see Wheel, below), "Traiko" (see Three Times, below), "Karomyselko" (see Small Yoke, below), "Grabli" (see Rake, below), "Kastsy" (see Mowers, below), "Try Karali" (see Three Kings, below), "Kasar" (see Mower, below), "Kreselca Pana Jezusa" (see Lord Jesus' Chair, below), "Tri Siostry" (see Three Sisters, below), "Prahi" or "Prapradki" (see Yarn Spinners, below), "Asilki" (see above), "Kigachi ragachy" (see Shaft of a Plough, below), and "Trohkutnaia" (see With Three Corners, below).

This Inca asterism "Atoq" is the dark nebulosity around the IAU constellation Scorpius (Urton 1981, 2016, & 2022). Urton describes it as a "rather amorphous dark-cloud constellation which stretches at a right angle from the tail of Scorpio crossing the ecliptic between Scorpio and Sagittarius".

This English asterism "Vulpes" is the IAU constellation Vulpecula. English astronomer Richard Anthony Proctor gave it this name in 1873 as he believed that shortening the name would make more room on astronomical charts. However, it appears as "Vulpecula" in Proctor's *A New Star Atlas* (1887) as an official constellation "recognized in the catalogue of the British Association".

This Polish asterism with the Latin name "Vulpis" is part of the asterism "Vulpecula cum Anser" (see Fox and the Goose, below), created by Polish astronomer Johannes Hevelius (1611 – 1687).

Fox and the Goose:

This asterism "Vulpecula cum Anser" or "Vulpecula et Anser" ("the little fox with the goose") was created by the Polish astronomer Johannes Hevelius (1611 – 1687). In Hevelius' *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, it was illustrated as a goose with its neck in the jaws of a fox who is running to our left. Hevelius wrote "I wished to place a fox with a goose in the space of sky well fitted to it; because such an animal is very cunning, voracious, and fierce. Aquila and Vultur are of the same nature, rapacious and greedy." It was known in Italy as "Volpe colla Oca", in Germany as "Fuchs" or "Füchschen, mit der Gans", and in France as "Petit Renard avec l'Oie". Later the two were separated into the constellations Vulpecula (see below) and Anser (see Goose, below), but they were merged again by the time the IAU accepted Vulpecula as a constellation.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, depict Vulpecula the fox carrying Anser the goose in its mouth.

Vulpecula is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729: This is depicted as a fox with a goose in its jaws, this goose representing the asterism Anser (see Goose, above).

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) depicts Vulpecula as a fox carrying a goose labeled "Anser".

The French edition of Flamsteed's work, the *Atlas Céleste,* which was revised in 1778, lists this constellation as "Le Rénard" ("the fox") and depicts it as a fox with a goose in its jaws (this being the asterism Anser, see Goose, above).

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Vulpecula in his *Celestial Atlas* in 1822: It is depicted as a fox with a goose in its jaws, this goose representing the asterism Anser (see Goose, above).

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this as "Fuchs" and "Gans" and depicts it as a fox running to our right with a goose in its jaws.

English astronomer Richard A. Proctor (1837 – 1888) merged them both in his Atlas and shortened the name to "Vulpes", though he later changed this back to "Vulpecula".

"Vulpecula and Anser" is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as a goose in the jaws of a fox: The author is unknown, but it is based on Jamieson's *Celestial Atlas.*

It is listed as "Anser" in the third edition of Rev. Thomas William Webb's *Celestial Objects for Common Telescopes* in 1873: Webb describes it as "numbered as part of Vulpecula".

Fox Eyes:

This **telescopic** asterism is the pair of interacting galaxies NGC 5331 in the IAU constellation Virgo. It was discovered in 1793 by William Herschel who listed it as "III 929". It became GC 3678 in the *General Catalogue* of 1864. This name is posted on the *Deep Sky Forum* by American astronomer Jimi Lowrey in June 2024. It is also known as the "Rope Dancer of Virgo".

Fox Face Nebula:

This is an alternate name for the Cosmic Bat Nebula (see above).

Fox Head:

This **telescopic** asterism is the open cluster NGC 6819 in the IAU constellation Cygnus. This was discovered by English astronomer Caroline Herschel in 1784. It is GC 4511 in the *General Catalogue* of 1864. Size 5' X 5'. American astronomer Tom Lorenzin gave it the name "Fox Head". It is also known as the Octopus (see below) and has also been described as a letter "U", "K", or "X".

Fox Star:

This Ininew star is Epsilon (ε) Ursae Minoris in the IAU constellation Ursa Minor (Buck 2016) and is part of their asterism "Atima Atchakosuk" (see Dog Stars, above).

This Greek star is 80 Ursae Majoris (Alcor) in the IAU constellation Ursa Major. There is an ancient Greek legend regarding Electra (which is the star 17 Tauri in the IAU constellation Taurus) wandering into the Big Dipper asterism in the IAU constellation Ursa Major and becoming "Ἀλώπηξ" ("Alōpēx", an ancient Greek word for "fox"). The Greek philosopher Proclus (412 – 485 C.E.) wrote that the fox star nibbles continuously at the thong of the yoke which holds together heaven and earth, another reference to Alcor. There is another reference to this in the Scholia to Aratus [n9 257; E. Maass, Commentariorum in Aratum Reliquae (1898), p. 391, 11. 3ff] which says that Electra, mother of Dardanus, left her station among the Pleiades, desperate because of Illion's fall, and retired "above the second star of the beam… others call this star 'fox'".

Fragment of Centaurus:

This **telescopic** asterism "Frágmen Centaúri" is the galaxy ESO 270-17 (PGC 47847) in the IAU constellation Centaurus. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "two outer spiral arms of this galaxy form a pseudoring, i.e. a ring that is not completely closed". It is also known as the "Fourcade-Figueroa Object" or Fourcade-Figueroa Galaxy (see above).

Frame Galaxy:

This **telescopic** asterism NGC 3621 is a field spiral galaxy in the IAU constellation Hydra. It was discovered in 1790 by English astronomer William Herschel who listed it as "I 241" in his catalogue. It is GC 2371 in the *General Catalogue* of 1864. It is also known as the Southern Cross Galaxy (see below). It is also known as the "Wreath Weater of Leo" (see below). Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) lists this as O'Meara 57 without a name.

Frankenstein Galaxy:

There are two **telescopic** "Frankenstein Galaxy" asterisms:

- One is NGC 4605, a dwarf barred spiral galaxy in the IAU constellation Ursa Major. This was discovered in 1790 by English astronomer William Herschel who listed it as "I 254". It is GC 3142 in the *General Catalogue* of 1864. It is also known as the Faberge Egg Galaxy (see above). Stephen James O'Meara named it both the "Faberge Egg" and the "Frankenstein Galaxy" in his *Hidden Treasures Catalogue* (2007).
- One is the galaxy UGC 1382 in the IAU constellation Cetus. This name was posted by American astronomer Jimi Lowrey on the *Deep Sky Forum* in November 2018.

Franz:

This Austrian star is WASP 27 (HAT-P-14) in the IAU constellation Hercules (magnitude 10). It was given this name by the IAU. Franz is a character in the movie "Sissi" embodying an emperor of Austria in the 19th century played by the actor Karlhein Böhm. It has an exoplanet named Sissi, who is a character in the movie that married Franz, this character being played in the movie by Romy Schneider.

Frederick's Glory:

This **telescopic** "Y" asterism is found in the IAU constellations Andromeda and Lacerta. This was created in 1787 by German astronomer Johann Elert Bode to honour King Frederick II of Prussia: Bode named it "Frederich's Ehre" originally but this was later latinized to "Frederici Honores" or "Honores Frederici". Johann Elert Bode published it in his *Jahrbuch* in 1790 and it appeared in his *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) as "Friedrich's Ehre". The principal stars are a cascade of stars: Iota (ι), Kappa (κ), Lambda (λ), and Psi (ψ) Andromedae.

Scottish uranographer Alexander Jamieson (1782 – 1850) listed "Gloria Frederici" in his *Celestial Atlas* in 1822. Jameison's *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822) lists it as "Honores Frederici" and depicts it as a staff with an eagle's head and foliage surmounted by a crown.

American uranographer Elijah Burritt (1794 – 1838) listed it as “Gloria Frederica” in his *The Constellations for each Month in the Year* (1835) and depicted it as a crown.

Irish astronomer Agnes Mary Clerke (1842 – 1907) called it “Gloria Frederici”.

English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Honores Frederici”.

This is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852 as “Gloria Frederici”.

Jeffrey Corder lists this as “Fredrick’s Glory” and Corder 4947 and it is also listed on the SAC database.

Freeman:

This Estonian star is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra (Kuperjanov 2006).

Freya’s Distaff:

This Scandinavian asterism is the IAU constellation Orion.

Fried Egg:

This **telescopic** asterism NGC 7742 is a face-on interacting spiral galaxy in the IAU constellation Pegasus. This was discovered in 1784 by English astronomer William Herschel who listed it as “II 255”. It is GC 5005 in the *General Catalogue* of 1864. This is also known as the “Diadem of Pegasus” (see above).

Frigate Bird:

This **telescopic** asterism, also known as the Kite or the Pirate Bird, is the open cluster NGC 6866 in the IAU constellation Cygnus. It was discovered by German astronomer Caroline Herschel in 1783 and recorded by her brother William in 1790 as “VII 59. It is GC 4544 in the *General Catalogue* of 1864. Note: A large-scale Frigate Bird is ‘Iwakeli’I, a Hawaiian asterism (see Chief Frigate Bird above).

This Italian asterism “Fregata Minor” is the “W” asterism of the IAU constellation Cassiopeia (see W below).

Frigga’s Distaff:

This Scandinavian (Sweden, Denmark, Norway) asterism “Friggjarrocks” or “Friggerock” (“Frigga’s Distaff” or “Frigg’s Distaff”) is the belt of Orion in the IAU constellation Orion.

This Norse asterism “Friggjarrokkr” is the belt of Orion in the IAU constellation Orion.

This Icelandic asterism “Roca Frigg” is the belt of Orion in the IAU constellation Orion.

This Teutonic asterism “Frejerock” or “Fröjas rock” is the belt of Orion in the IAU constellation Orion.

This West Gothland asterism “Frigge Rakken” is the belt of Orion in the IAU constellation Orion.

This Schleswig asterism “Peri Pik” is the belt of Orion in the IAU constellation Orion.

Frigg’s Distaff:

This Saxon asterism “Frigg’s Rocken” is the belt of Orion in the IAU constellation Orion as depicted in the *Nördliche Sternhimmel* sky map of O. S. Reuters based on the work of German astronomer Johann Elert Bode (1747 – 1826).

Frill-Necked Lizard:

This Bundjalung star “Bunnungar” is Alpha (α) Piscis Austrini in the IAU constellation Piscis Austrinus.

Frisia:

This asterism “Frisia” was made up of the stars of the IAU constellation Carina by German astronomer Erhard Weigel (1625 – 99) who produced his *Astrocopium Orbi Europaeo Sacrum* chart in 1661, 1681 and 1688 in which he tried to replace existing constellations a new system based upon the heraldry of the nation states and principalities of seventeenth century Europe, as well as of its principal hierarchies and social classes. It is depicted as a single fleur de lys and represents the Netherlands.

Frog:

This Vedic rashi “Karka”, “Kark”, or Karkata” (as appearing in the Vedic *Candragarbha-parivarta)* is the IAU constellation Cancer (Kotyk 2017, Bhagwath 2019, Rath 2022). The Chinese phonetically translated “Karkata” from the Vedic *Candragarbha-parivarta* in 566 as “Jiejiazhajia” (Kotyk 2017). W. Brennan lists it as “Carcati” in his *Hindu Astronomy* in 1896. Bhagwath (2019) writes that it represents the energy of the God Varuna.

This Kolam asterism “Pande” is made up of stars of the IAU constellation Centaurus (Vahia 2014). The Kolam used the brightness of these stars, each of which represented a different animal, to determine the intensity of the approaching monsoon. The animals included a peacock, a buffalo, a frog, a deer, a horse, and in some regions, a pig.

This Tamil asterism “Karkatan” is the IAU constellation Cancer.

This Tibetan khyim (zodiac constellation) “Karta” or “Karkata” is the IAU constellation Cancer (Johnson-Groh 2013). It is seen by them as a pregnant frog, the frog’s eggs in its womb being the open cluster Messier 44 (see Beehive, above).

This postclassic Mayan asterism from the *Paris Codex* is the IAU constellation Cancer.

This Northern Andean asterism “Hernán Crespo Toral” or “Hampatu” consists of the stars of the IAU constellation Crux (Quinatoa 2018).

This Latin star “Rana” is Delta (δ) Eridanus in the IAU constellation Eridanus. The derivation of the name is uncertain.

Frond:

This Assyrian star “Eru’a” listed in the *Astrological Reports to the Assyrian Kings* (Hunger 1992) and “Erua” (Anthony 1996) is Gamma (γ) Comae Berenices in the IAU constellation Coma Berenice plus other stars not yet unidentified.

This Babylonian star “MUL.A.EDIN” listed in the *Astrological Reports to the Assyrian Kings* (Hunger 1992) and “A.EDIN” (Anthony 1996) is Gamma (γ) Comae Berenices in the IAU constellation Coma Berenice plus other stars not yet unidentified.

Front Feet and Hands of the Great Twins:

This Babylonian and Sumerian ziqpu “front feet and hands of mas-tab-ba-gal-gal” is the stars Theta (θ) and Nu (ν) Geminorum in the IAU constellation Gemini and is listed as ziqpu 18 in the star catalogue BM 78161 (Liechty 1988).

Front Feet of Marriage Bed:

See First Reddish One, below.

Front Footstool:

See Footstool of Al-Jawza, above.

Front Head:

This Chukchi star is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes. The star Vega is the "Rear Head" (see below). They use these two stars for navigation.

Front Ostrich:

This Arabic star "Al Thalimain Prior" or "Al Thalimain I" is Lambda (λ) Aquilae in the IAU constellation Aquila and is part of their asterism Two Ostriches (see below).

Front Pillar:

This Tahitian star "Anamua" is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius (Edwards 2015).

Front Side of the Bucket for Water Pouring:

This Arabic and Bedouin manzil "Al-Muqaddam" (المقدم), "Farghu ʾd-Dalū ʾl-Muqdim" (فَرْغُ ٱلدَّلُو ٱلْمُقْدِم), "al-Fargh al-Muqadam", or "ʾAl-Muqdim" (ٱلْمُقْدِم) is in the IAU constellations Andromeda and Pegasus and is the stars Alpha (α) Andromedae (Alpheratz) and Gamma (γ) Pegasi (Algenib). This is translated as "Front Side of the Water Bucket for Water Pouring" or simply "Front Spout":

- Dorn (1829) lists this as "First Aperture of the Bucket" as depicted on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283).
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Fargh al delwi l mukaddem, the hither emptying place of the bucket, or its lip".
- W. Brennand lists this as "Al-Pherg-Al-Mukaddem" in his *Hindu Astronomy* in 1896.
- R. H. Allen lists "Al Fargh al Mukdim" in his *Star Names* in 1899 and translates it as "fore spout of the water bucket". The First Spout is actually Al Fargh al Awwal (see First Spout, above), although Allen also lists "Al Fargh al Awwal" as a name listed by Iranian astronomer Abu Rayhan Muhammad ibn Ahmad al-Biruni (973 – c. 1050) and translates it as "the First, or the Upper, Spout".

This Yemeni manzil "al-Fargh al-Muqaddam" is the stars Alpha (α) Pegasi (Markab) and Beta (β) Pegasi (Scheat) in the IAU constellation Pegasus (Varisco 1995). This appears in the *Kitāb al-Tabṣira Fī'ilm al-Nujūm* of 13th century Rasulid ruler al-Malik al-Ashraf 'Umar ibn Yūsuf (d 1296). NOTE: These two stars appear as the Arabic and Bedouin manzil Back Side of the Bucket for Water Pouring (see above).

Front Spear Tassel:

See Armed One, above.

Front Spout:

See Front Side of the Water Bucket for Water Pouring, above.

Front Star of the Crab to the North:

This Persian (Achaemenid Period 539 – 331 B.C.E.) star "MUL IGI sa ALLA sa SI" is Eta (η) Cancri in the IAU constellation Cancer (Hunger and Sachs 1988) and is part of their asterism Crab (see above).

Front Star of the Crab to the South:

This Persian (Achaemenid Period 539 – 331 B.C.E.) star "MUL IGI sa ALLA sa SI" is Theta (θ) Cancri in the IAU constellation Cancer (Hunger and Sachs 1988) and is part of their asterism Crab (see above).

Front Star of the Goat Fish:

This Persian (Achaemenid Period 539 – 331 B.C.E.) star "MUL IGI sa SUHUR MAS" is Gamma (γ) Capricorni in the IAU constellation Capricornus (Hunger and Sachs 1988).

Front Star of the Twin's Feet:

This Persian (Achaemenid Period 539 – 331 B.C.E.) star "MUL IGI sa se-pit MAS-MAS" is Eta (η) Geminorum in the IAU constellation Gemini (Hunger and Sachs 1988) and is part of their asterism Twins (see below).

Front Twin Star:

This Persian (Achaemenid Period 539 – 331 B.C.E.) star "MAS-MAS IGI" is Alpha (α) Geminorum (Castor) in the IAU constellation Gemini (Hunger and Sachs 1988) and is part of their asterism Twins (see below).

Frontier Guard of Indus:

This **telescopic** asterism "Horórophylax Índi" is the spiral galaxy NGC 7205 in the IAU constellation Indus. This was discovered in 1834 by John Herschel who listed it as h 3919 and later as GC 4753 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it is located on the border between Indus and Tucana. This galaxy is part of two other asterisms: "Dolphin's Diamonds" (see above), and the "Toadstool" (see below).

Frosty Leo:

This protoplanetary star is at the centre of the Frosty Leo Nebula IRAS 09371+1212 (see below) and is in the IAU constellation Leo. It is called this because of its location in Leo and because it has the only known circumstellar outflow in which crystalline ice dominates the long-wavelength emission spectrum.

Frosty Leo Nebula:

This **telescopic** asterism is the planetary nebula IRAS 09371+1212 in the IAU constellation Leo. Robert Zebahl lists it on his *Faint Fuzzies* website. Size 0.4' X 0.4'. The "body" is the dark nebula LDN 889, with the bright nebulosity to either side forming the "wings". It is named for the star within: See Frosty Leo, above. This name was posted on the *Deep Sky Forum* by American astronomer Jimi Lowrey in February 2013.

Frowning Face:

There are two **telescopic** "frowning face" asterisms:

- One is in the IAU constellation Cassiopeia and is Ennis 28 on the observing list of Canadian astronomer Charles Ennis. The "eyes" are the stars 21 and 23 Cassiopeiae. Two stars of magnitude 9 form the "nose". The "frowning lips" is a bent line of six stars between magnitude 8 and 10 starting at HIP 3500 and ending at HIP 3097. This actually incorporates two of American astronomer Jeffrey Corder's asterisms: Corder 123 is the "L" shape at one end of the "lips" and Corder 136 is the pair of 21 and 23 Cassiopeiae.
- One is in the IAU constellation Monoceros and is Ennis 70 on the observing list of Canadian astronomer Charles Ennis. Size 10'. This is six 8^{th} – 9^{th} magnitude stars. The "eyes" are HIP 33604 and a 10^{th} magnitude star. Five stars form the "frowning lips": HIP 33602, HD 51915, HD 51874, Gaia DR3 3049409772093374208, and Gaia DR3 3049410081328810112. The "eyes" are HIP 33534 and HIP 33604. This includes the stars of Corder 1219 on Jeffrey Corder's list.

Frowning Man:

This asterism is Ennis 19 on the observing list of Canadian astronomer Charles Ennis and is in the IAU constellation Draco:

- The "eyes" are the stars HIP 82020 and 81437.
- The "nostrils" are the stars HIP 81840 and 82048,
- The "mouth" is the curve of stars HIP 82255, 82141, 82051, and 81947, and
- His "beard" is a wedge of stars including HIP 82513, 82484, 82473A, and 82122.

Fruit:

This Korean asterism "Gwail" (과일) is a diamond of four stars in the IAU constellation Delphinus: the binary star Beta (β) Delphini (Rotanev), and the stars Delta (δ), Gamma (γ), and 9 Delphini.

Fruit Pickers:

This Greek star "Προτρυγετήρ" ("Protrygetír"), "Προτρυγετής" ("Protrygetís"), "Προτρύγετος" ("Protrýgetos"), and "Τρυγετήρ" ("Trygetír") is Epsilon (ε) Virginis in the IAU constellation Virgo as listed in R. H. Allen's *Star Names* in 1899. Allen attributes these names to "Ptolemy, Plutarch, and other Greek authors".

This Arabic star "Muḳdim al Ḳitāf" is Epsilon (ε) Virginis in the IAU constellation Virgo as listed in R. H. Allen's *Star Names* in 1899.

Fruitful of Cetus:

This **telescopic** asterism "Polycárpus Céti" is the intermediate spiral galaxy NGC 1087 in the IAU constellation Cetus. This was discovered by English astronomer William Herschel, who listed it as "II 466". It became GC 605 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name because of the "many star formation regions of this galaxy".

Frying Pan:

This **telescopic** asterism is in the IAU constellation Centaurus and is Corder 2501 on the observing list of American astronomer Jeffrey Corder. Size 40' X 20'. This is five 8^{th} magnitude stars including HIP 65560, 65502, 65404, and 65386.

Fugitive:

This Latin asterism “Profugus” is the IAU constellation Perseus as listed in R. H. Allen’s *Star Names* in 1899. Allen translates this as “flying one”, but the more common translations of this are “fugitive”, “homeless”, “refugee”, or “vagabond”.

Full of Clouds of Coma Berenices:

This **telescopic** asterism “Nubigósus Cómae Bereníces” is the spiral galaxy NGC 4689 in the IAU constellation Coma Berenices. It was discovered in 1784 by William Herschel who listed it as II 128. It became GC 3219 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “the flocculent nature of this spiral galaxy brings to mind a fuzzy system ‘full of clouds’”.

Full of Corners of Virgo:

This **telescopic** asterism “Angulósus Vírginis” is the barred spiral galaxy NGC 4123 in the IAU constellation Virgo. It was discovered in 1784 by William Herschel who listed it as “V4”. It became GC 2733 in the *General Catalogue* of 1874. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to “the rather angular morphology of the arms of this spiral galaxy”.

Full of Fire of Virgo:

This **telescopic** asterism “Pyripléthes Vírginis” is the intermediate spiral galaxy NGC 5468 in the IAU constellation Virgo. It was discovered in 1785 by William Herschel who listed it as “III 286”. It became GC 3777 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “four supernovae have been observed in this galaxy since 1999.”

Full of Flowers of Leo:

This **telescopic** asterism “Flóridus Leónis” is the spiral galaxy NGC 3810 in the IAU constellation Leo. It was discovered in 1784 by William Herschel who listed it as “I 21”. It became GC 2499 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “the many HII regions are a clear sign of the fertility of this beautiful galaxy and bring to mind a bouquet full of flowers.”

Full of Veins of Leo:

This **telescopic** asterism “Venósa Leónis” is the lenticular galaxy NGC 3593 in the IAU constellation Leo. William Herschel listed this as “I 29” in his catalogue, and his son John Herschel listed it as h 840 and later as GC 2347 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Full of Wine of Draco:

This **telescopic** asterism “Vinósa Dracónis” is the barred lenticular galaxy NGC 6654 in the IAU constellation Draco. It was discovered by Lewis Swift in 1883. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it

this due to “the red colour of this galaxy and the dark spot in the northwestern part resembling a birthmark on a face”.

Fumalsamakah:

See Mouth of the Fish, below.

Fumigating of Andromeda:

This **telescopic** asterism “Thallóphorus Andrómedae” is the spiral galaxy UGC 1886 in the IAU constellation Andromeda. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “the thin branched arms of this spiral galaxy look like young shoots sprouting from the nuclear region”.

Fumigating of Aquarius:

This **telescopic** asterism “Fúmigans Aquárii” is the peculiar galaxy NGC 7727 (Arp 222) in the IAU constellation Aquarius. William Herschel listed this as “I 111”. John Herschel listed it as h 2262 and later as GC 5000 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of “the vague plumes escaping from this galaxy”. NOTE: This galaxy harbours two galactic nuclei, each containing a supermassive black hole.

Funi:

See Fire, above.

Funnel:

There are three **telescopic** “funnel” asterisms:

- One is the Funnel Cloud, Le Gentil 3, a dark nebula in the IAU constellation Cygnus. It lies between the North American Nebula (NGC 7000) and IC 1306.
- One from *Pattern Asterisms* by American astronomer John A. Chiravalle is a seven-star group in the IAU constellation Lepus one degree south of the star 14 Leporis. One corner of the “funnel” is the star HIP 27232 and HIP 27185 is on the other edge of this “funnel”. Size 25’.
- One is in the IAU constellation Ophiuchus and is Ennis 78 on the observing list of Canadian astronomer Charles Ennis. Size 25’. This is six 6^{th} – 9^{th} magnitude stars including HIP 82186 and 82126 and the double stars 19 Ophiuchi, HIP 82133, and HIP 82142. Jeffrey Corder lists this as a “wedge”, Corder 3122.

Fur in Frost:

This Swedish asterism “Suttjenēs Rauko” is the Pleiades cluster in the IAU constellation Taurus as listed by R. H. Allen in his *Star Names* in 1899.

Furious Dancer:

This **telescopic** asterism is galaxy NGC 6744 (Caldwell 101) in the IAU constellation Pavo. It was discovered by Scottish astronomer James Dunlop in 1826. John Herschel listed it as h 3776 and later as GC 4464 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named*

Galaxies by astronomers Gerard Bodifee and Michel Berger (2010) as “Choromanía Pavónis” (“furious dancing of Pavo”).

Furious of Boötes:

This **telescopic** asterism “Furiósa Boótis” is the elliptical galaxy NGC 5532 in the IAU constellation Boötes. It was discovered in 1784 by William Herschel who listed it as “III 47”. It became GC 3825 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). They called it this because it “emits two giant jets that can be observed in radio frequencies.”

Furnace:

This Latin star “Fornacis” is Alpha (α) Eridani in the IAU constellation Eridanus. It was given this name in American astronomer Elijah Burritt’s *Geography of the Heavens* and *Celestial Atlas* in 1833.

Furrow:

This Babylonian asterism from the MUL.APIN tablets “AB.SIN”, “MUL.AB.SIN” (Hunger 1992, Parpola 1993), or “Absinnu” and listed in the Babylonian star catalogue BM 78161 (5th – 7th century B.C.E.) as “ab-sin” is a line between Alpha (α) Virginis (Spica) and Nu (ν) Virginis with a line running off at roughly right angles from Gamma (γ) Virginis in the middle of this line towards Delta (δ) and Epsilon (ε) Virginis (Bartel van der Waerden, 1974). The *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) list it as “MUL.AB.SIN”, as “mul.ab.sin” (Koch-Westenholz 1995) in the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period, and as “mulab-sin” on the K 8538 planisphere (Koch 1989). The Babylonians called Alpha (α) Virginis “the ear of grain”. This asterism disappears in later Seleucid sky lore, replaced by the much larger asterism “The Maiden” or “Goddess Shala” (see below).

This Babylonian star “AB.SÍN” is the star Alpha (α) Virginis (Spica) in the IAU constellation Virgo (Anthony 1996).

This Akkadian asterism “Šer'u”, “Siru” (Hunger 1992, Parpola 1993), or “Seru” from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) or “ši-ir-u” from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is identical to the Babylonian asterism “AB.SIN” above.

This Sumerian asterism “mulab-sin” from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is identical to the Babylonian asterism “AB.SIN” above (Boutet 2014).

This Persian asterism “Siru” from the list of Tikpi Stars from the K 250 and VAT 9418 lists of the Persian (Achaemenid) Period (539 – 331 B.C.E.) as listed by Franz Boll’s *Ancient Observations of Coloured Stars* in 1918 and by Alfred Jeremias in his *Handbuch der Altorientalischen Geisteskultur* in 1929 and as “AB.SIN” in the list of Zodiacal Signs in VAT 4956 from the same period (Bartel van der Waerden 1974) is the IAU constellation Hydra plus the star Beta (β) Cancri (Tarf) in the IAU constellation Cancer.

This star “Sulcus” is Theta (θ) Eridani in the IAU constellation Eridanus as listed by French astronomer Ismaël Boulliau (Ismaël Bullialdus, 1605 – 1694), who translated this from the name “Αὖλαξ” (“Avlax” or “furrow”) in the works of Georgius Chrysococcas, a 14th century Greek geographer and astronomer. Italian astronomer Giovanni Battista Riccioli (1598 – 1671) lists the name “Sulcus” (“groove”) in his *Astronomia Reformata*. Edward Sherburne lists “Sulcus” in his *Sphere of Marcus Manilius* in 1675 but

associates it with Alpha (α) Eridani (Achernar). Orientalist Jacob Golius (1596 – 1667) translates this as "Terra fossi primitus putei" ("The earth was originally a well") or "Agger in Aquae Extremitate" ("A mound at the Water's End").

Furrow Yoke:

"Aruauedon" is a proposed early Celtic name for the IAU constellation Aries from the *Book of Ballymote* through an etymological reconstitution (Boutet 2014).

Furud:

See Solitary Ones, below.

Fùyuè:

See Axe, above.

Fuzzy Butterfly:

See Butterfly, above

Gabriel:

This German asterism "Gabriel" or "Saint Gabriel the Archangel" is the IAU constellation Pegasus and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures (Stevenson 1921). This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "S. Gabriel Al Pegasus". It later appears in Edward Sherburne's *Sphere of Marcus Manilius* in 1675 and in John Hill's *Urania* in 1754.

This is one of the Archangel Stars (see above), Alpha (α) Piscis Austrini (Fomalhaut) in the IAU constellation Piscis Austrinus.

Gabriela Mistral Nebula:

This asterism is NGC 3372 (Caldwell 92) in the IAU constellation Carina. It was discovered by French astronomer Nicolas Louis de Lacaille in 1752 and placed in his 1755 catalogue as "III 6". It is GC 2197 in the *General Catalogue* of 1864. It has been named for the Chilean poet Gabriela Mistral. It is also known as the Eta Carina Nebula. NOTE: Lacaille originally referred to this as the Eta Argus Nebula as at the time of discovery it was part of the now obsolete constellation Argo's Ship (see above). Irish astronomer Charles Edward Burton (1846 – 1882) referred to it as the "Great Nebula around eta Carinae".

Gachari:

This Tangut star "Gachari" is a red star that is currently unidentified (Berezkin 2005). Gachari is a jealous husband of the women represented by the Pleiades cluster (see Wives of Gachari, below). Gachari broke the back of the Hunter Orion (see Hunter, above).

Gacrux:

This American star is Gamma (γ) Crucis in the IAU constellation Crux and is probably a contraction of the name Gamma Crucis. It was given this name in American astronomer Elijah Burritt's *Geography of the Heavens* and *Celestial Atlas* in 1833. The IAU approved Gacrux as a name for Gamma (γ) Crucis in 2016.

Gadio:

This “Syrian” asterism “Gadio” is the IAU constellation Capricornus as listed in John Hill’s *Urania* in 1754. R. H. Allen lists it as “Gadjo” in his *Star Names* in 1899.

Gaigalyung:

This Dharug asterism is the Large Magellanic Cloud. Dr. Bob Fuller believes this was recorded by Philip, Hunter, and Collins in 1790. Collins original spelling was “Gnar-rang-al-le-on”.

/Gaishay:

This Nyae Nyae !Kung star is Beta (β) Centauri (Hadar) in the IAU constellation Centaurus (Alcock 2014) and is part of their asterism Kalidi (see below).

Gajiri:

This Wardaman star is 17 Tauri in the Pleiades cluster in the IAU constellation Taurus (Cairns and Harney 2003).

Gakyid:

See Happiness, below.

Galactic Couple:

This telescopic asterism is the interacting galaxies NGC 3166 and 3169 in the IAU constellation Sextans.

Galactic Squadron:

This telescopic asterism is made up of stars of the IAU constellation Sagittarius. Spanish astronomer “Takuan” posted it in July 2025 on *Cloudy Nights*. Takuan describes it this way: …14 [Sagittarii] (the brightest star, m 5.6, orange in color) looked like the lead ship of a galactic squadron with smaller ships (m ~ 8-9) surrounding it in triangular formation, led by a pair of fighters flying close together”. The “fighters” are HD 167145 and HIP 89410. The triangular formation is the stars Gaia DR3 4090803968384989568 and HD 166966 on one side and HD 167115, Gaia DR3 4090791427079538560, HD 167114, and HD 167113 on the other side, with 14 Sagittarii in the middle.

Galactic Trainwreck:

This American **telescopic** asterism is the interacting galaxy UGC 1810 (Arp 273) in the IAU constellation Andromeda. This name was posted on the *Deep Sky Forum* in September 2012 by Dragan Nikin. It is also known as the “Dancing Master of Andromeda”.

Galaxy Chain:

There are eleven **telescopic** galaxy chains or lines:

- One is the galaxies NGC 2633 (Arp 80, VV 519, UGC 4574), NGC 2634 (UGC 4581) and NGC 2634A (UGC 4585) in the IAU constellation Camelopardalis. NGC 2634 and 2634A were discovered by Wilhelm Tempel in 1882. This name was posted on the *Deep Sky Forum* in June 2014 by Uwe Glahn.

- One is Shakhbazian 317 (Shkh 317) is a chain of the galaxies PGC 8340, 96667, 8329, 8330, 8328, 8316 and 8315 in the IAU constellation Cetus. Length 6'.
- One is Hickson 16 (Arp 318) in the IAU constellation Cetus: HCG 16B, 16A, 16C and 16D. Size 8'.
- One is Hickson 68 in the IAU constellation Canes Venatici: This is the galaxies NGC 5350, 5354, 5353, and 5358. Alongside this is NGC 5371.
- One is NSC j131822+471007 = [YSS2008] 264 in the IAU constellation Canes Venatici. It is less than 2° west of Messier 51. It consists of five MCG galaxies: +8-24-102/103/104/105/106. Size 7'.
- One is Rose 16 in the IAU constellation Canes Venatici. This is four galaxies (Rose 16 A – 16 D), also known as GGCG 162-31, CGCG 162-34, CGCG 162-33, and CGCG 162-32. This was first described in the 1977 ApJ paper by James Rose, *A Survey of Groups of Galaxies*.
- One is Hickson 55 (HCG 55, VV 172) in the IAU constellation Draco. This is five galaxies (HGC 55 a, b, c, d, and e), also known as PGC 35572, 35573, 35574, 35575 and 35576. It was found by Russian astronomer Vorontsov-Veljaminov in 1959. Size 1'.
- One is a chain of galaxies in the IAU constellation Lyra near Alpha (α) Lyrae (Vega). These are UGC 11341, NGC 6695, NGC 6686, NGC 6685, IC4772, NGC 6675, NGC 6663, IC 1289, NGC 6646, and IC 1288. It was posted on the *Deep Sky Forum* by Cypriot astronomer Rolandos Constantinides in July 2014.
- One is the chain of galaxies UGC 3274 (VV 161, Abell 539) in the IAU constellation Orion.
- One is a chain of galaxies in the IAU constellations Grus and Piscis Austrinus: IC 5270, IC 5269, IC 5269B, IC 5269A, IC 1459, IC 5264, NGC 7418B, NGC 7418, NGC 7421, and IC 5273.
- One is a chain of galaxies in the IAU constellation Pisces: NGC 379, NGC 380, NGC 383, NGC 382, NGC 387, NGC 386, NGC 385, NGC 388, and NGC 384.

Galijba:

This Wardaman star is Delta (δ) Piscis Austrini in the IAU constellation Piscis Austrinus (Cairns and Harney 2003).

Galileo's Finger:

This **telescopic** asterism is the HII region LBN 420 in the IAU constellation Lacerta. Astrophotographer Greg Meyer listed it by this name on the Astrophotography page on Facebook on 8 August 2025. This is also known as the Dementor Nebula (see above).

Galla:

This Sami star is Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor (Lundmark 1982, Persson 2022). Persson notes that some believe this star to be Beta (β) Orionis (Rigel) in the IAU constellation Orion. To the Sami people Galla is an old man who is the helper of the great hunter Favdna (see above). It is related to their asterism Galla's Sons (see below).

Galla's Sons:

This Sami asterism "Gallabarneck" or "Gallabarnit" is the sons of Galla (see above) and Favdna's helpers (see Favdna above) and is the belt of Orion in the IAU constellation Orion ((Lundmark 1982, Persson 2022).

Gallows:

This **telescopic** asterism is in the IAU constellation Cepheus near Polaris and is Leiter 3 on astronomer Frank Leiter's list of asterisms. Its size is 18' X 7'. It's brightest star (5.5 magnitude) is the double/variable star HIP 20860A (V408 Cep) and forms the end of the top of the "gallows".

Gambarlarla:

This Wardaman star is Epsilon (ε) Ursae Majoris (Alioth) in the IAU constellation Ursa Major (Cairns and Harney 2003).

Gamma:

This **telescopic** asterism is the Hyades cluster (Caldwell 41, Collinder 50, Melotte 25, see below) in the IAU constellation Taurus. This is an ancient Greek asterism.

Ganymede:

This asterism is the asterism Antinous (see above) in the IAU constellation Aquila. This was the original Greek name of this asterism: Ganymede was a divine hero who was abducted by an eagle by the Greek Gods to serve as Zeus' cup bearer:

- German astronomer Johann Bayer lists "Ganymedes" in his *Uranometria Omnium Asterismorum* in 1603.
- "Ganymded" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as an alternate name for Antinous (see above).
- "Ganimedes" is listed as a name for Antinous on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633).
- French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) lists this asterism as "Ganimede" and depicts a youth being carried by Aquila.
- John Hill gives "Ganymede" as a name for Aquila in his *Urania* in 1754. English poet Alfred Tennyson (1850 – 1892) picked up on this and put it in a poem: "Flush'd Ganymede, his rosy thigh, half buried in the Eagle's down."
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists "Der Adler und Antinous" but also lists Bayer's "Ganymede".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Antinous, sive Ganymedes" ("Antinous or Ganymede") and attributes it to German astronomer Wilhelm Schickard (1592 - 1635). Smyth also lists "Ganymede" and "Juvenis".

This Latin asterism "Ganymedes" is the IAU constellation Aquarius. "Ganymedes" title was used by Roman statesman Marcus Tullius Cicero (106 – 43 B.C.E.), 1st century Roman author Gaius Julius Hyginus, and 1st century B.C.E. Roman poet Publius Vergilius Maro (Vergil). 1st century B.C.E. Roman poet Ovid called it "Ganymeded Juvenis" in the *Fasti*.

- Johann Bayer's *Uranometria* (1603) lists "Ganymedes" as a name for Aquarius.
- Edward Sherburne in his *Sphere of Marcus Manilius* in 1675 lists "Ganymedes" and attributes it to 1st century Roman poet Marcus Manilius, although Sherburne incorrectly associates it with the IAU constellation Coma Berenices.

- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Ganymedes" as an alternate name for Aquarius.
- "Ganymedes" is listed as a name for Aquarius in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists "Ganymede" as an alternate name for Aquarius.
- R. H. Allen lists "Ganymedes" in his *Star Names* in 1899 as a name for Aquarius and attributes it to 1st century Roman poet Marcus Manilius,

Ganymede's Eagle:

This Latin asterism "Ganymedes Raptrix" is the IAU constellation Aquila and relates to how Ganymede was carried to the skies to be Jupiter's cup bearer. Johann Bayer's *Uranometria* (1603) lists "Ganymedes Raptrix" as a name for Aquila.

Gaper:

This Greek star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major. The ancient Greeks thought that dogs were affected by the annual heliacal rising of Sirius, indicated by their panting, which led to them calling Sirius the "Gaper". Compare this to their asterism Dog Star (see above).

Garage for Chariot:

This Korean asterism "Jeoncha Chago" (전차 차고) is the IAU constellation Auriga.

Garangal:

This Walpiri star "Garangal" is a star in the Pleiades cluster in the IAU constellation Taurus (Fuller & Bursill 2021). Garangal is the older of a mythical pair of Wagalag or Wauwalak sisters, daughters of the Djanggawul (important ancestors) who got pregnant by the "wrong men" and were tracked down and punished by the serpent Julunggul by being placed in the sky. The other sister is Boaliri (see above).

NOTE: In a Yuin version of this story, these sisters come down from the Pleiades and then are sent back.

Garden of Paradise:

This Lithuanian asterism "Rojaus darželis" is the IAU constellation Corona Borealis.

Garden of Sky:

This Korean asterism "Haneul Jeong-won" (하늘 정원) is a long, crooked line of stars in the IAU constellations Cetus and Eridanus. The line starts at Gamma (γ) Eridani and runs through Eta (η), Delta (δ), Epsilon (ε), Zeta (ζ), and Eta (η) Eridani, Eta (η) Ceti, Tau (τ) 1, 2, 3, 4, 5, 6, and 8 Eridani, ending at Tau (τ) 9 Eridani.

Garden Sprinkler:

This **telescopic** asterism is the protoplanetary nebula Henize 3-1475 (IRAS 17423-1755, PK 009+05.1, PNG 009.3+05.7) in the IAU constellation Sagittarius. This was discovered by South African astronomer Karl Gordon Henize in 1976. This name is posted on the *Deep Sky Forum* by German astronomer Uwe Glahn in July 2012.

Garden Trowel:

This **telescopic** asterism from the asterism list of the American astronomer John Davis is 1.5˚ southwest of globular cluster Messier 62 in the IAU constellation Ophiuchus. The quadrilateral that forms the "spade" is a group of 9th magnitude stars including HIP 83522. The "handle" is a row of 9th magnitude stars that runs between this quadrilateral and Messier 62.

Garland:

This English asterism is the IAU constellation Corona Borealis as listed in John Hill's *Urania* in 1754.

This Belarussian asterism "Venochok" is the Pleiades cluster in the IAU constellation Taurus (Avilin 2009).

This **telescopic** asterism NGC 3077 is a small disrupted elliptical galaxy in the IAU constellation Ursa Major. This was discovered in 1801 by English astronomer William Herschel who listed it as "I 286" in his catalogue. It is GC 1982 in the *General Catalogue* of 1864.

Garlawarra:

This Wardaman star is Zeta (ζ) Ursae Majoris (Mizar) in the IAU constellation Ursa Major (Cairns and Harney 2003).

Garlic Head Nebula:

This **telescopic** asterism is the HII region LBN 576 in the IAU constellation Cassiopeia.

Garnet Star:

This English star, "Garnet Star" or "Herschel's Garnet Star", is Mu (μ) Cephei in the IAU constellation Cepheus. English astronomer William Herschel gave it this name as he described its color as "a very fine deep garnet colour". Italian astronomer Giuseppe Piazzi lists it under this name in his *Palermo Catalogue* in 1804. It is listed by this name in the third edition of Rev. Thomas William Webb's *Celestial Objects for Common Telescopes* in 1873. *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this as the "Garnet Star". *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists "Garnet Star" for this star.

This Italian star "Garnet Sidus" is Mu (μ) Cephei in the IAU constellation Cepheus. Italian astronomer Giuseppe Piazzi (1786 – 1846), influenced by William Herschel, gave it this name. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Garnet Sidus". *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists it with the Latin name "Garnet Sidus" and attributes it to Herschel.

Garrndarin:

There are two stars with this name in Wardaman sky culture:

- One is Alpha (α) Virginis (Spica) in the IAU constellation Virgo (Cairns and Harney 2003).
- One is Sigma (σ) Scorpii in the IAU constellation Scorpius (Cairns and Harney 2003).

Garrulus Traitor:

This Latin asterism “Garrulus Proditor” is the IAU constellation Corvus. Garrulus is a genus of European jays.

Garuda:

This Hindu asterism is named for their half-eagle, half-human deity and is the IAU constellation Aquila.

Gas Pump Handle:

This **telescopic** asterism from *Pattern Asterisms* by American astronomer John A. Chiravalle is in the IAU constellation Ursa Major halfway between the binary star Zeta (ζ) Ursae Majoris (Mizar) and 80 Ursae Majoris (Alcor) situated at the bend in the handle of the Big Dipper (see Big Dipper, above), and Eta (η) Ursae Majoris (Alkaid). The “handle” is a quadrilateral of the stars 82 Ursae Majoris, HIP 66735, HIP 66440 and 66380. The “spout” runs from the star 82 Ursae Majoris through HIP 66684 to HIP 66705. Size 120’ X 40’. Jeffrey Corder lists this as Corder 2521 and John Raymond calls it “82” as includes 82 Ursae Majoris.

Gas Stream:

This Hungarian asterism “Gáspar” from the Hortobágy Puszta area is unidentified, but may be near to the IAU constellation Perseus.

Gate:

This Coptic lunar mansion “Klusos” (“barrier” or “gate”) is the stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini as listed by English author W.B. Yeats, who took it from German Jesuit astronomer Athanasius Kircher’s *Lingua Aegyptiaca Restituta* in 1636, where Kircher described it as “claustrum” and the “head of Gemini”. R. H. Allen translates it as “watery” in his *Star Names* in 1899 and describes it as the stars Lambda (λ) Orionis (Meissa), and Phi (ϕ) 1 and 2 Orionis in the IAU constellation Orion.

Compare this to the Arabic manzil Extended Forearm (see above).

Gate of Sky:

This Korean asterism “Seukai Geiteu” (스카이 게이트) is a line of two stars in the IAU constellation Virgo: 69 and 53 Virginis.

Gate of the Gods:

This Latin asterism “Porta Deorum” is the IAU constellation Capricornus as listed in John Hill’s *Urania* in 1754. Hill described it as a “Pythagorean” constellation. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists as a Platonic name for this constellation. R. H. Allen also lists it in his *Star Names* in 1899 but calls it a “Platonic” constellation.

Gate of Yang:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of two stars in the IAU constellation Hydra: 49 Hydrae (the determinative star) and 50 Hydrae.

This Chinese xing guan “Yángmén” (阳门) is a line of two stars in the IAU constellation Centaurus: c1 and b Centauri.

This Chinese Chenzhuo xing guan is two stars in the IAU constellation Hydra: 51 and 52 Hydrae.

Gatekeeper:

This Chinese Chenzhuo xing guan “Shoumen” is the star Lambda (λ) Draconis in the IAU constellation Draco. It is part of their xing guan Purple Forbidden West Wall.

Gateway for Troops:

This Korean lunar mansion “Pil” is a line of two stars in the IAU constellation Centaurus: Eta (η) and A Centauri.

Gathering Point:

This Wardaman asterism is the IAU constellation Corona Borealis: They saw it as a gathering point for Men’s and Women’s Law.

Gauntlet:

This Persian asterism, later known by its Latin name “Manica” is the stars Omicron (ο) 1 and 2 Orionis, Pi (π) 1, 2, 3, 4, 5, and 6 Orionis and was listed by the Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986). Compare this to Cloth (above).

This Latin star “Manica” is 6 Orionis in the IAU constellation Orion.

Gaykid:

See Happiness, below.

Gazelle:

This Arabic asterism “al-Zibā” is the stars Omicron (ο) Ursae Majoris, 2 Ursae Majoris, Pi (π) 2 Ursae Majoris, Rho (ρ) Ursae Majoris, Sigma (σ) 1 and 2 Ursae Majoris in the IAU constellation Ursa Major

- “al-Zibā” is listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010) and described as these six stars.
- “Al Ṭhibā” is listed by Persian astronomer Zakariyya’ al-Qazwini (1203 – 1283) as just the stars Sigma (σ) 1 and 2 Ursae Majoris.
- “Al Ṭhibā” is listed by R. H. Allen in his *Star Names* in 1899.

Gazelle with Her Young:

This Arabic asterism “Al Thibā' wa-Aulāduhā”, called “Gazelle with her Young” or “Gazelles and their Youngsters” is three lines of stars in the IAU constellations Canes Venatici and Ursa Major: The central star is Psi (ψ) Ursae Minoris, from which three lines of stars run out:

- One runs through HIP 52469 to 31 Ursae Majoris,
- One runs through Chi (χ) Ursae Majoris to 5 Canum Venaticorum, and
- One runs through 56 Ursae Majoris and 67 Ursae Majoris to Beta (β) Canum Venaticorum.

This asterism appears many places:

- It appears on a globe made by Mohammed ben Helal in 1275 in Mosul (Dorn 1829), based on the work of Persian cosmographer Zakariyya’ al-Qazwini (1203 – 1283).
- German astronomer Christian Ludwig Ideler (1776 – 1846) identified this asterism as the stars of the IAU constellation Leo Minor, which is beside the asterism described above and reported

that this asterism was displayed on a 13th-century Arabic celestial globe recovered by Cardinal Stefano Borgia and housed in the prelate's museum at Velletri.
- Arabist Friedrich Wilhelm Lach reports that this was actually displayed as “Al Haud” (see Pond, below), which the Gazelle jumps into.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Al-dhibá wa auládu há, the gazelles and their young” as being on “the Borgian globe” but connects it with the stars of their asterism Three Leaps of a Gazelle (see below).

Gazelles:

This Arabic asterism “al-ẓibāʾ, later latinized to “Althiba” (I, II, III, IV, V, VI, and VII) is the stars Omicron (ο), Pi (π), Rho (ρ), Sigma (σ), and 2 Ursae Majoris in the IAU constellation Ursa Major.

This Arabic asterism al-Jawazi (الجوازي) is the stars 42, Theta (θ) 2, and Iota (ι) Orionis in the IAU constellation Orion as listed by Ibn Qutaybah (828 - 899) in his book of Anwaa.

Gazelles and Their Youngsters:

See Gazelle with Her Young, above.

Gazelle’s Tracks:

This Arabic asterism “Athar Zulfa al-Zība” or “Ṭhufr al Ghizlān”. is made up of three pairs of stars roughly equally spaced stars that look like the footprints of a leaping animal in the IAU constellation Ursa Major:

- One is the stars Nu (ν) and Xi (ξ) Ursae Majoris
- One is the stars Lambda (λ) and Mu (μ) Ursae Majoris,
- One is the stars Iota (ι) and Kappa (κ) Ursae Majoris.

“Athar Zulfa al-Zība” was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010). Compare this to “Three Leaps of a Gazelle” (below).

Gecko:

There are two **telescopic** “gecko” asterisms:

- One is the emission nebula LBN 437 in the IAU constellation Lacerta.
- One is the dark nebula Barnard 86 in the IAU constellation Sagittarius. This is also known as the Ink Spot (see below) and Herschel’s Hole in the Heavens (see below).

Gem:

This Latin star “Gemma” is Alpha (α) Coronae Borealis (Alphecca) in the IAU constellation Corona Borealis. R. H. Allen suggests in his *Star Names* in 1899 that this may have come from the Roman poet Ovid’s Nine Precious Stones (see below). It appears elsewhere as “Gema”:

- Scottish uranographer Alexander Jamieson (1782 – 1850) lists this star as “Alphacca vel Gemma” in his *Celestial Atlas* in 1822.
- English Admiral Henry William Smyth’s *Prolegomena* of 1844 lists “Gemma” and his *Bedford Catalogue* in 1844 as “Gemma”.
- This is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852 as “Gemma”: The author is unknown, but it is based on Jamieson’s *Celestial Atlas*.

- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) lists "Gemma" for this star.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists both "Gemma" and "Alphecca" for this star.
- Compare this to "Crown Jewel" (above).

This Belarussian asterism "Litwa" is the IAU constellation Gemini (Avilin 2009). It is also known as "Blizniuki" ("Twins") or "Korona" ("Crown").

Gem Cluster:

This **telescopic** asterism is open cluster NGC 3293, discovered by Nicolas Louis de Lacaille in 1751 in the IAU constellation Carina. Lacaille described it in his 1755 catalogue as a "small heap of 4 small stars forming a lozenge." It is GC 2144 in the *General Catalogue* of 1864. It is also known as the Spider Spit Cluster (see below), "U" (see below), the Horseshoe (see below), the Little Jewel Box (see below) and the Hubbly Bubbly Pipe (see below).

Gemini:

Castor, magnitude 1.93, is the second brightest star in Gemini but 24th brightest star in the sky. Despite Pollux bearing the Bayer designation Beta (β) Geminorum, it is the brighter star at magnitude 1.14 and the 17th brightest star in the sky. Castor is a sextuple star system of three binary pairs (Castor Aa/Ab, Ba/Bb, and Ca/Cb). Pollux is the closest giant star to our Solar System (34 light years). The star Gamma (γ) Geminorum (Alhena) is the 43rd brightest star in the sky. The stars of this constellation appear in 420 asterisms of those listed here from all over the world.

The IAU constellation Gemini has the brightest twin stars in the sky: Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux). The Babylonians described these stars in the IAU constellation Gemini as "Tu'amu Rabutu" (see Great Twins below), but this was just the upper half of what is now the IAU constellation Gemini: The lower half was "Tu'amu Sehrutu" (see Little Twins, below). The Seleucids later combined them to form the modern constellation. The version listed by Ptolemy (100 – 170) in the *Almagest* is "Δίδυμοι" ("Dídymoi") (see Twins, below) which is essentially identical to the modern IAU constellation Gemini except for more detail concerning the heads of the twins. This constellation might have been influenced by the proposed Egyptian asterism Double Falcons (see below).

The Temple of Khnum at Esna has a Latopolitan zodiac on the ceiling of the pronaos dating to the age of Ptolemy II Euergetes (246 – 221 B.C.E.) depicts Gemini as a male and a female together (Bullinger 1882, Seiss 1882).

The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) depicts this constellation as two nude males standing side by side. The twins are depicted much larger and are incorrectly oriented: They should be located on the ecliptic but are instead perpendicular to the parallel circles on the globe so that their legs occupy the space that should contain Orion's torso.

The Mainz Globe from the eastern end of the Roman empire (c. 150 – 220 C.E.) depicts the twins nude, facing away from us, with their inner arms embracing one another.

Gemini is listed in various forms in editions of the 8th century *Revised Aratus Latinus*:

- In several editions (Dresden DC 183, Paris BN 12957, Prague IX. C. 6) this is depicted as two youths holding spears or staves in their outer hands,

- In the Cologne 83 II edition the twins are wearing long cloaks with the Pollux holding a lyre and both twins with their inner arms around their twin's shoulders,
- In the Prague IX C.6 edition, the left twin (Pollux) is holding a viol.
- Three editions (Paris BN 12957, St. Gall 902, Vat Reg lat 1324) have the twins holding their inner hands across their chests,
- In the Paris BN n.a. 1614 editions the twins are gesturing with their inner hands,
- In the St. Gall 250 edition the twins are using their staves as crutches,
- In the Prague IX C 6 edition Pollux is holding a lyre.

Gemini is depicted in the Leiden *Aratea* (816), as clean-shaven nude twins, their bodies facing us, with the twins looking towards one another (Katzenstein & Savage-Smith, 1988). Both are wearing silver bowl shaped helmets surmounted by a gold cross and each has a red cape over one shoulder. Pollux has a club in his right hand and a spear in his left hand. Castor has an arrow in his right hand and is holding a lyre with his left hand.

The 9th century Berlin 130, Madrid 3307, and Vat lat 645 manuscripts of the *De ordine ac positione stellarum in signis* depict Pollux holding a lyre and Castor holding a spear. The Monza F.9/176 manuscript of the *De ordine ac positione stellarum* omits the lyre, replacing it with the folds of his cloak. The Austin, TX, Ransom Ms 29, Paris BN, n.a. 1614, and St. Petersburg, Q.V. IX, no.2 manuscripts of the *De ordine ac positione stellarum in signis* depict both twins holding spears. The Paris BN, 12117 and Vat Reg lat 309 manuscripts of the *De ordine ac positione stellarum in signis* depict both twins in short tunics, holding spears. The Paris BN lat 8663 manuscript of the *De ordine ac positione stellarum in signis* depicts the twins nude, pointing to each other with their inner hands.

The Oxford Laud 644, Padua 27 and Venice VIII 22 manuscripts of the 11th century *De signis caeli ("of the signs of heaven*") depicts Castor holding a lyre in one hand with his other hand on the shoulder of Pollux. Padua 27 shows the twins nude wearing cloaks, while the Oxford and Venice manuscripts have them in ankle length robes. The Dijon 448 manuscript of *De signis caeli* depicts the twins with the inner arms crossing so that they both have a hand on the other's back. The Klosterneuberg 685, Paris BN 5239, Paris BN 5543, Vat lat 643, Montecassino 3, and Zwettl 296 manuscripts of *De signis caeli* depict the twins both holding spears: In the Montecassino 3 manuscript the twins are gesturing towards their spears with their inner hands. In the Klosterneuberg 685 manuscript they are wearing full medieval armour. The Freiburg im Breisgau 35 manuscript of *De signis caeli* depicts Castor holding a lyre.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi's son depicts Gemini on one page as two nude clean-shaven males facing to our right. Both of their arms are extended so that the arms between them overlap. The other page shows them facing to our left. Their hands are empty.

The 12th century Vienna ÖNB Vindob 12600 manuscript of the *De ordine ac positione stellarum in signis* depicts Pollux touching Castor's chin.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Gemini as twins facing us. They both have their arms extended out to each side as if in greeting.

Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) depicts Gemini as nude twins.

A Hebrew translation of the Almagest from Catalonia (c1361), Philadelphia (USA), University of Pennsylvania Libraries, Lawrence Schoenberg Collection, ms. ljs057 (old Ms.Sassoon 823), ff.56v, 57r,

depicts Gemini as a pair of nude boys. The male on the left has blonde hair and has his arms extended, and the artist has painted his right arm green. The male on the right is standing behind the other. The right hand male has dark hair and is waving with his left arm, which the artist has painted green.

A quadrans novus found at the House of Agnes site in Canterbury in 2005 in soil dated to c 1375-1425 lists the abbreviated form "GEMIN" (Dekker 2007).

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Gemini as a pair of nude twins walking to our right with their arms outstretched. Both are wearing caps.

The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.168v-169r depicts "Gemini" as a pair of curly haired nude boys. They are viewed from behind and the twin on the left has his right arm around the twin on the right.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.70v-71r depicts "Gemini" as a pair of nude figures. The drawing is very poor, so it is impossible to determine gender. Each is holding aloft a branch of some sort.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Gemini as a tiny pair of male figures. The figure on the left is looking towards us. The figure on the right is partially behind his twin and appears to be whispering in his twin's ear.

A translation of The *Liber Introductorius* and of the *Liber de signis* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Gemini as twins with winged feet. They are both nude except for a cape over their shoulders. The twin on the left has a sickle in his right hand at his side and has his left arm around his twin: The gender of this twin is indeterminate as the twin's right leg is stepping forward, concealing the crotch. The twin on the right has male genitalia and has his right arm around his twin and his holding up a bucket or basket in his left hand.

A translation of The *Liber de signis* of Scottish polyglot Michael Scot (1175 – c.1232) in the second half of the 15th century, Darmstadt, Hessische Hochschulebibliothek, Ms 266, depicts "Gemini" as a pair of nude twins walking, turned slightly to our left. The twin on the left is male, walking with a shepherd's crook in his right hand and having his left arm behind his twin's back. The twin on the right is *female*, with her right arm behind her twin's back and her left hand holding what appears to be a bucket or possibly a basket.

The vault of the Old Sacristy of the Basilica di S. Lorenzo in Firenze, Italy (1442) depicts Gemini as twins in knee length tunics turned slightly to our right.

The Northern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Gemini as clean-shaven nude twins. The twin on the left has his back to us, with his right arm around his twin and his left arm holding up a harp. The twin on the right is behind his twin, facing him, with his left arm raised towards the sky.

The *Germanicus Aratea* (Siciliensis, c. 1469) and the *Germanicus Aratea* with scholia Strozziana (c. 1475) depicts Gemini as two long-haired males nude except for capes. Pollux has his left arm around Castor and Castor is holding up a lyre in his right hand.

Gemini appears on the *Imagines constellationum Australium* chart of Romanian theologian Johannes Honter (1498 – 1549) as two nude twins embracing, each holding their outer arm upwards, and labelled with the astrological sign for Gemini.

De Astronomica ("the astronomy"), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. "Gemini" is depicted as long-haired twins with wings. Each twin is touching the other's chest with the hands between them. Pollux has a serrated scythe in his right hand and Castor is holding a lyre in his left hand.

The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts "Gemini" as a pair of nude males viewed from behind with their inner arms around one another. Their hands are empty.

The "Nuremburg Maps" *(Die Karte des Nördlichen Sternenhimmels* inv.-Nr. Hz 5576), a pair of celestial hemispheres made in 1503 by Conrad Heinfogel, depicts "Gemini" as nude twins facing away from us. Pollux has his right arm around the back of Castor. The left arm of Pollux and the right arm of Castor are raised skyward, and the twins are looking into each other's eyes.

The *imagines coeli septentrionales cum duodecint imaginibus zodiaci* ("images of the northern sky with twelve images of the zodiac"), commonly known as the *Northern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius (Dekker & Lippincott, 1999) depicts "Gemini" as nude twins facing away from us. Pollux has his right arm around the back of Castor. The left arm of Pollux and the right arm of Castor are raised skyward, and the twins are looking into each other's eyes.

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts "Gemini" as a pair of nude twins walking together to our left. The twin on the left is labelled "Apollinis" and is holding aloft a violin and its bow in his right hand. The twin on the right is labelled "Herculis". A celestial globe (1522) of Schöner (1477 – 1547) depicts them as nude twins facing away from us with nothing in their hands.

The *Horoscopion generale* (1533) of Petrus Apianus (1495 – 1552) depicts Gemini as nude twins as viewed from behind. They are walking away from us. The twin on the left has his left arm raised to the sky and his right arm around the back of his companion.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts Gemini in the same manner as Dürer et al.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts "Gemini" as two nude seated figures facing away from us: The one on the left has darker skin, shorter hair, and appears to be a male, while the one on the right has lighter skin, long blonde hair, and may be female. The "male" figure's right arm is embracing his twin so that the upper torso of the other "twin" is obscured.

Dele Stelle Fisse ("Of the Fixed Stars") by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as "De I Gemegli". The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as the “Twins”.

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists “Gemini” in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts Gemini as nude twins, one facing us, one with his back to us. They are embracing and both has one arm raised high. This is only labeled with the astrological symbol for Gemini.

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicts “Gemini” as two nude boys viewed from behind. The one on the left has his right arm around the back of the other, and the one on the right is pointing at something with his left hand. Both have their outer arms raised skyward.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts “Les Gemeaux” as a pair of nude twin boys. Castor has his arm around the front of Pollux.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts “Gemini” as nude twins. The twin on the left is facing away from us with his left arm raised skyward and his right arm around his companion. The right twin is partially concealed behind the other twin and appears to be facing him with his left arm raised skyward: His right arm is concealed.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts “Gemini” as two nude males , with Castor behind Pollux. Pollux is brandishing a whip in his right hand.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) depicts “Gemini” as nude twins with drapery over their left shoulder wearing round caps with a six-pointed star on the front topped by a cross. Pollux is holding a spear in his left hand and a club in his right hand. Castor is holding an arrow in his left hand and a harp in his left hand.

“Gemini” is depicted on the *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) as seated naked twins with their backs to us and their arms around each other.

Gemini is listed in Danish astronomer Tycho Brahe’s *Astronomiae Instauratae Progymnasmata* (1602).

German uranographer Johann Bayer (1572 – 1625) depicts Gemini in his *Uranometria* in 1603 as twins both wearing caps with crosses on top. Pollux holding a sickle in his right hand and Castor holding an arrow in his left hand and some sort of rectangular harp cradled in his right arm. Bayer lists these names for Gemini: “Gemini, Castor and Pollux, Amphion and Zethus, Tyndaridae, Ledaeiiuuenes Dioscuri, Duo corpuscula cofertis brachiolis & crusculis [“Two small bodies with brachioli and small scales”], Ledaeum Sidus, Dij Samothraces, Duo Pauones, Zwilling, Abrachaleus and Aphellan seu Auellar”.

“Gemini” is listed on the *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) and is reversed, with the twins viewed from behind with Castor on the left and Pollux on the right. Both are wearing conical caps. Castor is holding up and arrow in his left hand and Pollux is holding up a club.

"Gemini" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and depicted as two nude male twins with spiked caps: They are embracing with their inner arms and their outer arms are brandishing spears.

Gemini is listed by German astronomer Johannes Kepler (1571 – 1630) in his *Tabulae Rudolphinae*, a new edition of Brahe's catalogue, in 1627.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the name "Gemini" for this constellation.

"Gemini" is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as seated twins with arms around each other: Pollux is holding an arrow up in his right hand and Castor is holding a spear up in his left hand.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts Gemini as nude twins with their backs to us. The twin on the left is labelled "Castor" and is pointing at something with his left hand and has his right arm around Pollux. The twin on the right is labelled "Pollus" and is turned towards Castor: Both of his arms are out of view.

The huge *Gottorf Globe* (c1650) made for the Duke of Holstein, Frederick III, one of the world's first planetariums, depicts Gemini as nude twins wearing conical helmets. The twin on the left is facing us, partially obscured behind his twin, and has raised a club in his right hand. The twin on the right is facing away from us, and is holding a stick with arrow points at both ends. The twin in the back is also wearing a blue drapery.

This constellation is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "Gemini Algenife" with the captions "Castor vel Appollo" and "Pollux Alias Herculis": This depicts two nude twins viewed from behind.

Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) depicts Gemini as two nude males, Castor with his back to us and Pollux facing us: Castor is holding aloft an arrow in his left hand and Pollux is holding aloft a club in his left hand.

The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678 by English uranographer James Clerk depicts "Gemini" as seated twins viewed from behind with arms around each other and one pointing.

English uranographer John Seller's *A coelestiall planisphere* (1678) depicts "Gemini" as twins seated with arms around one another and one pointing.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts "Gemini" as nude twins with a feather tucked into a band around their heads. "Pollux" is on the right holding a raised club in his left hand and "Castor" is on the left holding a three-thong whip aloft in his left hand and having his right arm around Pollux.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli depicts Gemini as nude children facing one another. Pollux on the left has his back to us and is holding a stick with arrow points

at eac end in his right left hand. Castor on the right is facing us straddling the right leg of Pollux and has drapery over his left shoulder. His left had is holding up a club.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, depicts Gemini as nude twins walking away from us, both wearing a circlet in their hair with a leafy frond in front. Pollux has a stick in his left hand.

Gemini is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729: The twins are depicted seated with Pollux's inner arm around Castor's back. Pollux is holding a club in his right hand. Castor is cradling a lyre in his right arm and is holding aloft an arrow in his left hand.

A wooden precession globe (1730) by German uranographer Johann Georg Puschner (Dekker 2003) lists this constellation as "Gemini".

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts Gemini as a pair of twins seated facing away from us. This is located at the edge of one of the halves of the folding globe. Castor is holding a large leaf in his right hand.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts Gemini as nude male twins, with Pollux seated as viewed from his right side with Castor seated facing away from us in the lap of Pollux. Pollux has a club raised in his right hand and Castor has a whip with three thongs raised in his right hand.

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) depicts Gemini as nude twins, Castor with his back to us overlapping Pollux, who faces us: Castor is holding aloft a burning torch in his left hand and Pollux is holding aloft a club in his left hand.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Gemini as twins seated side by side. They are both wearing skull caps. Pollux has a sickle raised in his left hand over his head. Castor has what appears to be an arrow in his right hand and his holding a lyre in his lap.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) depicts "Les Gemeau" as two youths. Pollux has his left arm around Castor's back and has a scythe raised in his right hand. Castor is cradling a lyre in his right arm and holding an arrow in his left hand.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts "Gemini" as two nude twins viewed from behind. Castor is holding aloft what appears to be a three-thong whip.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "les Gemeaux" ("the Twins") as two nude males with their inner arms around each other and their outer arms raised on the northern hemisphere chart. Later in a closeup chart the twins are wearing shorts and sandals and Castor is holding an arrow in his left hand and cradling a lyre in his left arm and Pollux is holding a club in his right hand. The 1778 edition depicts the twins as seated with Pollux's inner arm around Castor's back. Pollux is holding a club in his right hand. Castor is cradling a lyre in his right arm and is holding aloft an arrow in his left hand.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as "Zwillinge" and depicts the twins from the rear, seated,

with Pollux holding a club aloft in his left hand and Castor holding an arrow in his left hand. Bode's various *Jahrbuch* also use this name. *Vorstellung Der Gestirne* (1782) lists this constellation as "Zwillinge, Castor und Pollux" (see Twins, below) and depicts them as seated side by side, with Pollux cradling a club with his right arm and Castor cradling a lyre in his right arm and holding aloft an arrow in his left hand.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as "Gemini" in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts "Gemini" as seated twins: Castor has his arm around "Pollix" and is pointing at something with his left hand.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts "Gemini" as two nude males viewed from the rear. Pollux is holding up a three thong whip and Castor is holding up what appears to be a feather.

American uranographer William Croswell (1760 – 1834) depicts "Gemini the Twins" on his *Mercator Map of the Starry Heavens* in 1810 as two seated youths: Castor has his back to us and is brandishing a spear in his left hand. Castor overlaps Pollux, who faces us.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Gemini in his *Celestial Atlas* and his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822): This constellation is depicted as two seated twins, with Castor slightly overlapping Pollux. Pollux is cradling a club in his right arm and Castor is cradling a harp in his right arm and brandishing a bow and arrow in his left hand. NOTE: Jamieson lists one twin as "Hercules vel Pollux" and the other as "Apollo vel Castor" in his Atlas and as "Pollux" and "Castor" in the *Northern Celestial Planisphere*.

"Gemini" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as two males with sandals seated together. Pollux is holding a scythe over his head in his right hand and has his left arm around Castor. Castor is holding a lyre in front of him in his right arm and has an arrow raised in his left hand.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts "Gemini" as two male twins facing away from us, with Castor on the left and Pollux on the right. Castor is holding aloft a bow in his left hand and Pollux is holding a club in his right hand.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts "Gemini" as seated twins: Pollux is holding a club in his right hand and Castor is cradling a lyre in his lap with his right hand and holding out a bow and arrow in his left hand.

Gemini is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on Jamieson's *Celestial Atlas*. Gemini is depicted as seated twins with Castor's right shoulder overlapping Pollux's left shoulder. Pollux has a huge wooden club tucked under his right arm and Castor is holding a lyre in his left arm and holding aloft a bow and arrow in his right hand.

"Gemini" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It is depicted as twins facing us standing side by side with their inner arms around one another. Castor is gesturing with his left hand.

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as "Gemini, the Twins".

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) describes this as "Gemini, the twins".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Gemini" in his *Star Atlas* (1893) and describes it as "The Twins".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Gemini" and describes it as the "Twins".

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Gemini, the Twins".

The French call it "Gémeaux". Romanians call it "Gemenii" but the brothers are Romulus and Remus.

The standard IAU chart depicts Gemini this way:

- "Pollux" has the star Beta (β) Geminorum (Pollux) as his "head", with his "shoulders" the star Upsilon (υ) Geminorum and his body running down to Delta (δ) Geminorum. Arms are two lines running out from Upsilon (υ) Geminorum to Kappa (κ) and Iota (ι) Geminorum. One "leg" runs from Delta (δ) Geminorum to a "knee" at Lambda (λ) Geminorum to a "foot" at Xi (ξ) Geminorum and the other "leg" runs from Delta (δ) Geminorum to a "knee" at Zeta (ζ) Geminorum to a "foot" at Gamma (γ) Geminorum.
- "Castor" has the star Alpha (α) Geminorum (Castor) as his "head", with his "shoulders" at Tau (τ) Geminorum and his body running down to Epsilon (ε) Geminorum. Arms are two lines running out from Tau (τ) Geminorum to Iota (ι) Geminorum and Theta (θ) Geminorum. One "leg" runs from Epsilon (ε) Geminorum to a "foot" at Nu (ν) Geminorum and the other "leg" runs from Epsilon (ε) Geminorum through Mu (μ) and Eta (η) Geminorum to a "foot" at 1 Geminorum.

Sky and Telescope Magazine, founded in 1941, depicts Gemini in their magazine and publications in the same manner as standard IAU charts.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) simplify Gemini in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* by eliminating two of the twin's legs, having Pollux end with a line from Gamma (γ) Geminorum to Xi (ξ) Geminorum and Castor end with a line from Mu (μ) Geminorum through Eta (η) Geminorum to 1 Geminorum.

Gemini Nebula:

This is an alternate name for the Peanut Nebula (see below).

Gemini Spartans:

This Latin asterism "Gemini Lacones" is the IAU constellation Gemini. English poet John Milton (1608 – 1674) called it "Spartan Twins". This name relates to their birthplace in Sparta. A related name is "Spartana Suboles" ("Sparta offshore").

Gemstone Bearer of Pisces:

This **telescopic** asterism "Gemmífera Píscium" is the intermediate spiral galaxy NGC 718 in the IAU constellation Pisces. It was discovered in 1784 by William Herschel who listed it as "II 270". This became GC 430 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this to "draw attention to the unassuming b) eauty of this galaxy".

Gemstone of Pyxis:

This **telescopic** asterism "Gemma Pýxidis" is the elliptical galaxy NGC 2663 in the IAU constellation Pyxis. It was discovered by Lewis Swift in 1886. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They describe it as a "simple elliptical galaxy [which] shines as a gemstone… like a jewel in a jewel box".

General:

This Chinese star "Jiang" is Mu (μ) Sagittarii in the IAU constellation Sagittarius and is part of their xiù (lunar mansion) "Dǒuxiù" (斗宿) – see Dipper, above.

General of Border:

This Korean asterism "Guggyeong Jang-gun" (국경 장군) is a two-pronged fork of stars in the IAU constellation Taurus. The "handle" is the stars Gamma (γ) and Lambda (λ) Tauri. From Gamma (γ) Tauri, two lines of stars emerge:

- One line runs through Delta (δ) 1, 2 and 3 Tauri, ending up at Epsilon (ε) Tauri, and
- One line runs through 71, Theta (θ) 1 and 2 Tauri, HIP 21029, and Alpha (α) Tauri (Regulus), ending at Sigma (σ) 1 and 2 Tauri.

General of Mobile Troops:

This Korean asterism "Gidong Budaeui Jang-gun" (기동 부대의 장군) is a triangle of stars in the IAU constellation Centaurus and Circinus: Alpha (α) Centauri (Rigil Kentaurus), Beta (β) Centauri (Hadar) and Alpha (α) Circini.

General of the East:

This 9th century Zoroastrian star "Tištar" is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Raffaelli 2018) which they saw as a general ("spāhbed") of the east. The Zoroastrians saw it as opposing their "general of generals" named "Tīr" (the planet Mercury). Compare this to the Persian asterism Four Guardians of Heaven (see above).

General of the North:

This 9th century Zoroastrian asterism "Haftōring" is the IAU constellation Ursa Major (Raffaelli 2018) which they saw as a general ("spāhbed") of the north. The Zoroastrians saw it as opposing their "general of generals" named "Ohrmazd" (the planet Jupiter). Compare this to the Persian asterism Four Guardians of Heaven (see above).

General of the South:

This 9th century Zoroastrian star "Sadwēs" is Alpha (α) Piscis Austrini (Fomalhaut) in the IAU constellation Piscis Austrinus (Raffaelli 2018) which they saw as a general ("spāhbed") of the south. The

Zoroastrians saw it as opposing their "general of generals" named "Anāhīd" (the planet Venus). Compare this to the Persian asterism Four Guardians of Heaven (see above).

General of the Stellar Generals:

This 9th century Zoroastrian star "Mēx ī mayān ī asmān" is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Raffaelli 2018) which they saw as a stellar general of generals. The Zoroastrians saw it as opposing their "general of the generals" named "Kēwān" (the planet Saturn).

General of the West:

This 9th century Zoroastrian star "Wanand" is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra (Raffaelli 2018) which they saw as a general ("spāhbed") of the west. The Zoroastrians saw it as opposing their "general of generals" named "Wahrām" (the planet Mars). Compare this to the Persian asterism Four Guardians of Heaven (see above).

Genie in a Bottle:

This **telescopic** asterism is the peculiar ring galaxy NGC 2445 (Arp 143) in the IAU constellation Lynx which is interacting with NGC 2444 (GC 5392). It was discovered by Édouard Stephan in 1877 and later became GC 5393 in the *General Catalogue* of 1864. This name was posted on the *Deep Sky Forum* by American astronomer Jimi Lowrey in February 2012. It is also known as the "Cat's Paw of Lynx".

Genoa:

This asterism "Genoa" was made up of stars of the IAU constellation Corvus by German astronomer Erhard Weigel (1625 – 99) who produced his *Astrocopium Orbi Europaeo Sacrum* chart in 1661, 1681 and 1688 in which he tried to replace existing constellations a new system based upon the heraldry of the nation states and principalities of seventeenth century Europe, as well as of its principal hierarchies and social classes. It represents Genoa and is depicted as a cross.

Gentry:

This Chinese star "Shi" from the 3 Kingdoms and Ming Dynasty Period is Nu (ν) Ursae Majoris in the IAU constellation Ursa Major and is part of their asterism Three Steps (see below).

George's Psaltery:

This asterism "Psalterium Georgii" or "Psalterium Georgianum" was created by Hungarian astronomer Abbé Maximilian Hell in 1789 to honor King George III of Great Britain. It is made up of stars of the IAU constellations Eridanus and Taurus and included the star 10 Tauri. French astronomer Jérôme Lalande (1732 – 1807) renamed it "Harpa Georgii". German uranographer Adolf Stieler (1775 – 1836) listed it on his planisphere as "Georg's Harfe", and German astronomer Johann Elert Bode (1747 – 1826) listed it as "Georgs Harfe" in his *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820). Scottish uranographer Alexander Jamieson (1782 – 1850) lists "Psalterium Georgii" in his *Celestial Atlas* in 1822: It is depicted as a harp with the frame the bust of a winged nude woman. *An Improved Moveable Planisphere* (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts "Psalterium Georgii" as a harp with the frame the bust of a winged nude woman. NOTE: A psaltery is a stringed instrument of the zither family.

German:

This Latin asterism “Almannus” is the IAU constellation Hercules and relates to forms of that hero worshipped in early German territories.

Gesticulating of Canes Venatici:

This **telescopic** asterism “Gestículans Cánum Venaticórum” is the intermediate spiral Seyfert galaxy NGC 4151 in the IAU constellation Canes Venatici. It was discovered by English astronomer William Herschel in March 1787 who listed it as “I 165”. It is GC 2756 in the *General Catalogue* of 1864.This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). It is also known as the “Eye of Sauron” (see above).

Gherges:

This Persian asterism is the IAU constellation Aquila.

Ghirdegan:

This Persian asterism is the IAU constellation Gemini as listed in John Hill’s *Urania* in 1754.

Ghost Bush Cluster:

This **telescopic** asterism, also known as the Flying Geese Cluster (see above) and the Silk Fan Cluster (see below), is the open cluster NGC 6939 in the IAU constellation Cepheus. It was discovered by William Herschel in 1798 who listed it as VI 42. It is GC 4590 in the *General Catalogue* of 1864. It lies 0.6 degrees northwest of the spiral galaxy NGC 6946 and 2 degrees southwest of the star Eta (η) Cephei. It is also known as the Silk Fan cluster and the Flying Geese.

Ghost Cluster:

This **telescopic** asterism is the open cluster NGC 7789 in the IAU constellation Cassiopeia. It was discovered in 1783 by English astronomer Caroline Herschel. John Herschel listed it as “”VI 30”. John Herschel listed it as h 2284 and later as GC 5031 in his *General Catalogue* of 1864. It is also known as Caroline’s Rose, the White Rose, the Star Mist Cluster, Herschel’s Spiral Cluster, and the Screaming Skull Cluster.

Ghost Globular Cluster:

There are two **telescopic** “ghost globular cluster” asterisms:

- One is open cluster NGC 5466 in the IAU constellation Boötes. It was discovered by English astronomer William Herschel in 1784 who listed it as “VI 9”. It is GC 3776 in the *General Catalogue* of 1864.
- One is globular cluster NGC 5897 in the IAU constellation Libra. This was discovered by English astronomer William Herschel in 1784 who listed it as “VI 19” and “VI 8?”. It is GC 4075 in the *General Catalogue* of 1864. This globular cluster is a satellite of the Milky Way. This is listed in Stephen James O’Meara’s *Hidden Treasures Catalogue* (2007).

Ghost Head Nebula:

This **telescopic** asterism is emission nebula NGC 2080 in the IAU constellation Dorado south of the Tarantula Nebula (see below). It was discovered in 1827 by Scottish astronomer James Dunlop and belongs to the Large Magellanic Cloud. It is listed as GC 1278 in the *General Catalogue* of 1864. It is called this as this cloud has two bright patches that look like “eyes”.

Ghost Nebula:

This reflection nebula is Sharpless 2 – 136 (VdB 141) in the IAU constellation Cepheus.

Ghost of Cassiopeia:

This **telescopic** asterism is the HII region IC 59/IC 63 which is 19 arcminutes away from Gamma (γ) Cassiopeia in the IAU constellation Cassiopeia inside Sharpless 2-185. American astronomer Edward Emerson Barnard (1857 – 1923) and German astronomer Max Wolf (1863 – 1932) are both listed in the first Index catalogue as having observed it. Some people call it the Ghost Nebula of Cassiopeia.

Ghost of Jupiter:

This **telescopic** asterism is the planetary nebula NGC 3242 (Caldwell 59) in the IAU constellation Hydra. It was discovered in 1785 by English astronomer William Herschel who listed it as "IV 27". John Herschel included it in his catalogue as h 3248 and later as GC 2102 in his *General Catalogue* of 1864. English Admiral Henry William Smyth describes it as a "fine object [which] resembles Jupiter" in his *Bedford Catalogue* in 1844. It is also known as the Eye Nebula (see above) or the Diamond Nebula (see above). Size 0.7' X 0.6'. English astronomer William Henry Smyth (1788 – 1865) noted in his observations that its apparent size was similar to Jupiter, which is how it acquired that name. Rev. Thomas William Webb describes it as "resembling Jupiter" in the third edition of his *Celestial Objects for Common Telescopes* in 1873.

Ghost of Mars Nebula:

This **telescopic** asterism is planetary nebula NGC 6369 in the IAU constellation Ophiuchus. It was discovered by English astronomer William Herschel in 1784 who listed it as "IV 11". It is GC 4302 in the *General Catalogue* of 1864. It is also known as the Little Ghost Nebula (see below) and the TIE Fighter (see below). This is listed in Stephen James O'Meara's *Hidden Treasures Catalogue* (2007).

Ghost of Neptune Nebula:

This **telescopic** asterism is planetary nebula NGC 1535 in the IAU constellation Eridanus. It was discovered in 1785 by English astronomer William Herschel who listed it as "IV 26" in his catalogue. It is GC 826 in the *General Catalogue* of 1864. It is also known as the "Celestial Jellyfish" and "Cleopatra's Eye". Astronomer Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) lists this name and makes it O'Meara 22.

Ghost of the Moon Nebula:

See Snow Globe Nebula (below).

Ghost of Uranus:

This **telescopic** asterism is the planetary nebula NGC 5882 in the IAU constellation Lupus. This was discovered by English astronomer John Herschel in 1835 who listed it as h 3594. It is GC 4066 in the *General Catalogue* of 1864. It is also known as the Puff Cluster (see below).

Ghost of Ursa Major:

This **telescopic** asterism "Larvális Úrsae Majóris" is the intermediate spiral galaxy NGC 4088 (Arp 18) in the IAU constellation Ursa Major. William Herschel listed this as "I 206". It became GC 2708 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the apparent shape

of this galaxy resembles the characteristic figure of a ghost, the head being the bright spot at the northeastern end".

Ghost Ring Nebula:

This **telescopic** asterism is planetary nebula IC 5148 in the IAU constellation Grus about 1 degree west of Lambda (λ) Gruis. It was discovered by Australian amateur astronomer Walter Frederick Gale (1865 - 1945) in 1894. This is also known as the Spare Tire Nebula.

Ghostly Cheerio:

See Cheerio Nebula above.

Ghostly Streak:

This **telescopic** asterism "Acúleus Píscium" is the galaxy NGC 100 in the IAU constellation Pisces. It was discovered by American astronomer Lewis Smith in 1885. This name is posted in the *Deep Sky Forum* in October 2015 by American astronomer Jimi Lowrey. It is also known as the "Sting of Pisces".

Ghosts:

This Chinese xiù (lunar mansion) "Guǐxiù" (鬼宿) is a quadrilateral of stars in the IAU constellation Cancer: Delta (δ), Gamma (γ), Eta (η), and Theta (θ) Cancri. These form an "enclosure" around the open cluster Messier 44 (the Beehive Cluster, see Beehive, above), which the Chinese call "Cumulative Corpses" or "Cumulative Corpse Gas" (see above). In the *Han shu*, a history of the early Han dynasty that was finished in 111 C.E. this xiù "Yu Gui" (輿鬼） was associated to matters concerning the Yongzhou territory. It appears as Gui (鬼）in the Tang Dynasty (618 – 907 C.E) and is compared with the Vedic nakshatra Pushya (Kotyk 2017, see Nourisher, below).This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

The Koreans call this xing guan "Eye of Sky" (see above).

Ghost's Head:

This Latin asterism "Caput Larvae" is the asterism Medusa's Head (see below) in the IAU constellation Perseus and appeared in the 16th century according to R. H. Allen in his *Star Names* in 1899. Robert Burnham lists "Caput Larvae", which he translates as "the Spectre's Head" as a name for the star Beta (β) Persei (Algol) in his *Burnham's Celestial Handbook* in 1978.

Ghunaīma:

This Arabic asterism "Ghunaīma" is stars surrounding Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

Giant:

This Arabic asterism "Aleimlaq" (العملاق), "Algebar", "al-jabbar", or "ul-Jabbār", is the IAU constellation Orion. Arabic astronomers translated the Greek constellation Orion this way, although their own name for it was Al Jawza' (see above):

- "al-Jabbār" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

- "Algebar" and "Algebaro" are names listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
- German poet Philip von Zesen (1619 – 1689) lists it as "Algauza".
- John Hill lists it as "Algabbar" in his *Urania* in 1754
- John Chilmead lists it as "Algibbar" in his *A Learned Treatise on Globes* in 1889.
- Other variations include "Algebra", and "Algebaro".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists this as "jebbér" and as "El-Jebbár, the hero".

This ancient Celtic asterism "Helith" is associated with the Cerne Abbas giant and anthropologists have described it as an early representation of the IAU constellation Hercules.

This large, ancient Egyptian asterism "Nekhet" is found in the Ramesside star charts on the ceiling of three tombs in the Valley of the Kings (New Kingdom, 20th Dynasty) and is made up of stars of the IAU constellations Aquila, Aquarius, Delphinus, Lacerta, Pegasus, Pisces, and Andromeda:

- The lower part of its "body" is the Great Square of Pegasus (see Great Square below) with "knees" being the stars 68 Pegasi and 17 Piscium,
- The "shoulders" of the upper body are the stars Epsilon (ε) and Kappa (κ) Pegasi,
- One "arm" goes off from Kappa (κ) Pegasi along a line of faint stars ending in 11 Lacertae,
- The other "arm" runs from Theta (θ) Pegasi to an "elbow" at Eta (η) Aquarii and on to a "hand" at Beta (β) Aquarii (Sadalsuud), and
- This Giant has two "antennae":
    - One ends in the star Alpha (α) Aquilae (Altair), and
    - The other ends in a quadrilateral of stars: Beta (β) Delphini (Rotanev) and Delta (δ) Delphini and 9 and 12 Delphini.

This Greek asterism "Γίγας" ("Gigas") is the IAU constellation Orion:

- Johann Bayer's *Uranometria* (1603) lists "Gigas".
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists Gigas.
- The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch lists "Gigas".
- Gigas is listed in John Hill's *Urania* in 1754 and in R. H. Allen's *Star Names* in 1899.

This Hebrew asterism "Gibbōr" is the IAU constellation Orion.

This Syrian asterism "Gavero" is the IAU constellation Orion as listed in John Hill's *Urania* in 1754. R. H. Allen lists it as "Gabbārā" in his *Star Names* in 1899.

This Ininew (Cree) asterism "Mistapiw" is the IAU constellation Orion (Buck 2016). He is also known as "Wesakayckak" the "Trickster" or "Teacher" (see "Teacher" below). The three stars of Orion's belt are the "Three Chiefs" (see below).

This Anishinaabe asterism "Misabe" or "Nanabush Anung" ("Teacher", see below) is the IAU constellation Orion (Lee et al 2014).

This Armenian asterism "Haik" is the IAU constellation Orion.

Giant Angel:

This Hebrew asterism from their *Tanakh*, "Kesîl" (כְּסִיל), is the IAU constellation Orion.

Giant Behemoth:

This **telescopic** asterism NGC 6907 is a grand design spiral galaxy in the IAU constellation Capricornus. It was discovered by English astronomer William Herschel in July 1784 who listed it as "III 141". It is GC 4573 in the *General Catalogue* of 1864. It is also known as the "Curved of Capricornus" (see above).

Giant Gate:

This Chinese star "Jumen" from the Three Kingdoms to the Ming Dynasty is Beta (β) Ursae Majoris (Merak) in the IAU constellation Ursa Major.

This Chinese Chenzhuo xing guan "Jumen" is the star Beta (β) Ursae Majoris (Merak) in the IAU constellation Ursa Major. It is part of their xing guan Northern Dipper.

Giant of Eridanus:

This **telescopic** asterism "Pergrándis Erídani" is the huge elliptical galaxy NGC 1132 in the IAU constellation Eridanus. It was discovered in 1827 by John Herschel who listed it in his catalogue as 273 and later as GC 619 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Giant of Pavo:

This **telescopic** asterism "Gígas Pavónis" is the barred spiral galaxy NGC 6872 in the IAU constellation Pavo. It was discovered by John Herschel in 1835, listing it as h 3816. It is GC 4549 in the *General Catalogue* of 1864. It is the largest known spiral galaxy and is interacting with the lenticular galaxy IC 4970. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "its long extending arms merits to be named after the mythological… Gigantes, often pictured with long snakelike tails. The Gigantes were beaten and injured by Zeus… as can be seen in this galaxy with its broken arm." It is -70 46also known as the "Condor" (see above).

Giant Shovelnose Ray:

This Kala Lagaw Ya asterism "Kaigasiu Usu" is the region of the galactic bulge in the IAU constellation Scorpius.

Giant Squid:

There are two **telescopic** "Giant Squid" asterisms:

- One is NGC 134 is a barred spiral galaxy in the IAU constellation Sculptor. It was discovered by Scottish astronomer James Dunlop. It is GC 67 in the 1864 *General Catalogue*. It was given this name by American astronomer and author Stephen James O'Meara. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010).
- One is the nebula Outters 4 (OU 4) in the IAU constellation Cepheus. This was discovered by amateur astronomer Nicolas Outters in 2011. It is embedded in the HII region Sharpless Sh2 – 192 (bat nebula).

Giant Triggerfish:

This Tongan asterism "Humu" is the Coal Sack Nebula (see Coal Sack Nebula, above) in the IAU constellation Crux and is related to their asterism the Twins (see below). Humu was also a famous

ho'okele ("navigator/steersman") in Polynesian mythology: Compare this with the Hawaiian asterism Humu (see below).

This Micronesian (Caroline Islands) asterism is the Southern Cross in the IAU constellation Crux.

Giausar:

See Poison Place, below.

Gideon's Fleece:

This German asterism is the IAU constellation Lepus and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures. This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "Vellus Gedeonis "Gideon's fleece") Al Leques". Gideon's Fleece later appears in Edward Sherburne's *Sphere of Marcus Manilius* in 1675 and in John Hill's *Urania* in 1754.

Gienah:

See Wing, below.

Gift:

This Vedic Nakshatra (lunar mansion) "Radha" or "Rādhā" ("the gift"), also known as "Vishākhā", "Visakha", "Vishakha", or "Vaisakha" ("forked" or "having branches"- see Forked, above), is in the IAU constellation Libra and is the double star Alpha (α) Librae (Zubenelgenubi), and the stars Beta (β) Librae (Zubeneschamali), and Iota (ι) Librae (Ivanković 2021).

Gift of the Nile:

This asterism "Nili Domum" is the IAU constellation Triangulum. This name is listed in Johann Bayer's *Uranometria* (1603). This is listed in R. H. Allen's *Star Names* in 1899: Allen points out "Nili Donum" ("Gift of the Nile") is an early name of the Nile, and offers the alternative translation "the Nile's home"

Gihon:

This asterism is the IAU constellation Eridanus. The11th century *De signis caeli ("of the signs of heaven*") lists "Gyon" and "Gion" for this constellation. The river Gihon is mentioned in the book of Genesis.

- Johann Bayer's *Uranometria* (1603) lists "Gyon vel Nilus".
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Gyon vel Nilus".
- "Gyon" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

Gilimma:

This Assyrian star "Gilimma" listed in the *Astrological Reports to the Assyrian Kings* (Hunger 1992) is unidentified and the translation is uncertain.

This Babylonian star "MUL.GILIM.MA" listed in the *Astrological Reports to the Assyrian Kings* (Hunger 1992) is unidentified and the translation is uncertain.

Gilirringa:

This Wardaman star is Zeta (ζ) Orionis (Alnitak) in the IAU constellation Orion (Cairns and Harney 2003).

Gin Ginman:

This Wardaman star is Delta (δ) 3 Tauri in the Hyades cluster in the IAU constellation Taurus (Cairns and Harney 2003). Compare this to their star Rival Fish, above.

Ginan:

This Wardaman star is Epsilon (ε) Crucis in the IAU constellation Crux (Cairns and Harney 2003).

Ginnungagap:

This Norse asterism is the sky other than the Milky Way and was created by Canadian Bjorn Jónsson (1920 – 1995) who was trying to reconstruct traditional Scandinavian skies (Kuperjanov 2006). Ginnungagap in Norse mythology is the void in which the world was created.

Giraffe:

This Basotho asterism "Thutlwa" is made up of stars in the IAU constellation Crux plus the stars Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus, the Pointers (see Pointers below).

This Venda asterism "Tuda" is made up of stars in the IAU constellation Crux plus the stars Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus, the Pointers (Alcock 2014).

This French asterism "Girafe" is the IAU constellation Camelopardalis.

This Italian asterism "Giraffa" is the IAU constellation Camelopardalis.

This **telescopic** asterism is in the IAU constellation Serpens and is Corder 2869 on the observing list of American astronomer Jeffrey Corder. Size 180' X 120'. This includes Tau (τ) 1, 2, 3, 5, and 6 Serpentis, and HIP 75810, 75861, 76043, 76136, 76699, 76511, and 76198. NOTE: Corder also lists these stars as Corder 2875 and describes it as a "paddle or tennis racket".

Giraffe Eyes:

This G/wi and //Gana asterism is the Southern Cross in the IAU constellation Crux (Alcock 2014) plus the Pointer Stars (see Pointers below). The Southern Cross is male giraffes and the Pointers female giraffes. Compare this to Female Giraffe, above.

Giraffe Star:

This Hiechware asterism "gabee /khaine" is the Southern Cross in the IAU constellation Crux (Alcock 2014) plus the Pointer Stars, Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus.

Giraffes:

This Sotho and Tswana asterism "Dithutlwa" is the stars of the Southern Cross in the IAU constellation Crux and the stars Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU

constellation Centaurus, the Pointers (Holbrook and Baleisis 2007, Slotegraaf 2013). The Southern Cross is a male giraffe, and The Pointers are a female giraffe.

In this Venda asterism "Thudana" the stars Gamma (γ) Crucis and Delta (δ) Crucis in the IAU constellation Crux are female giraffes and the stars Alpha (α) Crucis (Acrux) and Beta (β) Crucis (Mimosa) are "Thuda", the male giraffes (Slotegraaf 2013). An alternate translation is "Giraffe Stars".

Girdle:

There are two Arabic stars by this name:

- One, "an-Niṭāq" (النطاق) or "Al Niṭāk" is the star Zeta (ζ) Orionis and is the star at one end of the "belt" of the IAU constellation Orion:
    - This was later latinized to "Alnitak" or "Alnitah".
    - English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Alnitak, the Arabic al-niták, the girdle".
    - The IAU approved the name Alnitak for the star Zeta (ζ) Orionis Aa.
- One, "Al-Izar" (الإزار) is the star Epsilon (ε) Boötis in the IAU constellation Boötes:
    - This was later latinized to "Izār" or "Izar".
    - English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Izár,… a zone or girdle". NOTE: Smyth also associates this with the name "Mizar", but this is actually a name for 80 Ursae Majoris (see Mizar, below).
    - Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich incorrectly lists this star as "Mizar".
    - The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists "Izar", "Mizar", and "Mirac" for this star, but his 14th edition (1959) only lists "Izar" and "Mizar".
    - The IAU has approved the name Izar for the star Epsilon (ε) Boötis A.

This Greek star "ζῶσμα" ("zósma"), later latinized to "Zosma", "Zosma", "Zozma", "Zozca", or "Zosca" is the star Delta (δ) Leonis in the IAU constellation Leo:

- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists Zosma… a tunic or girdle".
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as "Zosma".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Zosma".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists the names "Zosca" and "Zosma" for this star, but the 14th edition (1959) lists the names "Zosma" and "Zozca" for this star.
- The IAU Working Group on Star Names chose Zosma as the name for Delta (δ) Leonis.

This Latin star "Perizoma" is Epsilon (ε) Boötis in the IAU constellation Boötes as listed in the 15th century *Alfonsine Tables*.

This Lithuanian asterism "Jukštandis", "Jostandis", "Juksztande", or "Josta" is the IAU constellation Cassiopeia. "Jostandis" is listed in R. H. Allen's *Star Names* in 1899.

Girl:

This Chinese xiù (lunar mansion) “Nǚxiù” (女宿) is a quadrilateral of stars in the IAU constellation Aquarius: Epsilon (ε), Mu (μ), 3 and 5 Aquarii. This xiù appears in the Tang Dynasty as “Nǚ” (女) as listed by Kotyk (2017) and Kotyk writes that it was compared to the Vedic nakshatra Shravana (see Hear Star of Learning, below) which is in the nearby constellation Aquila. In the *Han shu*, a history of the early Han dynasty that was finished in 111 C.E. this xiù “Wu Nü” (婺） was associated to matters concerning the Youzhou territory. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Greek lunar mansion is the IAU constellation Virgo and is listed in the Magical Papyrus 121, preserved in the British Museum, and dated to the 3rd century C.E. (Mosenkis, date n/k).

This Romanian asterism “Coromâsla” is the IAU constellation Cygnus (Ottescu 2009). Compare this to Great Maiden with a Yoke, below.

Girl with a Ponytail:

This **telescopic** asterism is the open cluster NGC 2244 (Caldwell 50) and HII region NGC 2238 in the IAU constellation Monoceros and includes the nebulae NGC 2237 (Caldwell 49), 2239, and NGC 2246. Size 80’ X 60’. English astronomer William Herschel discovered this open cluster (NGC 2244) in 1784 and listed it as “VII 2” in his catalogue, and it is listed as GC 1424 in the *General Catalogue* of 1864. American astronomer Lewis Swift (1820 – 1913) first called attention to its large size. American astronomer Edward Emerson Barnard (1857 – 1923) came across it in 1883 while searching for comets, and his observations motivated Swift to publish a note about it in 1884. South African astronomer Carol Botha (2015) describes it as “A round haze lying over the open cluster… and seems to have a strand of nebulosity extending over a string of stars which ends with a bright star SW. This looks more like the soft silhouette of a girl with a cheeky ponytail”. It is also known as the Skull Nebula (see below), and the Rosette Nebula (see below).

Girl with a Yoke:

This Ukrainian asterism “divchyna z koketkoyu” (дівчина з кокеткою) is the IAU constellation Aquila.

Girls:

This Kaykavian asterism “Déklice” is the IAU constellation Virgo.

This Boorong and Wotjobaluk asterism **“**Larnankurrk” or “Larnan Kurrk” (“girls” or “young women”) is the Pleiades cluster in the IAU constellation Taurus as listed by Stanbridge (1857), Morieson (1999), and Hamacher and Frew (2010). They are playing music for the Young Men Dancing (see below).

This Marra and Moporr asterism **“**Kuurokeheear” is the Pleiades cluster in the IAU constellation Taurus (Dawson 1881, Hamacher 2011).

Girls Digging for Roots:

This Kaurna asterism “Mankamankarranna” is the Pleiades cluster in the IAU constellation Taurus (Hamacher 2015).

Girls of the Night:

This Tuareg asterism is the Pleiades cluster in the IAU constellation Taurus. The Taureg names for the six brightest stars in the Pleiades cluster are: Mâteredjrê, Erredjeàot, Mâteseksek, Essekâot,

Màtelarhlarh and Ellerhâot. The seventh star is said to be the eye of a boy that left his head and went into the sky (Duveyrier 1864, Holbrook 2020).

Girl's Wreath:

This Lithuanian asterism "arba Mergaičių vainykėlis" is the Pleiades open cluster in the IAU constellation Taurus.

Giving Birth to Itself:

See Eye, above.

Gjallarbru:

This Norse asterism "Gjallarbru" or "Gjallarbrú" (literally "Gjöll Bridge") is where the ecliptic crosses the Milky Way near Scorpius and was created by Canadian Bjorn Jónsson (1920 – 1995) who was trying to reconstruct traditional Scandinavian skies (Kuperjanov 2006). In Norse mythology Gjallarbrú is a bridge which crosses the underworld river Gjöll, which must be crossed to reach Hel.

Gjallarhorn:

This Norse asterism "Gjallarhorn" ("hollering horn") is made up of stars of the IAU constellation Ursa Minor and was created by Canadian Bjorn Jónsson (1920 – 1995) who was trying to reconstruct traditional Scandinavian skies (Kuperjanov 2006). Gjallarhorn is Heimdallur's horn which will signal the beginning of Ragnarök.

Glaucus:

This Greek asterism is the IAU constellation Ophiuchus. Glaucus is a name that shows up in many Greek myths involving the Trojan war. Johann Bayer's *Uranometria* (1603) lists "Glaucus" for this constellation. The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Glaucus" as an alternate name for Ophiuchus.

Glahn's Whip:

This German **telescopic** asterism in the IAU constellation Cassiopeia was discovered by German astronomer Uwe Glahn in 2022 while searching for the planetary nebula Hubble 12. It is located about 13' SW of this nebula. It is listed on Robert Zebahl's *Faint Fuzzies* website and is described by him as a "small, fine pattern… formed by nine stars aligned in a perfect curved arc, which looks like a whip…Interestingly, the star brightness in this arc decreases continuously beginning from the south from magnitude 11 to 16.5 mag at the eighth star. The last star in the north is… 15.5 mag."

Gleaming Faintly of Grus:

This **telescopic** asterism "Sublúcidus Grúis" is the spiral galaxy NGC 7456 in the IAU constellation Grus. This was discovered in 1834 by John Herschel who listed it as h 3966 and h 3967 and later as GC 4881 and GC 4882 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "this galaxy resembles a giant crab". It is also known as the "Grand Design Galaxy" (see below).

Gleaming Gold of Pavo:

This **telescopic** asterism “Chrysaúges Pavónis” is the elliptical galaxy NGC 6876 in the IAU constellation Pavo. It was discovered in 1835 by John Herschel who listed it as h 3817 and later as GC 4553 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it is “the brightest of this small group in Pavo”.

Gleaners:

This Phoenician asterism is the stars surrounding the Andromeda Galaxy, Messier 31, in the IAU constellation Andromeda, which is their asterism Threshing Floor (see below).

Glede:

This Greek asterism “Ικτίνος” (“Iktínos”) is the IAU constellation Cygnus.

This Latin asterism “Miluus”, “Milvus”, or “Mylvius” is the IAU constellation Cygnus. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Milvus”.

NOTE: A glede is a European bird of prey such as the European kite or European buzzard.

Gliding Star:

This Samoan star “Fētūsolonu‘u” is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Fitisemanu 2022). This is a zenith star for travel between Sāmoa and Fiji. It is also called “Telegese” (see Slow Moving, below) and “Ta’ulua” (see Two Salutations, below).

Glinea:

This star with the Greek name “γλήνεα” (“glínea”) is Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion as listed by German astronomer Johann Bayer (1572-1625), who attributed it to Aratus (315 – 240 B.C.E). R. H. Allen writes in his *Star Names* in 1899 that this is not found in the works of Aratus.

Glint in the Dusk:

This Elvish (Qenya) star “Morwinyon” is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus and appears in the works of J. R. R. Tolkien (1892 – 1973).

This Gnomish star “Morwinthi” is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus and appears in the works of J. R. R. Tolkien (1892 – 1973).

Glittering With a Star of Sextans:

This **telescopic** asterism “Stellímicans Sextántis” is the lenticular galaxy NGC 2974 in the IAU constellation Sextans. It was discovered in 1785 by William Herschel who listed it as “I 61”. It became GC 1904 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as from our perspective the ”dusty galaxy is adorned with a bright foreground star”.

Globe of the Pleiades:

This Latin asterism “Globus Pleiadum” is the Pleiades cluster in the IAU constellation Taurus as listed by 1st century Roman poet Valerius Flaccus and in R. H. Allen’s *Star Names* in 1899. 1st century Roman poet Marcus Manilius called it “Glomerabile Sidus” (“rounded asterism”).

Glorious:

There are three Arabic stars with the name “Al Suhail al Wazn” or “Suhayl” (سهيل),meaning “glorious”:

- One is the star Lambda (λ) Velorum in the IAU constellation Vela:
    - This was later latinized to “Alsuhail” or “Suhail”.
    - R. H. Allen lists “Al Suhail al Muhlif” in the second edition of his *Star Names* in 1963.
    - The IAU approved the name Suhail for Lambda (λ) Velorum.
- One is the star Gamma (γ) Velorum (Regor) in the IAU constellation Vela.
- One is the star Alpha (α) Carinae (Canopus) in the IAU constellation Carina:
    - “Suhayl” appeared in the poetry of Muhalhil (d. 531 C.E.).
    - “Suhail” was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
    - This was later latinized to “Suhel”, “Suhil”, “Suhail”, “Souhail”, “Suhilon”, “Suheyl”, “Sohayl”, “Suhayil”, “Shoel”, “Sohil”, “Soheil”, “Sahil”, “Suhayeel”, “Sohayil”, “Sihel”, and “Sihil”.
    - The star list of Abraham Bar Hiyya in 1104 (Goldstein 1985) lists the Arabic name “Suhayl” and the Hebrew name “kesil vehu’ meha-‘erekh ha-rison”..
    - The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists “Suhayl”.
    - The 1515 edition of the *Almagest* lists “Subhel”.
    - Johann Bayer’s *Uranometria* (1603) lists “Suhel” and “Sihel”.
    - Robert Hues lists “Sohel” and “Syhel” in his *A Learned Treatise of Globes* in 1659 and translates this as “ponderous” or “weighty”.
    - John Hill lists Alpha (α) Carinae (Canopus) as “Soheil” and “Soheila” in his *Urania* in 1754.
    - R. H. Allen lists “'Al Suhail al Yamaniyyah, the Suhail of the South” for this star in his *Star Names* in 1899.
    - An ancient Arabic story makes him the fiancé of Al Jawza (see Al Jawza, above) and the brother of the stars Sirius and Gomeisa (see Bleary-Eyed Woman (above) and Teary-Eyed Woman (below)).

This Bedouin star “Shail” (سهيل) is Alpha (α) Carinae (Canopus) in the IAU constellation Carina. The Bedouin of the Negev desert call it “Suhayil” (Steiner 2017).

This Persian star “Σοαὶλ Ιαμανῆ” or “Soail lamani” is Alpha (α) Carinae (Canopus) in the IAU constellation Carina as listed by Georgius Chrysococcas, a 14th century Greek geographer and astronomer in his *Syntaxis ton Person (Persian Compendium)* and appears in *Astronomia Philolaica* by French astronomer Ismaël Boulliau (Ismaël Bullialdus- 1605 – 1694), who did a translation of the work of Chrysococcas. John Hill lists it as “Soail Jamane” in his *Urania* in 1754.

This Turkish star “Süheyl” or “Süheyla” is Alpha (α) Carinae (Canopus) in the IAU constellation Carina.

Glorious Weight:

This Spanish asterism "Suhel Ponderosus" is the star Alpha (α) Carinae (Canopus) in the IAU constellation Carina as listed in the 15th century *Alfonsine Tables*. It is a Latinization of two names for Canopus, one being the name "Suhayl" ("glorious", see Glorious, above) and the other being "Al Wazn" ("weight", see Weight, below).

Glowing:

This Greek star "Σείριος", "Seírios", "Seirios" ("glowing" or "scorcher"), "Σείριος ἀστήρ" ("Seírios astír"), "Σείριον ἄστρον" ("Seírion ástron"), or "το ἄστρον" ("to ástron", "the Istron"), is the star Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major as described by Hesiod and Aratus (315 – 240 B.C.E). The earliest mentions of Sirius are in the Orphic *Argonautics* and in the 8th century B.C.E. poet Homer's *Iliad* (XXII) and *Odyssey* (Theodossiou et al 2011, Guglielmino, Cipolla, and Giudice 2017), though Homer did not use the name Sirius, but called it "midsummer's purest flaming star", "a baleful summer star", and "Orion's dog" (see Orion's Dog, below). The earliest listing of "Seírios astír" is in Hesiod's *Works and Days* in the 7th century B.C.E. Prior to this it was known to the Greeks as "the dog" or "the dog star" (see Dog Star, above). This was not originally a Greek name: ancient Greek authors are uncertain as to the source of this name. It may have an Indo-European origin (Holberg 2007):

- This star is listed in *De Natura Rerum Liber ("book on the nature of things"*) by Isidori Hisapensis (Isidore of Seville, ca 560 – 636 C.E.) as "Syrius". Variations in Latin texts include "Sirion" and "Syrius", and it appears as "Canis Syris" in the 15th century *Alfonsine Tables*.
- The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.170v-171r lists this star as "Alhabor".
- The *Germanicus Aratea* (Siciliensis, c. 1469) lists this star as "Syrtus".
- The celestial globe (1480) of German mechanic Hans Dorn (c 1430 – 1506) lists "Sirius" for this star.
- The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists "Alhabor Sirius" for this star.
- The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) lists this star as "Canicula" ("little dog").
- The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) uses "Sirius" as a name for Canis Major, though the illustration of a dog with rays emanating from its head makes it clear that this star is the principal focus.
- This name is listed in Johann Bayer's *Uranometria* (1603) lists the name "Candens", which also translates as "glowing".
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Sirius" as a name for both the star Alpha (α) Canis Majoris and for Canis Major
- This star is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as "Sirius".
- This star is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "Sirius".
- Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) lists this star as "Sirius".
- Edward Sherburne lists it both as "Syrius" and "Sirius" in his *Sphere of Marcus Manilius* in 1675.
- English uranographer John Seller's *A coelestiall planisphere* (1678) labels this star "Syrius".

- A wooden precession globe (1730) by German uranographer Johann Georg Puschner (Dekker 2003) lists this star as “Cirius”.
- The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) lists this star as “Sirius Canicula”.
- The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) lists this star as “Syrius”.
- Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this star as “Sirio” in his *Della Specola Astronomica De’ Regj Studj Di Palermo* (1792).
- The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer lists this star as “Syrius”.
- A celestial pocket globe created by English uranographer Dudley Adams circa 1795 labels this star “Canicula”.
- “Sirius” is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801).
- William Herschel lists “Sirius” in his *Catalogue of 500 new Nebulae* in 1802.
- American uranographer William Croswell (1760 – 1834) lists this star as “Sirius Canicula the Dog Star” on his *Mercator Map of the Starry Heavens* in 1810.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists this star as “Sirius” in his *Celestial Atlas* in 1822.
- German astronomer Johann Elert Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this star as “Sirius” as does his *Vorstellung Der Gestirne* (1782).
- Admiral William Henry Smyth’s *Prolegomena* of 1844 lists this star as “Sirius”.
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich lists this star as “Sirius”.
- This is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852 as “Sirius”: The author is unknown, but it is based on Jamieson’s *Celestial Atlas*.
- English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists this star as “Sirius”.
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as “Sirius” and as the “Great Dog Star”.
- German astronomer Hermann Joseph Klein (1844 – 1914) lists “Sirius” in his *Star Atlas* (1893).
- English astronomers Crossley, Gledhill, and Wilson list “Sirius” in *A Handbook of Double Stars with a Catalogue of Twelve Hundred Double Stars and Extensive Lists of Measures* (1879).
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as “Sirius”.
- American astronomer Winslow Upton’s *Star Atlas* (1896) lists this star as “Sirius” and translates it as “From Sirius – the Nile”.
- *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists this star as “Sirius, the Scorcher”.
- The 1st edition of British schoolmaster Arthur P. Norton’s *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list the name “Sirius” for this star.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists “Sirius”.

- The IAU approved the name Sirius for the star Alpha (α) Canis Majoris A in 2016.
- NOTE: Sirius is the brightest star in the sky: Only the Sun, Moon, and at times Venus, Jupiter, and Mars (when it is on closest approach to Earth) shine brighter. The only place it cannot be seen from the surface of the Earth is a zone north of the Arctic Circle.
- NOTE: Eratosthenes (d.194 B.C.E.) used the term "sirios" as an adjective for various stars (Theodossiou et al 2011).

Glowing Butterfly:

See Butterfly, above.

Glowing Dog:

This Greek star "Κύων σείριος" or "Kýon seírios" ("glowing dog") is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major. "Canis Sirius" is listed in Johann Bayer's *Uranometria* (1603) as a name for Canis Minor.

Glowing Eye:

This **telescopic** asterism is planetary nebula NGC 6751 in the IAU constellation Aquila. It was discovered by German astronomer Albert Math in 1863 immediately east of the red-coloured carbon star V Aquilae. It is GC 5940 in the *General Catalogue* of 1864. It is also known as the "Dandelion Puffball" (see above).

Glowing Red:

This Latin asterism "Rutilans" is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius as described by Pliny the Elder (23 – 79 C.E.) in his *Naturalis Historia*.

Glum Cyclops:

This **telescopic** asterism, the "Glum Cyclops" or "Howling Cyclops", is star cluster NGC 7134 in the IAU constellation Capricornus. It was discovered by Danish astronomer Christian Heinrich Friedrich Peters in 1860. Its size is 1' X 1'. It is listed in German astronomer Robert Zebahl's *Faint Fuzzies* website. Zebahl describes the "eye" as an 11.33 magnitude star and that "next to this star [is] a curved chain of faint stars." René Merting describes an "arc of faint stars in the direction of the brighter star is clearly visible- the four stars of the howling cyclops' mouth are already slightly separated." Compare this to Laughing Cyclops (below).

Glutton of Ursa Major:

This **telescopic** asterism "Pantópharynx Úrsae Majóris" is the Seyfert 1 galaxy UGC 8058 in the IAU constellation Ursa Major, discovered in 1969. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of its "massive accreting black hole".

Glutton of Vela:

This **telescopic** asterism "Gúlo Velórum" is the peculiar galaxy NGC 3256 in the IAU constellation Vela which is probably the result of the collision of two galaxies. John Herschel listed this as h 3254 and later as GC 2114 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand*

Named Galaxies by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as "the tidal arms are probably remnants of a swallowed galaxy."

Gnaerang Kuuronn:

This Marra and Moporr asterism is the Small Magellanic Cloud (Hamacher 2011).

Gnarled Crook:

This **telescopic** asterism is Vastagh 16, listed in 2009 by Hungarian astronomer László Vastagh, which is in the IAU constellation Cassiopeia. Its apparent diameter is 31.5'. Vastagh describes it as "A cascade resembling a gnarled crook 3° N of Beta [β] Cas. It is mainly made up of 9-10 core stars, 11 in number. The upper part of the shape bends towards D by 90°. On the vertical stem of the stick, two stars in the middle create a peak, as it slightly protrudes from the stars that define the straight line. The stick is held by ASCC 1 NY, connected to it with two stars. The defining shape of the area, which is immediately obvious, is a good point of reference for exploring the rich open spaces of the environment… a total brightness of 7.1 mag."

Gnomon:

This **telescopic** Romanian star is the K type star WASP-43 in the IAU constellation Sextans (magnitude 12.46). It received this name in the IAU's NameExoWorlds competition in 2022. The gnomon is a basic astronomical instrument. It has an exoplanet WASP-43b, "Astrolábos" (ἀστρολάβος) which is the Greek name for the astrolabe.

Gnosia Star of Corona:

This Latin asterism "Gnosia Stella Coronae" is the IAU constellation Corona Borealis as described by 1st century B.C.E. Roman poet Publius Vergilius Maro (Vergil) in his *Georgics*. 1st century Roman writer Lucius Junius Columella calls it "Gnosia Ardor Bacchi" ("Gnosia's enthusiasm for Bacchus") or "Naxius Ardor" ("Naxius' enthusiasm"). This is a reference to Ariadne's birthplace of Gnosos. Johann Bayer's *Uranometria* (1603) lists "Gnossia seu Gnosia". English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Gnossia Stella" for the star Alpha (α) Coronae Borealis (Alphecca). Compare this to Crown of Gnosida, above.

Goads:

This Greek asterism "Βουλήγες" or "Voulíges" is made up of stars in the IAU constellations Auriga and Lynx: Psi (ψ) 1 Aurigae (46 Aurigae), Psi (ψ) 2 Aurigae (50 Aurigae), Psi (ψ) 3 Aurigae (52 Aurigae), Psi (ψ) 4 Aurigae (55 Aurigae), Psi (ψ) 5 Aurigae (56 Aurigae), Psi (ψ) 6 Aurigae (57 Aurigae), Psi (ψ) 7 Aurigae (58 Aurigae), Psi (ψ) 8 Aurigae (60 Aurigae), Psi (ψ) 9 Aurigae, and Psi (ψ) 10 Aurigae (16 Lyncis).

This Latin asterism "Stimulus" is identical to the Greek asterism Vouliges, above and was also known as "Dolones" (see Pike, below).

Goanna Lizard:

This Wiradjuri asterism "Guggaa" or "Gugaa" is described both as the star Alpha (α) Scorpii (Antares) and as the stars surrounding it (Leaman 2019).

This Kamilaroi star “Gudda” is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius as listed by William Ridley in 1875. Leaman listed the name as “Guggaa” in 2019.

Goat:

A goat or gazelle appears next to a man carrying scales (representing the constellation Libra) on the *Daressy Zodiac* of the Roman Imperial Period.

This English asterism is the IAU constellation Capricornus. The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Manilio Caper” (“goat”) as a name for Capricornus. “Goat” is listed in Robert Hues’ *A Learned Treatise of Globes* in 1659 as a name for Capricornus.

This Bugis asterism “Bembé’é” is the Coal Sack Nebula (see Coal Sack Nebula, above).

This Basque asterism “Ahuntza” is the IAU constellation Capricornus (Knörr 1999, Frank 2021).

There are five Arabic asterisms named “goat” (sometimes translated as “kid”):

- One, “al-Tays” or “Al Tāis” (التيس) is the stars Delta (δ) Draconis, Epsilon (ε) Draconis, Pi (π) Draconis (Tais I), and Rho (ρ) Draconis (Tais II).
    - Variations include “Jais”.
- One, with the Bedouin name “al-Judayy” (الجدي), “Al-Jady” or the Arabic name “Almaeiz” (الماعز), is the star Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor and is part of their asterism Daughters of Na’sh (see above) and Axe of the Grindstone (see above):
    - “al-Juday” was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
    - English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Juddah, the kid”.
    - R. H. Allen lists this as “Al Jadī, the Young He-Goat” in his *Star Names* in 1899 and lists the variation “Juddah” and “Giedi”.
- One, “al-Jady” (الجدي) is the star Alpha (α) 2 Capricorni in the IAU constellation Capricornus and was later latinized to “Algedi”, “Al Giedi”, “Giedi”, or “Gredi”.
    - “al-Jadī” is listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 as a name for Capricornus (Hafez 2010).
    - The 14th century Christian Spanish astrolabe #4560 lists “al jady” and “Caud:Coari” , the latter being a mistranslation of the abbreviation “Cauda Corni” or “Cauda Capricorni” (King 2002).
    - Johann Bayer’s *Uranometria* (1603) lists “Algedi”.
    - The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Algedi”.
    - This star is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as “Algedi seu Algedio”.
    - Italian astronomer Giovanni Battista Riccioli (1598 – 1671) listed “Elgedi”, “Elguedi” and “Gadio” as names for the IAU constellation Capricorn.
    - Robert Hues lists “Algecli” as a name for Capricornus in his *A Learned Treatise of Globes* in 1659.
    - John Hill lists “Giedi” and “Al Gjedo” as Arabic names for the entire constellation Capricornus in his *Urania* in 1754 and correctly translates this as the “Kid”.

    - English Admiral Henry William Smyth's *Prolegomena* lists the abbreviated "Geidi Secun" and his *Bedford Catalogue* in 1844 lists "al jedi, the goat".
    - The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists this star as "Giedi", but his 14th edition (1959) lists it as "Giedi, Prima and Secunda".
    - Hoffleit and Jaschek (1982) list it as "Secunda Geidi" and "Algedi".
    - The IAU approved the name Algedi for Alpha (α) 2 Capricorni.
- One, "al-Tays" or "Al Tāis" (التيس) is the star Delta (δ) Draconis in the IAU constellation Draco:
    - This was later latinized to "Altais", "Al Tais", "Taïs", or "Aldib".
    - The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists the name "Cauda" ("tail").
    - English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Al taīs, the goat".
    - R. H. Allen lists "Al Tais" in his *Star Names* in 1963.
    - The IAU approved the name Altais for Delta (δ) Draconis A.
- One, "'Anāq", is the star Zeta (ζ) Ursae Majoris (Mizar) in the IAU constellation Ursa Major:
    - "'Anāq" is listed on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992)
    - "al-'Anāq" is listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
    - This appears on a globe made by Mohammed ben Helal in 1275 in Mosul (Dorn 1829), based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283).
    - NOTE: English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Jedi, or the Kid" as a name for Alpha (α) Ursae Minoris (Polaris) in this constellation.

This Assyrian asterism "UZA" is the IAU constellation Lyra. Bartel van der Waerden lists "UR.KU.UZA" in his *Science Awakening II: The Birth of Astronomy* in 1974.

This Seleucid asterism "MAS" (see Goat Fish, below) or "u-ri-ga" ("goat") from the tablet SBTU II No 43 (W 22646) from the Seleucid (Hellenistic) period (275 B.C.E. – 116 C.E.) is the IAU constellation Capricornus. This was listed by Daniel Foxvog in his *Astral Dumuzi* in 1993.

This Egyptian Dendera asterism is made up of stars of the IAU constellation Auriga (Hoffman 2017). It is a quadrilateral of the stars Alpha (α) Aurigae (Capella), Iota (ι) Aurigae, Theta (θ) Aurigae, and Beta (β) Aurigae (Menkalinan).

This Latin asterism "Hircus" is the IAU constellation Auriga as described by 1st century Roman poet Marcus Manilius and Pliny the Elder (23 – 79 C.E.) in his *Naturalis Historia*. Hircus means "goat" and is clearly a reference to Alpha (α) Aurigae (Capella).

- The celestial globe (1480) of German mechanic Hans Dorn (c 1430 – 1506) lists "HEDVS" for Alpha (α) Aurigae (Capella).
- The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists the name "Hircus" for Alpha (α) Aurigae (Capella).
- English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) lists the name "Hircus" next to "Auriga": It appears that he is using it to label the star Alpha (α) Aurigae (Capella).

- Johann Bayer's *Uranometria* (1603) lists "Aequoris Hircus" as a name for Capricornus and "Hircus" as a name for Alpha (α) Aurigae (Capella).
- This asterism is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as "Hircus".
- "Capella Hircus" is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 and depicted as a goat on the back of Auriga.
- A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, labels the star Alpha (α) Aurigae (Capella) as "Hircus".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists this name for Auriga.

This French star "Chèvre" is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga.

This Hebrew asterism "Gedi" is the IAU constellation Capricornus as listed in their list of constellations of the zodiac (mazzaroth) in their *Talmud* and is related to their month Tevet. John Hill lists this name for Capricornus in his *Urania* in 1754.

Goat-Fish:

This Babylonian asterism from the MUL.APIN tablets "SUḪUR.MEŠ", "MULSUḪUR.MAŠ", "MUL.SUHUR.MÁSH" (Bartel van der Waerden 1974), "MUL.SUHUR.MAS" (Hunger 1992), "SUHUR.MÁSH" (Anthony 1996) or "MULSUḪUR.MAŠ.KU" is the IAU constellation Capricornus (Boutet 2014).

This Akkadian asterism from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) is "Suḫurmāšu", "Suhurmasu" (Hunger 1992) or "suhurmashû" (Anthony 1996) is the IAU constellation Capricornus.

This Seleucid asterism "MAS" or "u-ri-ga" ("goat") from the tablet SBTU II No 43 (W 22646) from the Seleucid (Hellenistic) period (275 B.C.E. – 116 C.E.) is the IAU constellation Capricornus. This was listed by Daniel Foxvog in his *Astral Dumuzi* in 1993

This Persian asterism "SUHUR" from the list of Zodiacal Signs in VAT 4956 from the Persian (Achaemenid) Period (539 – 331 B.C.E.) is the IAU constellation Capricornus (Bartel van der Waerden 1974).

This Egyptian asterism appeared on coffin lids of the Middle Kingdom (~2000 B.C.E.) and is the IAU constellation Capricornus (Berio 2014).

This Egyptian Dendera asterism (Hoffman 2017) is basically identical to the Babylonian asterism SUḪUR.MEŠ (See Goat-Fish).

This "Euphratian lunar asterism Munaχa" is the stars Epsilon (ε) Aquarii, Mu (μ) Aquarii, and Nu (ν) Aquarii in the IAU constellation Aquarius as listed in R. H. Allen's *Star Names*.

Goat Fold:

This Romanian asterism "Tarcul" is the IAU constellation Auriga (Ottescu 2009).

Goat Sheds:

This Hungarian asterism “Kecskes gódólyek” is made up of stars of the IAU constellation Auriga. The celestial map of Hungarian uranographer Sandor Nagy (1915) lists this asterism as goat and two kids, which probably represents Alpha (α) Aurigae (Capella) and the “Haedi”: Zeta (ζ) Aurigae (Saclateni or Haedus I), Eta (η) Aurigae (Haedus), and Epsilon (ε) Aurigae (Almaaz).

Goatlings:

See Kids, below.

Goats:

This Kaykavian asterism “Kózleki” is the IAU constellation Auriga.

This Chakavian asterism “Kozlÿtje” is the IAU constellation Auriga.

Goat’s Star:

This Latin asterism “Hircinus Sidus” is the IAU constellation Capricornus as listed by 2nd century Roman senator Quintius Servilius Pudens.

Gobi Bear:

This telescopic Mongolian star “Mazaalai” is HAT-P-21 in the IAU constellation Ursa Major (magnitude 11.46). It was given this name in the IAU NameExoWorlds campaign.

Goblet:

This Greek asterism “Κάνθαρος” (“Kántharos”) is the IAU constellation Crater. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Goblet” for this constellation.

God is Watching Over:

This Ainu (Kamikawa) Nociw (“asterism”) “Cinucarkur nociw” is the Big Dipper asterism in the IAU constellation Ursa Major. This represents a dancing male: His head is Beta (β) Ursae Majoris (Merak), his right elbow Alpha (α) Ursae Majoris (Dubhe), and his left elbow Gamma (γ) Ursae Majoris. The line of stars Delta (δ) Ursae Majoris, Epsilon (ε) Ursae Majoris, Zeta (ζ) Ursae Majoris, and Eta (η) Ursae Majoris is his body down to his feet at Eta (η) Ursae Majoris. On the first day of summer this figure is seen as facing downwards and is named “Upsi Noka nociw” (“face down”). On the first day of winter it is see as facing upwards and is named “Kuttoka Noka nociw” (“face upward”). Polaris is known as “Cinukar nociw”.

God of the Storm:

This Akkadian asterism “Rammān” or “Rammānu” is the asterism Great One (see below).

Gods:

“The Gods” is the Egyptian name for their asterisms Osiris (which is the IAU constellation Orion, see Osiris, below) and Isis (which is the star Alpha (α) Canis Majoris, see Isis, below) as listed in the 19th dynasty *Cairo Calendar* (Hardy 2003).

God’s Chair:

This Romanian asterism “Scaunul lui Dumnezeu” is the IAU constellation Cassiopeia (Ottescu 2009, Lite, Lodina, and Ignat 2018).

God’s Chariot:

This Romanian asterism “Carul lui Dumnezeu” is the IAU constellation Auriga (Ottescu 2009). Romanian legend describes this as the chariot Jesus will use to transport righteous men to heaven.

God’s Eagle:

This Romanian asterism “Vulturul Domnului” is the IAU constellation Aquila (Ottescu 2009).

God’s Garden:

This Lithuanian asterism “Dievo darželis” is the IAU constellation Corona Borealis.

God’s Hand:

This **telescopic** asterism is the globule CG4 (DB2002b, G259.43.12.72) in the IAU constellation Puppis.

God’s Hook:

The stars of this Kaska asterism are unidentified at present (Cannon 2021).

God’s Horses:

This Lithuanian asterism “Dievo Kumeliai” is made up of stars of the IAU constellation Ursa Major: I believe this to be stars around Upsilon (υ), Omicron (ο), and h Ursae Majoris.

Gods of Samothrace:

This Latin asterism “Dii Samothraces” is the IAU constellation Gemini. Johann Bayer’s *Uranometria* (1603) lists “Dij Samothraces”. “Dij Samothraces” is listed on the *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638).

God’s Palace:

This Chinese xing guan “Shéngōng” (神宫) is open cluster NGC 6231 (Caldwell 76), also known as the Northern Jewel Box.

God’s Patch:

This //Gana asterism is the Coal Sack Nebula in the IAU constellation Crux (Alcock 2014).

Godzilla:

This **telescopic** star is a variable star in the gravitationally lensed galaxy behind the galaxy cluster PSZ1 G311.65-18.48 in the IAU constellation Apus. This is the most luminous known star.

Goibniu:

This Celtic (Irish) asterism may be the IAU constellation Hercules. Goibniu was a lame blacksmith God in Old Irish mythology, appearing as Gofannon in Welsh versions of the myth. (Mosenkis, date N/K).

Going Home Star:

This Ininew (Cree) star "Keewatin" is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Buck 2016) and is part of their asterism Atima Atchakosuk (see Dog Stars, above). It is also known as "Altar for Sweat Lodge" or "Keewatin Atchakos" (see Wolf Star, below).

This Anishinaabe and Ojibwe star "Giiwedinong" or "Kiiwedinong" is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Morin 2022).

Going Toward:

This Lakota star "Iktobu" is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes.

Gokū:

This Filipino asterism is the IAU constellation Crater (Margiza 2022). Gokū has his arms raised as if using his Genki Dama Qi manipulation technique used in the Dragon Ball game series, which was created in 1984. This series was originally inspired by the classical 16th century Chinese novel *Journey to the West*.

Golconda:

There are tow **telescopic** Golconda asterisms:

One is a chain of eight stars in the IAU constellation Serpens: These stars share the name Tau (τ) Serpentis:

- Tau1 Serpentis, also designated 9 Serpentis or HD 137471.
- Tau2 Serpentis, also designated 12 Serpentis or HD 138527.
- Tau3 Serpentis, also designated 15 Serpentis or HD 139074.
- Tau4 Serpentis, also designated 17 Serpentis or HD 139216.
- Tau5 Serpentis, also designated 18 Serpentis or HD 139225.
- Tau6 Serpentis, also designated 19 Serpentis or HD 140027.
- Tau7 Serpentis, also designated 22 Serpentis or HD 140232.
- Tau8 Serpentis, also designated 26 Serpentis or HD 140729.

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns describes this collection of stars as "a stellar Golconda". This is a reference to Golconda, a fortified citadel in Hyderabad, Telangana, India which has been become associated with wealth, advantages, or happiness. Size 40' X 3.5'.

One is the open cluster Messier 25 in the IAU constellation Sagittarius. *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), describes this as a "Golconda of the heavens".

Gold:

This **telescopic** Ewe star "Sika" is HIP 95262 (HD 181720) in the IAU constellation Sagittarius (magnitude 7.86). It was given this name in the IAU NameExoWorlds campaign. It has an exoplanet named Toge ("earring").

Golden:

This asterism with the Greek name "Chrysophris" is the IAU constellation Dorado as listed in John Hill's *Urania* in 1754. Dorado was created in 1592 by Flemish astronomer Petrus Plancius (1552 – 1622), so

this is not an ancient Greek name, and Hill recognized this, but Dorado is a Spanish word that means "golden".

Golden Cat:

This Quechua asterism from Sonqo, "Coque Chinchay", is either the tail of the IAU constellation Scorpius or a dark spot inside the "tail" (Urton 1981). Brosseder (2010) lists it as "Chuqui Chinchai".

Golden City of Draco:

This **telescopic** asterism "Chrysópolis Dracónis" is the elliptical galaxy NGC 4125 in the IAU constellation Draco. It was discovered by English astronomer John Russell Hind in 1850. It became GC 2735 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Golden Cluck Hen and Her Five Chicks:

This Wallachian asterism is the Pleiades cluster in the IAU constellation Taurus as listed in R. H. Allen's *Star Names* in 1899.

Golden Coin:

This **telescopic** asterism is NGC 4945 (Caldwell 83), a galaxy in the IAU constellation Centaurus, which was discovered by Scottish astronomer James Dunlop in 1827. This is listed as GC 3386 in John Herschel's General Catalogue of 1864. This is also known as the Tweezers (see below).

Golden Crown of Sagittarius:

This Latin asterism "Corona Aurea Sagittarii" or just "Corona Sagittarii" is the IAU constellation Corona Australis.

Golden Diadem:

This English asterism is the IAU constellation Corona Borealis as described by Edmund Spenser (1552 – 1599) in his *Shepheard's Kalendar.*

Golden Earring:

This **telescopic** asterism is open cluster NGC 2547 in the IAU constellation Vela. It was discovered by French astronomer Abbé Nicolas Louis de Lacaille in 1751 who listed it as Lac III 2 in his catalogue. It is GC 1636 in the *General Catalogue* of 1864. It is also known as St. Peter's Cross (see below), the Heart (see below), "T" (see below), and the Malus Cluster (see below). Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) lists this as O'Meara 40.

Golden Eye:

This **telescopic** asterism, also known as the "Pac-Man Cluster" and the "King Cobra Cluster", is the open cluster Messier 67 (NGC 2682) in the IAU constellation Cancer. This was discovered by Johann Gottfried Koehler in 1779. It is listed in the *General Catalogue* of 1864 as GC 1712 and in John Herschel's catalogue as h 531.

Golden Eye of Eridanus:

This **telescopic** asterism "Chrysópis Erídani" is the ring galaxy NGC 1291 in the IAU constellation Eridanus. It was discovered by James Dunlop in 1826, and Johann Dreyer entered it as NGC 1291. John Herschel later added it as NGC 1269 (GC 670), not realizing it was a duplicate. NGC 1291 is listed as GC 685 in the *General Catalogue* of 1864. This is O'Meara 12 on astronomer Stephen James O'Meara's *Hidden Treasures Catalogue* (2007). This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). It is also known as the "Snow Collar" (see below).

Golden Field:

This French asterism is the IAU constellation Dorado as listed by French astronomer Camille Flammarion (1842 – 1925) in his *Astronomie Populaire*. It is a mistranslation of Hues' "Golden Fish" (see below).

Golden Fish:

This English asterism "Auratus Piscis" is the IAU constellation Dorado as listed in John Hill's *Urania* in 1754. In 1659 Robert Hues (and later John Chilmead in his translation of Hues' *A Learned Treatise on Globes* in 1889) calls it the "Gilthead Fish", but this is a fish found on British coasts and not the swordfish that Dorado was named for. One translation of *Astronomie Populaire* by French astronomer Camille Flammarion (1842 – 1925) lists it as "Golden Field" (see above) and "Craver" (see above), both equally erroneous. Compare this to Golden, above.

This American asterism is the IAU constellation Piscis Austrinus as described by Henry Wadsworth Longfellow (1807 – 1882) in the notes to his translation of the *Divine Comedy*.

Golden Gate of the Ecliptic:

This asterism consists of the Hyades Cluster (Melotte 25) and the Pleiades Cluster (Messier 45) in the IAU constellation Taurus. One is on either side of the ecliptic, so planets regularly pass between them. From 4000 to 1500 B.C.E. the equinox was in the constellation Taurus, so this added importance to this asterism which was probably displayed in the 4,500-year-old neolithic sky tablet of the Tal-Qadi Temple in Malta, and also in the Cave of La-Tête-du-lion in Ardèche, France (Rappenglück 2000).

Golden Grain of Serpens:

This **telescopic** asterism "Chrysocóccus Serpéntis" is the barred spiral galaxy NGC 5921 in the IAU constellation Serpens. It was discovered in 1786 by William Herschel who listed it as "I 148". It became GC 4097 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the beautiful yellow inner region of this magnificent galaxy".

Golden Grains:

This Arabic asterism "Al Alkāt" ("golden grains" or "nuts") is the Belt of Orion in the IAU constellation Orion as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986):

- It is listed by English Admiral Henry William Smyth in his *Bedford Catalogue* in 1844 as "al-lekat".
- It is listed by R. H. Allen as "Al Alkat" in his *Star Names* in 1899.

Golden Harp:

This **telescopic** asterism is the small open cluster NGC 1502 in the IAU constellation Camelopardalis, discovered by William Herschel in 1787 who listed it in his catalogue as "VII 47". It is GC 802 in the *General Catalogue* of 1864. It is also known as the Jolly Roger Cluster (see below).

Golden Horns of Taurus:

This asterism is made up of stars of the Hyades cluster in the IAU constellation Taurus. *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), depicts this in a diagram as Zeta (ζ) Tauri and Beta (β) Tauri (Elnath).

Golden Light of Leo:

This **telescopic** asterism "Chrysolámprus Leónis" is the elliptical galaxy NGC 3384 (3371) in the IAU constellation Leo. It was discovered by William Herschel in 1784 and listed as "I 18" Herschel 400 catalogue. It became GC 2207 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Golden Nectar Cluster:

This telescopic asterism is NGC 6397 (Caldwell 86) in the IAU constellation Ara. It was discovered by French astronomer Abbé Nicolas Louis de Lacaille in 1755 who listed it as Lac III 11. It is GC 4311 in the *General Catalogue* of 1864. It is also known as the Blue Straggler (see above).

Golden Rings of Pisces:

This **telescopic** asterism "Chrysocýcla Píscium" is the spiral galaxy NGC 488 in the IAU constellation Pisces. It was discovered in 1784 by William Herschel who listed it as "III 252". It became GC 276 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010). It is also known as the Whirligig (see below).

Golden Sea Serpent:

This Catalan star "Filetdor" is the F type star WASP-166 in the IAU constellation Hydra. It received this name in the IAU's NameExoWorlds competition in 2022. It has an exoplanet WASP-16b, "Catalineta", which is the name of a little girl who was the heroine in "Na Filet d'Or".

Golden Sheep:

This Latin asterism "Ovis Aurea" is the IAU constellation Aries. This relates to the myth of Phrixus, who was rescued by a golden ram and later sacrificed the creature and hung its fleece in the Grove of Ares, where it turned to gold and was later the subject of the quest of the Argonauts.

Golden Shield of Virgo:

This **telescopic** asterism "Chrysáspis Vírginis" is the lenticular galaxy NGC 5701 in the IAU constellation Virgo. It was discovered in 1786 by William Herschel who listed it as "II 575". It became GC 3956 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Golden Stick:

This Mongolian star “Altan Hadaas” is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Lagain & Rousseau 2015).

Golden Yard Arm:

This English asterism “Yard”, “Golden Yard”, or “Golden Yard Arm” is the belt of Orion in the IAU constellation Orion. John Hill lists it as “Golden Yard” in his *Urania* in 1754. Hill identifies it as a term used by “our sailors”. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists this as the “Golden Yard of seamen”. R. H. Allen lists it as “Golden Yard Arm” in his *Star Names* in 1899, but only lists the source as “seamen”.

Golden Yoke:

“Aurinion Uedon” is a proposed early Celtic name for the IAU constellation Capricornus from the *Book of Ballymote* through an etymological reconstitution (Boutet 2014).

Goldfish:

This Chinese xing guan “Jīnyú” (金鱼) is a line of five stars in the IAU constellation Dorado: Gamma (γ), Alpha (α), Beta (β), Delta (δ), and Nu (ν) Doradus.

Goldsmith of Delphinus:

This **telescopic** asterism “Aúrifex Delphíni” is the galaxy Z 448-20 in the IAU constellation Delphinus. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because this “system of merging galaxies luminous golden regions can be seen at the point of contact.”

Golf Club:

This **telescopic** asterism is in the IAU constellation Scutum. Ken Hewitt-White of the RASC’s Okanagan Centre wrote about it in SkyNews in July 2015. The “shaft” of the golf club runs along the Scutum Star Cloud, starting at HIP 91532 and running through HIP 91751, 91880, and 91960 to R Scuti (HIP 92202). The “blade” of the “golf club” is the triangle of stars R Scuti, HIP 92391 and HIP 92296. The “golf ball” is the open cluster Messier 11 (NGC 6705).

Golf Putter:

There are three **telescopic** “golf putter” asterisms:

- One is in the IAU constellation Andromeda is a line of stars with two brighter stars for the clubhead. Size 95’ X 18’. Open cluster NGC 752 (Caldwell 28) is the “ball”. A line of stars from HIP 8423 through HIP 8606, 8734, and 8805A to 8930 form the “handle” and the narrow triangle of stars HIP 8930 and the double stars HIP 9001 and 9021 (56 Andromedae) form the “putter blade”. Size 95’ X 18’. This Harrington 14 on American astronomer Phil Harrington’s asterism list.
- One is in the IAU constellation Puppis and is Corder 1433 on the observing list of American astronomer Jeffrey Corder. Size 40’ X 20’. This is eight 7^{th} – 10^{th} magnitude stars including HIP 38369.
- One is in the IAU constellation Libra and is Ennis 77 on the observing list of American astronomer Charles Ennis. Size 70’ X 35’. The “golf ball” is the Ghost Globular Cluster, NGC 5897. The “shaft” is 8^{th} – 10^{th} magnitude stars running from HIP 74667 through HD 135521, HD

135683, to HD 135826. The “putter head” is the triangle of stars HIP 74892, Gaia DR3 6253039282775360896, HIP 135983, and HD 135910. This includes stars of Corder 2810.

Gomeisa:

See Bleary-Eyed Woman, above.

Gómez’s Nebula:

This **telescopic** asterism “Gómez’s Nebula” or “Gómez’s Hamburger” is IRAS 18059-3211, a possible protoplanetary nebula in the IAU constellation Sagittarius. It was named for Arturo Gómez at the Cerro Tololo Inter-American Observatory in Chile.

Göncöl's Wagon:

This Hungarian asterism “Göncölszekér” is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above). Göncöl is a mythological táltos (“shaman”) who could cure any disease. The four stars of the “bucket” of the Big Dipper are the four wheels and the three stars of the “handle” are the curved shaft.

Goncÿne:

This Chakavian asterism “Goncÿne” is the IAU constellation Boötes. Goncÿne (Göncöl) is a mythological táltos (“shaman”) who could cure any disease. R. H. Allen lists this as “Göntzol” in his *Star Names* in 1899.

Good Fortune Star:

This Chinese star “Lucun” from the Three Kingdoms to the Ming Dynasty is Gamma (γ) Ursae Majoris in the IAU constellation Ursa Major.

This Chinese Chenzhuo xing guan “Lucun” is the star Gamma (γ) Ursae Majoris in the IAU constellation Ursa Major. It is part of their xing guan Northern Dipper.

Good Goer:

This Persian asterism “Huçru” is the stars Iota (ι), Kappa (κ), and Theta (θ) Virginis in the IAU constellation Virgo as listed by R. H. Allen in his *Star Names* in 1899.

Good Gourd:

This Chinese xing guan “Hùguā” (瓠瓜) is a diamond of stars in the IAU constellation Delphinus: Alpha (α) Delphini (Sualocin- the determinative star), Beta (β) Delphini (Rotanev), Delta (δ) Delphini, and Gamma (γ) 2 Delphini. The “stem” is the star Zeta (ζ) Delphini. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore. Their xing guan Rotten Gourd (see below) is alongside.

This Chinese Chenzhuo xing guan “Hùguā” is a diamond shape of four stars with a “stem” at one end in the IAU constellation Delphinus: The “diamond” is the four stars Beta (β) Delphini (Rotanev), Delta (δ) Delphini, Gamma (γ) 2 Delphini and Alpha (α) Delphini (Sualocin). From Beta (β) Delphini a line runs out to Zeta (ζ) Delphini to form the “stem”.

Good Luck of the Excelling One:

See Auspice of the Exalted One, above.

Good Luck of the Two Beasts:

See Auspice of Lambs, above.

Good Shepherd:

This asterism is the IAU constellation Auriga. R. H. Allen lists it in his *Star Names* in 1899 and attributes it to “Seiss”.

Goose:

This Arabic asterism “Al-Wazza“ is the IAU constellation Lyra as listed by 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010):

- Andreas Cellarius’ Harmonia Macrocosmica (1660) depicts this constellation as a tortoise.
- Johann Hevelius depicts this constellation as a tortoise in his Uranographia (1690).
- “Al Iwazz” is listed by R. H. Allen in his *Star Names* in 1899.

This star “Anser” is Alpha (α) Vulpeculae in the IAU constellation Vulpecula. It is derived from the name of the Polish asterism “Vulpecula cum Anser” (see Fox and the Goose, above). While the “fox” became the IAU constellation Vulpecula, the goose disappeared, but is remembered in the name of Alpha (α) Vulpeculae: “Lucida Anser” (“Bright Goose”):

- The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley’s pirated catalogue of Flamsteed’s observations of 1712, depicts Anser as a goose in the mouth of a fox (Vulpecula).
- Anser is listed in English astronomer John Flamsteed’s *Atlas Coelestis* in 1729.
- The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) lists “Anser” as the name of this star and depicts a goose in the mouth of Vulpecula.
- “Anser” appears in John Hill’s *Urania* in 1754.
- The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts “l’Oye” (“the goose”) as a goose in the jaws of “le Renard” (Vulpecula) as does the 1778 edition.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists “Anser” in his *Celestial Atlas* and his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822): It is depicted as a goose in the jaws of Vulpecula the fox.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Anser” and describes stars in this asterism with the suffix “Anseris”. The IAU approved the name Anser for Alpha (α) Vulpeculae.
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts “Anser” in the mouth of a fox (Vulpecula).
- *An Improved Moveable Planisphere* (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts “Vulpecula et Anser” as a fox with a goose in its mouth.
- American astronomer Winslow Upton’s *Star Atlas* (1896) lists this constellation as “Vulpecula (cum Anser” and describes it as a “Fox with Goose”.

One Roman zodiac shows the IAU constellation Aquarius as a goose, which was sacred to the Goddess Juno. The sun was in this sign in January and February which was their month Gamelion, which was sacred to her.

There are two **telescopic** "Goose" asterisms:

- One in the IAU constellation Perseus is centered on the star Alpha (α) Persei (Mirfak) and is made up of mostly 4th to 5th magnitude stars which form part of a cluster of stars known as Melotte 20, the Alpha Persei Moving Group, or the Perseus OB Association. The stars forming the "body" are between Mirfak and Delta (δ) Persei, with Psi (ψ) and Sigma (σ) Persei at the bottom, and two stars (29 and 31 Persei) forming the "neck" running upwards from the area of Mirfak towards Gamma (γ) Persei. Canadian astronomer and author Gary Seronik listed it as the Christmas Goose in his 2007 book *Binocular Highlights*. NOTE: This asterism is "next door" to the IAU constellation Vulpecula and the obsolete constellation Anser (see above), it is possible that it was influenced by it, as Anser was also a goose.
- This telescopic asterism is the HII region Messier 17 (NGC 6618, SH 2-45, RCW 160, LBN 60, Cr 377, Ced 161) in the IAU constellation Sagittarius. It was discovered in 1745 by Swiss astronomer Philippe Loys de Chéseaux and catalogued by French astronomer Charles Messier in 1764 and R. H. Allen in his *Star Names* in 1899. It is listed in John Herschel's General Catalogue as GC 4403. South African astronomer Magda Streicher (1997) calls it the Goose. It is also known as the Horseshoe Nebula, the Checkmark Nebula, "2", the Omega Nebula, Swan Nebula, the Duck, and the Lobster Nebula.

Goose Foot:

This Omaha asterism is the Belt of Orion in the IAU constellation Orion.

Goose's Way:

This Belarussian star is Beta (β) Cassiopeiae (Cas) in the IAU constellation Cassiopeia.

Gordian Knot of Virgo:

This **telescopic** asterism "Gordiána Vírginis" is the lenticular galaxy NGC 4753 in the IAU constellation Virgo. It was discovered by English astronomer William Herschel in February 1784 who listed it as "I 16". It is GC 3273 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the unusual intricate dust lanes of this galaxy calls to mind a… Gordian Knot". It is also known as the "Dust Devil" (see above).

Gordolya:

This Wardaman star is Gamma (γ) Delphini in the IAU constellation Delphinus (Cairns and Harney 2003).

Gorgo:

This Egyptian asterism is one of the paranatellonta of the second decan of Aries as listed in the *Sphaera Barbarica* described by Teucros (Mosenkis, date n/k). Mosenkis describes this as "part of Perseus", and the name suggests the stars surrounding Beta (β) Persei (Algol).

Gorgon:

This Latin asterism "Gorgonius" is the IAU constellation Pegasus. This is related to the myth of Perseus and the Gorgon Medusa.

- Variations include "Gorgonus", "Gorgonifer", or "Gorgonisue".

- *De Astronomica* (“the astronomy”), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt refers to this asterism as “Gorgona”.
- Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) labels this “Caput Gorgonus”.
- Johann Bayer’s *Uranometria* (1603) lists “Gorgonisue”.
- “Gorgoneum istud” (”that Gorgonian”) is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
- Gorgon is one of the names for this asterism listed in English astronomer John Flamsteed’s *Atlas Coelestis* in 1729.
- John Hill’s *Urania* in 1754 lists “Gorgonius”.
- Scottish uranographer Alexander Jameison’s *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822) lists it as “Gorgon”.
- R. H. Allen lists “Gorgon” in his *Star Names* in 1899. This is related to the myth of Perseus and the Gorgon Medusa.

Gorlma:

This Wardaman star is Mu (μ) 1 Scorpii in the IAU constellation Scorpius as listed by Cairns and Harney in 2003.

Gösz:

This Hungarian asterism is the stars of the IAU constellation Lyra. The celestial map of Hungarian uranographer Sandor Nagy (1915) depicts this asterism as a male in traditional Hungarian dress with a walking stick in his left hand and carrying what appears to be a sort of long Alpenhorn in his right hand. He has a dog sitting at his feet. I believe that this represents Göncöl the mythological táltos (“shaman”) who could cure any disease. NOTE: Nagy’s 1915 chart is beautifully illustrated, but some of the labels are hard to make out and I find it difficult to match the hand drawn stars on his chart with actual star patterns in the sky.

Gothic of Coma Berenices:

This **telescopic** asterism “Gothica Cómae Bereníces” is the intermediate barred spiral galaxy NGC 4725 in the IAU constellation Coma Berenices. It was discovered in 1785 by William Herschel who listed it as “I 84”. It became GC 3249 in the General Catalogue of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “the pointed form of the spiral arm at the northeastern edge of this galaxy… resembles an arc in gothic architecture”. This is O’Meara 69 in Stephen James O’Meara’s *Hidden Treasures Catalogue* (2007).

Gourd Woman:

This Kogi asterism is the Pleiades cluster in the IAU constellation Taurus. She is depicted as a naked old woman.

Governor of Andromeda:

This **telescopic** asterism "Praétor Andrómedae" is the spiral galaxy NGC 70 (IC 1539, Arp 113) in the IAU constellation Andromeda. It was discovered by R. J. Mitchell, an assistant to the 3rd Earl of Rosse, in 1855. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name Praétor ("he who walks in front") as its position seems to lead a small group of local galaxies. A Praétor was an official ranking under a Consul in ancient Rome.

Grab:

This Greek asterism "Arpadone" ("grab" or "grabbed") is the IAU constellation Pisces as listed in John Hill's *Urania* in 1754. Hill translates this as "something that ties them together".

Grace Note:

This **telescopic** asterism is in the IAU constellation Lyra. It is Lorenzin 18 on Tom Lorenzin's list. The top of the "musical grace note" is the line of stars HIP 93393, HIP 93407, HIP 93357 and HD 176801. The bottom is the star HIP 93256.

Graceful Andromeda:

This **telescopic** asterism "Hábra Andrómedae" is the barred lenticular galaxy NGC 108 in the IAU constellation Andromeda. It was discovered by English astronomer William Herschel in 1784. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010).

Graceful Curves of Virgo:

This **telescopic** asterism "Colpábrus Vírginis" is the spiral galaxy IC 971 in the IAU constellation Virgo. It was discovered by Truman Henry Safford in 1868. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the beautifully curved spiral arms of this… galaxy."

Graffias:

See Claws, above.

Graff's Cluster:

This asterism is the open cluster IC 4756/Melotte 201 in the IAU constellation Serpens. It was discovered by American astronomer Solon Irving Bailey (1854 – 1931) in 1908. It is named for Polish-German astronomer Kasimir Romuald Graff (1878 —1950) who worked as an assistant at the Hamburg Observatory and became a professor in 1916, and later the director of the Vienna Observatory. The Nazis forced him to retire in 1938, but he was reinstated in 1945. Lunar and Martian craters are also named for Graff. It is also known as the Secret Garden Cluster and the Tweedledee Cluster.

Graham's Ring:

See Ring, below.

Granary:

This Ukrainian asterism “Stozhary” (Стожари) is the Pleiades cluster in the IAU constellation Taurus. It is derived from the term “stozharnya” (стожарня) meaning a “granary” but others suggest that it was derived from the root word “sto-zhar” (сто-жар), meaning “hundredfold glowing” or "a hundred embers”.

Grand Cross:

This Estonian asterism is the IAU constellation Cygnus (Kuperjanov 2006).

Grand Design Galaxy:

This **telescopic** asterism is NGC 7424, a barred spiral galaxy in the IAU constellation Grus. This was discovered by English astronomer John Herschel in 1847. It is GC 4867 in the *General Catalogue* of 1864. It got this name due to its well-defined spiral arms.

Grandchildren:

This Korean asterism “Sonja” (손자) is a line of two stars in the IAU constellation Canis Major: Epsilon (ε) and Kappa (κ) Canis Majoris.

This Wichi asterism is the stars Zeta (ζ) 1 and 2 Scorpii in the IAU constellation Scorpius (Mariani et al 2017). They are brothers hunting “Ñandú” or “Suri” (see Rhea, below). This is also known as Hunters (see above).

Grandfather:

This Chinese xing guan “Zhàngrén” (丈人) is a line of two stars in the IAU constellation Columba: Alpha (α) Columbae (Phact) and Epsilon (ε) Columbae. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Zhàngrén” is three stars in the IAU constellation Columba: Alpha (α) Columbae (Phakt), HIP 26019, and Epsilon (ε) Columbae.

This Abipones asterism “Groaperikie” is the Pleiades cluster in the IAU constellation Taurus as listed in R. H. Allen’s *Star Names* in 1899.

Grandfather Stars:

This Tahltan asterism is the Big Dipper in the IAU constellation Ursa Major (see Big Dipper, above).

Grandma's Dentures:

This telescopic asterism was created by Brian Fenerty and Roland Deschesne of the Calgary Centre of the RASC circa 2000. It is made up of stars of the IAU constellation Corona Borealis. They created the Martini Glass and Cocktail Umbrella asterism at the same time (see below).

Grandmother:

This /Xam star “!keisse” is Alpha (α) Carinae (Canopus) in the IAU constellation Carina (Alcock 2014).

Grandmother Carrying Rice:

This /Xam star “!Kuttau” or “!Kúttăŭ” is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Alcock 2014).

Grandmother Face:

This Carib star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major and its rising announces the beginning of the fishing season.

Grandmother of Canopus:

This /Xam star is the is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Slotegraaf 2013). They call it this because it rises after Canopus, and the elderly usually follow behind the youth.

Grandmother Spider:

This Ininew (Cree) asterism "Kokominakasis" is made up of stars of the IAU constellations Aries, Andromeda, Perseus, and Cassiopeia (Buck 2016):

- The "W" of Cassiopeia is the front legs of the spider (see W below),
- The tip of the spider's back end is the star Alpha (α) Arietis (Hamal), and
- The sides of the "body" are defined by the stars Alpha (α) Persei (Mirfak) and Beta (β) Andromedae (Mirach).

Grandmother's Cudgels:

This Serbian asterism "Babine Tojage" from the Vrajne area is found in the Etymological Dictionary of Serbian Language and is a five-sided figure in the IAU constellation Orion. It starts at Nu (ν) Orionis and runs around through Xi (ξ) Orionis, 69 Orionis, Chi (χ) 2 and Chi (χ) 1 Orionis. This is also known as Orion's Cudgel (see below), Cudgels (see above), and the Bent Stick (see above). The word "Baba" used to refer to any woman that had given birth but is mostly used nowadays to refer to a grandmother. However, another old meaning of this word was "stone, rock, boulder, mountain, Earth, or Mother Earth. This may be an ancient reference to the Orionid meteor shower, the radiant of which is situated next to Orion's "club".

Grandson:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of two stars in the IAU constellation Hydra: 49 Hydrae (the determinative star) and 50 Hydrae.

This Chinese xing guan "Sūn" (孙) is a line of two stars in the IAU constellation Columba: Kappa (κ) and Theta (θ) Columbae.

This Chinese Chenzhuo xing guan is two stars in the IAU constellation Columba: Delta (δ) Columbae and Lambda (λ) Columbae.

Grant Life:

This Korean asterism "Saengmyeong-eul Buyeohada" (생명을 부여하다) is a line of two stars in the IAU constellation Lacerta: 10 Lacertae and HIP 109754A.

Grape Gatherer:

This Arabic star "Alarph" is the is Alpha (α) Virginis in the IAU constellation Virgo. Compare this to Female Grape Gatherer (above) and Fruit Pickers (above).

Grappling Hook of Horologium:

This **telescopic** asterism “Hárpago Horológii” is the barred spiral galaxy IC 1908 in the IAU constellation Horologium. It was discovered by American astronomer DeLisle Stewart in 1898. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Grass Snakes:

This Belarussian asterism “Dazhdzhaviki” or “Vuzhy” is the Hyades cluster in the IAU constellation Taurus (Avilin 2009). It is also known as “Charviaki” (see Worms, below).

Grasshopper:

This Samoan asterism “Sē” is made up of stars of the IAU constellation Pegasus (Fitisemanu 2022):

- A line of stars forming the “body” runs from Upsilon (υ) Pegasi through Tau (τ) Pegasi, Lambda (λ) Pegasi, Iota (ι) Pegasi to Kappa (κ) Pegasi.
- A bent “leg” runs from Lambda (λ) Pegasi through Mu (μ) Pegasi to a bend at Beta (β) Pegasi (Scheat) and then runs down to Alpha (α) Pegasi (Markab).

This grasshopper is being stalked by “Ti‘otala” (see Kingfisher, below).

This **telescopic** asterism “Grasshopper” or the “Grasshopper Galaxy” is PGC 26132 (UGC 4881 A and B or Arp 55), a pair of interacting galaxies in the IAU constellation Lynx. It was first given this name by astrophysicist Dr. Boris Vorontsov-Velyaminov in 1977. It is also known as the Shrimp Galaxy.

Grave Front:

This Korean asterism “Mudeom Ap” (무덤 앞) is a line of three stars in the IAU constellation Leo: Upsilon (υ), 87, and Phi (ϕ) Leonis.

Grecian Harp:

This “Persian” asterism “Ciengh Rumi” is the IAU constellation Lyra as listed in John Hill’s *Urania* in 1754.

Great:

This Babylonian asterism “GAL”, “rabbu” or “rabû” is listed in Anthony Hope’s *A Guide to Ancient Near Eastern Astronomy* in 1996 but the stars have not been identified.

This Greek star “μέγας”, “Mégas”, or “Megas” is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major as described by Hesiod and Aratus (315 – 240 B.C.E).

This German asterism “Magnus” is the IAU constellation Canis Major as listed by German astronomer Johann Bayer (1572-1625). It is a misunderstanding of the name of the Greek star “Mégas”, above.

This Sogdian asterism “Magh” is Alpha (α) Leonis (Regulus) in the IAU constellation Leo as listed in R. H. Allen’s *Star Names* in 1899.

This Khorasmian star “Armagh” is Delta (δ) Leonis in the IAU constellation Leo as listed by R. H. Allen in his *Star Names* in 1899.

Great Advisor:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty "Shangfu" is the star Lambda (λ) Draconis in the IAU constellation Draco and is part of their xing guan Purple Forbidden Right Wall (see below).

Great Adze:

This Samoan asterism "To'ivā" (an abbreviation of "To'ivaitotonuole'atoatufuga" ("great adze within the builder's tool basket") is the curve of stars at the front end of the IAU constellation Leo, which resembles a mirror-image question mark or a sickle: Epsilon (ε), Mu (μ) Leonis, Zeta (ζ) Leonis, Gamma (γ) Leonis, Eta (η) Leonis), and Alpha (α) Leonis (Regulus). This represents the son of Tapu'itea, represented by the planet Venus. Tapu'itea is the cannibal demigoddess who self-exiled herself to outer space to spare her son To'ivā from her insatiable appetite.

Great and Tortured:

This Latin asterism "Magnus et Tortus" is the IAU constellation Draco.

Great Auger:

This Romanian asterism "Mare Melc" or "Sfredelul Mare", also known as "the Three Saints" (see below), is Orion's belt plus Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion (Lite, Lodina, and Ignat 2018).

Great Barred Spiral Galaxy:

This **telescopic** asterism is NGC 1365, a double-barred spiral galaxy in the IAU constellation Fornax It was discovered by English astronomer John Herschel in 1837.It is GC 731 on the *General Catalogue* of 1864. It is also known as the "Propeller" (see below) and "Z" (see below).

Great Bear:

This Greek asterism "Μεγαλή ᾽΄Αρκτος" ("Megalí ᾽΄Arktos") is the IAU constellation Ursa Major (see Big Dipper, above) as described in Ptolemy's *Almagest* (2nd century). This name for the IAU constellation Ursa Major originated in Homer's *Iliad* (8th century B.C.E.), which refers to this IAU constellation both as "the Bear" and "the Wain". The classic Greek myth of Callisto has her changed into a Bear by Hera, the wife of Zeus. Ptolemy's version looks like this:

- The "tail" is the handle of the Big Dipper asterism: Epsilon (ε) Ursae Majoris, Zeta (ζ) Ursae Majoris, and Eta (η) Ursae Majoris.
- The "body" of the Big Dipper starts at the base of the "tail" at Delta (δ) Ursae Majoris and runs through Alpha (α) Ursae Majoris (Dubhe), 23 Ursae Majoris, Upsilon (υ) Ursae Majoris, Phi (ϕ) Ursae Majoris, Beta (β) Ursae Majoris (Merak), and Gamma (γ) Ursae Majoris.
- The "head" is the stars 23 Ursae Majoris, Tau (τ) Ursae Majoris, Sigma (σ) 1 and 2 Ursae Majoris, Rho (ρ) Ursae Majoris, Omicron (ο) Ursae Majoris (which is described as "the star on the end of the snout"), and Upsilon (υ) Ursae Majoris, with the "tip of the ear" being 24 Ursae Majoris.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this constellation as the "Great Bear".

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) refers to this constellation as "the Great Bear (Ursa)" or simply "the Great Bear".

The Facts of File Dictionary of Astronomy, 2nd edition, 1985, by Valerie Illingworth, ed., lists "Great Bear" as an alternate name for Ursa Major.

This Lakota asterism "Wičhákhiyuhapi" is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above).

This Germanic asterism "Großer Bär" is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above).

This Scandinavian asterism "Stora Björn" is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above).

This Dutch asterism "Grote Beer" is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above).

This Basque asterism is the IAU constellation Hercules (Frank 2021). Knörr (1999) lists it as "Bost Izarrak" and identifies it with Ursa Major. It is related to the story of the Bear Son, Harzkume (see Bear Son, above). NOTE: Pan-European versions of this story exist all over with the Bear Son appearing as "the Strong Man", "der Starke Hans", "the Man with the Iron Club", and "L'Homme au Bâton de Fer" and this suggests that there may be other cultures who associated this figure with this IAU constellation in ancient times.

This Romanian asterism "Ursul Mare" is the IAU constellation Ursa Major (Ottescu 2009). The trapezium of the Big Dipper is called "Trupul Ursului" ("the Bear's Body") and the "handle" is "Coada Ursului" ("the Bear's Tail").

Great Beast:

This Greek asterism "Μεγαθηρίον" ("Megathiríon") is the IAU constellation Scorpius as described by Aratus (315 – 240 B.C.E). This appeared in the 1720 edition of Johann Bayer's *Uranometria* in 1603 as "Μελαθυρίον" ("Melathyríon").

Great Bird Cluster:

This **telescopic** asterism is the open cluster NGC 2301 in the IAU constellation Monoceros. It was discovered by William Herschel in 1786 who listed it as "VI 27" in his catalogue. It is GC 1465 in the *General Catalogue* of 1864. Size 12' X 12'. In the 19th century it was known as Copeland's Golden Worm. American astronomer Phil Harrington called it the Great Bird Cluster as to him it "resembles a bird in flight": The Herschel Club/Ancient City Astronomy Club use this name for it. South African astronomer Carol Botha also describes it as a "Sparrow". More recently astronomers who are fans of J. K. Rowling's *Harry Potter* series named it Hagrid's Dragon.

Great Bow:

This Estonian asterism is made up of stars of the IAU constellation Taurus (Kuperjanov 2006): Zeta (ζ) Tauri, Beta (β) Tauri (Elnath), and Iota (ι) Tauri, with the fletching of the arrow being the Hyades cluster.

Great Brown Bull:

This Irish asterism is the IAU constellation Taurus. This asterism is found in Julie Ormonde's *Constellation Stories of Ancient Ireland* (2015). This is a reference to Donn Cúailnge, the mythical Brown Bull of Cooley, was the largest, fiercest and most virile bull in Ireland, who is found in the Táin Bó Cúailnge.

Great Canoe of Tama Rereti:

This Māori asterism "Te Waka a Tamarereti" is made up of the stars of the "tail" of the IAU constellation Scorpius: Upsilon (υ), Lambda (λ), Kappa (κ), Iota (ι) 1, Theta (θ), Eta (η), Zeta (ζ) 1, Mu (μ) 1, and Epsilon (ε) Scorpii. Tama Rereti was a great Māori warrior. The rope of his boat is the asterism "Te Taura-O-Te-Waka-O-Tamarereti" (see Rope of the Great Boat of Tama Rereti, below), and the "anchor" is "Taki-O-Autahi" (see Anchor, above). NOTE: Robertson and Po Eung (2016) suggest that this asterism is actually part of the ancient asterism Argo's Ship (see above).

Great Chariot:

This Romanian asterism "Carul Mare" is the Big Dipper asterism (see above) in the IAU constellation Ursa Major (Ottescu 2009, Lite, Lodina, and Ignat 2018). The four stars of the "dipper" are "Roatele Carului" ("the Chariot Wheels"), and the stars of the "handle" are "Proţapul" ("the Shaft"), "Tânjala Carului" ("the Slow Chariot Shaft") or "Oiștea" (the Axle"). Some Romanians see the four stars of the "dipper" as four wheels, others as the body of the chariot, with the next two stars of the "handle" the "oxen". Others see the three stars of the "handle" of the Big Dipper as three pairs of oxen. Some Romanian stories have Yahweh transporting his treasures into the sky in this chariot, following himself in the Little Chariot (see below).

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) labels the Big Dipper asterism (see above) as "Le Grand Chariot".

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) lists "Grand Chariot" for this asterism.

This French asterism is the Big Dipper Asterism in the IAU constellation Ursa Major as listed in R. H. Allen's *Star Names* in 1899. Allen writes that it "was seen on Gaulish coins".

This Anglo-Norman asterism "Charere" is the Big Dipper Asterism in the IAU constellation Ursa Major as listed by the 12th century Anglo-Norman poet Philip de Thaun and as listed in R. H. Allen's *Star Names* in 1899.

Great Cluster:

See Hercules Cluster, below.

Great Cross:

This Romanian asterism "Mare Cruce", "Crucea Mare", or "Crucea" is the Northern Cross asterism (see below) in the IAU constellation Cygnus (Lite, Lodina, and Ignat 2018).

This Estonian asterism "Suur Rist" is the Northern Cross asterism in the IAU constellation Cygnus (see Northern Cross below).

This Quechua asterism "Jatun Cruz" is made up of stars of the IAU constellation Scorpius (Ciancia 2018): Nu (ν), Lambda (λ), Zeta (ζ), Mu (μ), and Epsilon (ε) Scorpii.

Great Cup:

This Arabic asterism "Alkas Aleazim" (الكأس العظيم) is the IAU constellation Crater.

Great Dark Horse:

See Dark Horse Nebula, above.

Great Darkness/Infinity:

This Rapanui star “Po’o” or “Po Roroa” is Kappa (κ) Orionis (Saiph) in the IAU constellation Orion (Edwards and Edwards 2010, Edwards and Edwards 2016, Edwards et al 2018). NOTE: In their 2010 paper the Edwards identify this as Canopus and in their 2016 paper the Edwards identify Saiph several times as Po Roroa but there is also one reference of this name to the star Alpha (α) Carinae (Canopus) in the IAU constellation Carina, although Canopus is identified as Atutahi in several other places in this paper.

Great Dawn Star:

This Romanian star “Luceafărul din Zori” is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Ottescu 2009).

Great Deer:

This Finnish asterim "Jalopeura" is the IAU constellation Leo.

Great Diamond:

This Western asterism consists of stars from four different IAU constellations: Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes, Alpha (α) Virginis (Spica) in the IAU constellation Virgo, Beta (β) Leonis (Denebola) in the IAU constellation Leo, and Alpha (α) Canum Venatici (Cor Caroli) in the IAU constellation Canes Venatici. An east-west line from Arcturus to Denebola forms an equilateral triangle with Cor Caroli to the North, and another with Spica to the South. R. H. Allen describes it as the “Virgo Diamond” in his *Star Names* in 1899. This name was listed in May 2016 in *Constellation Guide* (https://www.constellation-guide.com/category/asterism/).

Great Dipper:

This American asterism is the Big Dipper asterism in the IAU constellation Ursa Major. *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this name.

Great Eastern General:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty “Dongshangjiang” is the star 42 Comae Berenices in the IAU constellation Coma Berenices and is part of their xing guan Supreme Palace Left Wall (see below).

Great Eastern Premier:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty “Dongshangxiang” is the star Gamma (γ) Virginis in the IAU constellation Virgo and is part of their xing guan Supreme Palace Left Wall (see below).

Chinese Chenzhuo xing guan “Dongshangxiang” is the star Gamma (γ) Virginis in the IAU constellation Virgo. It is part of the Supreme Palace Left Wall.

Great Elk:

This Sdoh-doh-hohbsh asterism is the Big Dipper asterism in the IAU constellation Ursa Major (See Big Dipper, above).

Great Emperor of Heaven:

This Chinese xing guan “Tianhuangdadi” from the Three Kingdoms to the Ming Dynasty is the star HIP 115746 in the IAU constellation Cepheus.

This Chinese xing guan “Tiānhuángdàdì” (天皇大帝) is the star HIP 109693 in the IAU constellation Ursa Minor.

This Chinese Chenzhuo xing guan “Tianhuangdadi” is 2 Ursae Minoris in the IAU constellation Ursa Minor.

Great Festivity of the Border of the South:

This Society Islands star “Taurua-nui-o-te-hiti-apatoa” is Alpha (α) Carinae (Canopus) in the IAU constellation Carina.

Great Fire:

This Chinese star “Dahuo” is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius and is part of their asterism Heart (see below).

This Chinese star “Ta Huo”.is mentioned in oracle bone inscriptions from the Shang Dynasty (ca. 16th to 11th century BC) and is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius. It also appears in the *Shangshuyaodian* 尚书尧典 (*Canon of Yao* of the *Book of Documents*- 2300 B.C.E.), a collection of political documents from the legendary Emperor Yao. It is also known as “Huo” (火) or “Huo Hsing” (see Fire Star, above).

Great Fish:

This Mesopotamian asterism is an oval of stars in the IAU constellations Andromeda and Perseus as listed by John H. Rogers in his *Origins of the Ancient Constellations* article in the Journal of the British Astronomical Association in 1988. It is basically identical to the Arabic asterism Great Fish (al-hut, see below).

This Arabic asterism “al-Hut” (الحوت) or “as-samaka al-‘azima al-hut” is from the *Book of Fixed Stars* of Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986). It is made up of the stars of the IAU constellations Andromeda and Pisces: Basically, the constellation Pisces is extended into the constellation Andromeda, with the “great fish” being an oval of stars:

- One side runs from the star Nu (ν) Andromedae through 29 Andromedae, Delta (δ) Andromedae, Epsilon (ε) Andromedae, Zeta (ζ) Andromedae, and Psi (ψ) Piscium to Rho (ρ) Piscium, and
- The other side runs from Rho (ρ) Piscium through Upsilon (υ) Piscium, Beta (β) Andromedae (Mirach), and Mu (μ) Andromedae back to Nu (ν) Andromedae.
- The Andromeda Galaxy (Messier 31) was also included in this asterism by 'Abd al-Rahman al-Sufi (903 – 986).

This appears in several places:

- The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi’s son depicts this as a large fish, viewed from above, overlapping Andromeda, and itself overlapped by the northern fish of Pisces.
- John Hill lists it as “Haut” and “Al Haut” in his *Urania* in 1754.
- Catholic librarian Giuseppe Simone Assemani (1687 - 1768) latinized this to “Alhut” and assigned it to Epsilon (ε) Ursae Majoris in the IAU constellation Ursa Major and says that it appeared on the “Cufic globe”: This would be 622 AH (1225/26 CE) a globe with Cufic lettering.

- NOTE: This is part of the Arabic asterism complex Two Fish (see below). Another Arabic "fish" asterism is next to this, "as-samaka as sughra" (see Smaller Fish, below). In some Arabic manzil sky cultures listed on Stellarium this is mislabeled "the bucket rope".

This English asterism "Adir Dags" or "Odir Dags" is the IAU constellation Cetus as listed in John Hill's *Urania* in 1754: He describes this as a Hebrew name for this constellation.

This Boorong and Wotjobaluk asterism "Otchocut" is the IAU constellation Delphinus as listed by Stanbridge (1857), Morieson (1999), and Hamacher and Frew (2010). This is probably the Murray Cod (Maccullochella peelii).

Great Flame:

This Egyptian star is Alpha (α) Leonis (Regulus) in the IAU constellation Leo as listed in the 19th dynasty *Cairo Calendar* (Hardy 2003).

Great Galactic Face:

This **telescopic** asterism is made up of galaxies in Markarian's Chain, including NGC 4387, an elliptical galaxy in the IAU constellation Virgo forming the "nose", Messier 86 (NGC 4406) and Messier 84 (NGC 4374) the "eyes", and edge on galaxy NGC 4388 forming the "mouth".

Great General:

There are Chinese xing guans from the Three Kingdoms to the Ming Dynasty using the name "Dajiangjun":

- One is the star Alpha (α) Aquilae (Altair) in the IAU constellation Aquila and is part of their asterism Drum at the River (see above).
- One is the star Rho (ρ) Scorpii in the IAU constellation Scorpius and is part of their xing guan Room (see below).

There are two Chinese xing guans from the Three Kingdoms to the Ming Dynasty using the name "Shangjiang":

- One is the star Eta (η) Leonis in the IAU constellation Leo and is part of their asterism Xuanyuan (see below).
- One is the star 23 Ursae Majoris in the IAU constellation Ursa Major and is part of their asterism "Wénchāng" (文昌) - see Administrative Centre, above.

There are two Chinese Chenzhuo xing guans called "Shangjiang":

- One is the star Rho (ρ) Scorpii in the IAU constellation Scorpius. It is part of their xing guan "Room".
- One is the star Omicron (o) Ursae Majoris in the IAU constellation Ursa Major. It is part of their xing guan "Administrative Centre".

Great General of Heaven:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is an irregular oval of stars in the IAU constellations Andromeda, Perseus, and Triangulum:

- One side runs from the determinative star 10 Trianguli through Iota (ι) Trianguli, Beta (β) Trianguli, HIP 9001, 8423, Tau (τ) Andromedae, Upsilon (υ) Andromedae, Chi (χ) Andromedae and 51 Andromedae, ending at Phi (ϕ) Persei.
- One side runs from the determinative star 10 Trianguli through Gamma (γ) 1 and 2 Andromedae, ending at Phi (ϕ) Persei.

This later oblong Chinese xing guan "Tiāndàjiāngjūn" (天大将军) is made up of the stars of the IAU constellations Andromeda, Perseus, and Triangulum. One straight side runs from the star Gamma (γ) Trianguli through Gamma (γ) 1 and 2 Andromedae to Phi (ϕ) Persei. The other curving side runs from Gamma (γ) Trianguli through Beta (β) Trianguli, 56, Tau (τ), Upsilon (υ), 52, 49, and 51 Andromedae back to Phi (ϕ) Persei.

This Chinese Chenzhuo xing guan is made up of stars of the IAU constellations Andromeda, Perseus, and Triangulum: From the central star Gamma (γ) 1 Andromedae three lines run out:

- One runs to 60 Andromedae,
- One runs through Upsilon (υ) Andromedae, Omega (ω) Andromedae, and 51 Andromedae to Phi (ϕ) Persei, and
- One runs through 58 Andromedae, Beta (β) Trianguli, and Gamma (γ) Trianguli to 14 Trianguli.

Great Globular Cluster:

See Hercules Cluster

Great Goddess of the Winter Sky:

In *The Myth of the Year*, Benigni, Carter and Ua Cuinn connect the IAU constellation Orion to a Great Goddess of the Winter Sky. Lithuanian archaeologist Marija Gimbutas (1996) tells us that Orion is a later name from the Iron Age and that Neolithic cultures may have seen Orion as a pre-agricultural goddess representing regeneration and fertility. Bellatrix is "the female warrior" and Betelgeuse and Bellatrix are the first to rise. Some neolithic art shows a female accompanied by two beasts, like Orion and the constellations Canis Major and Canis Minor.

Great-Hearted Snake:

This Latin asterism "Coluber Magnanimus" is the IAU constellation Hydra. Johann Bayer's *Uranometria* (1603) lists "Coluber Magnanimus".

Great Hercules Cluster:

See Hercules Cluster.

Great Horn:

This Chinese xing guan "Dàjiǎo" (大角) is the star Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan "Dajiao" is the star Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes.

Great Horse:

This Arabic asterism “Alhisan Aleazim” (الحصان العظيم) is the IAU constellation Pegasus. They called the neighbouring constellation Equuleus “part of the horse”.

Great Horse Stud:

This Romanian asterism “Gavădul Mare” is the IAU constellation Leo (Ottescu 2009). Compare to Little Horse Stud (below).

Great Imperial Guard:

There are two Chinese xing guans from the Three Kingdoms to the Ming Dynasty with the name “Shangwei”:

- One is the star Kappa (κ) Cephei in the IAU constellation Cepheus and is part of their xing guan Purple Forbidden Left Wall (see below).
- One is the star HIP 33827 in the IAU constellation Camelopardalis and is part of their xing guan Purple Forbidden right Wall (see below).

Great Imperial Minister:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty “Shangcheng” is the star HIP 14862 in the IAU constellation Cassiopeia and is part of their xing guan Purple Forbidden Right Wall (see below).

Great Lacerta Nebula:

See Cosmic Fireplace (above).

Great Large Llama:

This Quechua asterism “Hatun Llamaytoq” (Urton 1981) is the dark nebulosity in the Milky Way stretching between Centaurus and Scorpius and its eyes are the stars Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar).

Great Limb:

This Welsh asterism listed by Victorian folklorist Marie Trevelyan (1852 – 1922) in her *Folk-lore and Folk-stories of Wales* (1909) is currently unidentified.

Great Looped Nebula:

This **telescopic** asterism is the open cluster and HII region NGC 2070 in the IAU constellation Dorado. This was discovered by French astronomer Nicolas Louis de Lacaille in 1755. This name comes from English astronomer John Herschel, who in 1834 described it as “an assemblage of loops” and listed it as h 2941. It appears in the 1864 General Catalogue as GC 1269. The New General Catalogue of 1888 describes it as “looped”. The 14th edition of British schoolmaster Arthur P. Norton’s *A Star Atlas* (1959) lists this as the “Great Looped Nebula”. It is also known as the Tarantula Nebula, the True Lover’s Knot, the 30 Dorado Cluster or the 30 Dorado Association.

Great Maiden with a Yoke:

This Romanian asterism “Fata Mare cu Cobiliţa” is the IAU constellation Cygnus (Ottescu 2009). Compare this to Girl, above.

Great One:

This complex Babylonian asterism from the MUL.APIN tablets, “MulGU.LA” (Bartel van der Waerden 1974) or “GU.LA” (“the God Ea”) is made up of the stars of the IAU constellations Aquarius, Cetus, Pegasus, and Pisces:

- The “body” is a pentangle of the stars Alpha (α) Aquarii (Sadalmelik), Epsilon (ε) Pegasi, Beta (β) Aquarii (Sadalsuud), Iota (ι) Aquarii and Theta (θ) Aquarii.
- Two lines of stars form “legs”:
    - One from Theta (θ) Aquarii through Lambda (λ) Aquarii, Psi (ψ) Aquarii, and 94 Aquarii to 98 Aquarii, and
    - One from Iota (ι) Aquarii through Tau (τ) Aquarii and Delta (δ) Aquarii to 88 Aquarii.
- An “arm” runs from Sadalmelik through Gamma (γ) Aquarii and Gamma (γ) Piscium to Iota (ι) Piscium.
- Two bending lines starting at 52 Aquarii represent streams of water issuing from Ea:
    - One runs through 27 Piscium, 30 Piscium, 3 Ceti, and 6 Ceti to 7 Ceti, and
    - One runs through Zeta (ζ) 1 Aquarii, Eta (η) Aquarii, Phi (ϕ) Aquarii, Psi (ψ) Aquarii, and Omega (ω) 2 Aquarii to 104 Aquarii.

Hope Anthony lists this as “GU.LA” in his *A Guide to Ancient Near Eastern Astronomy* in 1996 and identifies it only as the IAU constellation Taurus.

This appears in the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period as “mul gu.la” and in the list of Zodiacal Signs in VAT 4956 from the Persian (Achaemenid) Period (539 – 331 B.C.E.) as “GU” (Bartel van der Waerden 1974).

This Akkadian asterism “Sinundu”, “Ku-ur-ku” (“Seat of the Flowing Waters”), “Rammanu”, “Rammān”, or “Rammānu” (“God of the Storm”), or “ŠU” from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is identical to the Babylonian asterism “MulGU.LA” above. NOTE: “ŠU” also shows up on the Ura =hubulla XXII lists associated with the Sumerian name “mul dšul-pa-è-a”.

This Sumerian asterism “mulgu-la” from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is identical to the Babylonian asterism “MulGU.LA” above.

This Seleucid asterism “GU” or “sal-mu” (“figure”) in the tablet SBTU II No 43 (W 22646) from the Seleucid (Hellenistic) period (275 B.C.E. – 116 C.E.) is the IAU constellation Aquarius (Foxvog 1993).

Two stars in the IAU constellation Draco bear the name “Tàiyǐ” (太乙） or “Tàiyī” (太一）, the which means “the great one”:

- One is the star 8 Draconis. The name Taiyi was approved for this star by the IAU.
- One is the star Alpha (α) Draconis (Thuban) which appeared on Chinese star charts in the 1st and 2nd millennia C.E. (Didier 2009). Didier lists the variations “Dayi” (大乙), “Di”, “Tian”, and “Ding” for this star and describes it as appearing in art in the 16th century B.C.E. when it would have been the pole star.

Great One Who Rules the Mysterious Presence of the Akua:

This Hawaiian star “Haumea” is Epsilon (ε) Cassiopeiae (Segin) in the IAU constellation Cassiopeia. This is the name of a Hawaiian Goddess of childbirth, war, and politics.

Great Orion Nebula:

See Orion Nebula, below.

Great Panther and Curly Tail:

This Ojibwe asterism, “Mishibizhii and Gaadidnaway”, is made up of stars of the IAU constellations Leo and Hydra (Lee et al 2014):

- The “head” of the panther (and the IAU constellation Hydra) is a circle of stars: Epsilon (ε), Delta (δ), Sigma (σ), Eta (η), and Rho (ρ) Hydrae, and
- The “body” is a long line running from Rho (ρ) Hydrae to Alpha (α) Leonis (Regulus), where the line bends up into the “curly tail”, which is the Sickle (see Sickle below). This is the curve of stars at the front end of the constellation Leo from the star Epsilon (ε) Leonis to the star Alpha (α) Leonis (Regulus), resembling a mirror-image question mark.

NOTE: The Great Panther is an underwater panther who resides in turbulent waters.

This Anishinaabe asterism Mishi Bizhiw” is identical to the Ojibwe asterism “Mishibizhii” (see above).

Great Plain:

This Welsh asterism listed by Victorian folklorist Marie Trevelyan (1852 – 1922) in her *Folk-lore and Folk-stories of Wales* (1909) is currently unidentified.

Great Plough Tail:

This Welsh asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Freer 2004).

Great Premier:

Three are two Chinese asterisms from the Three Kingdoms to the Ming Dynasty using the name “Shangxiang”:

- One is the star Beta (β) Scorpii (Acrab) in the IAU constellation Scorpius. It is part of their xing guan Lock, Vassal of Room (see below).
- One is the star Beta (β) 1 Scorpii (Acrab) and is part of their xing guan Room (see below).

This Chinese Chenzhuo xing guan “Shangxiang” is the star Beta (β) Scorpii (Acrab) in the IAU constellation Scorpius. It is part of their xing guan “Room”.

Great Prime Minister:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty “Shangzai” is the star Theta (θ) Draconis in the IAU constellation Draco and is part of their xing guan Purple Forbidden Left Wall (see below).

Great Protector:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty “Shangbi” is the star Zeta (ζ) Draconis in the IAU constellation Draco and is part of their xing guan Purple Forbidden Left Wall (see above).

Great Pumpkin:

This **telescopic** asterism is the belted HII region Sharpless 2-232 in the IAU constellation Auriga. Most astrophotography sites list this as the “Great Pumpkin” but some just call it the “Pumpkin”. NOTE: The blue dot at the middle of Sh2-232 is a known planetary nebula, PN G173.5+03.2.

Great Rift:

This **telescopic** asterism, the Great Rift, also known as the Dark Rift or the Dark River, is caused by interstellar clouds of dust that block our view of the center and some radial sections of the Milky Way and is located in the IAU constellation Aquila. The classical Greeks viewed it as a path of devastation left by Phaeton, who unsuccessfully tried to guide the chariot of Helios across the sky. *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists the Great Rift.

Great Saffron-Coloured One:

This Sogdian star "Maghan Sadwis" is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius as listed by R. H. Allen in his *Star Names* in 1899.

Great Serpent:

This Barasana (Vaupés region) asterism "Boiassu" is the IAU constellation Scorpius (Hugh-Jones 2006). Hugh-Jones writes that this is found throughout the Vaupés region and "in many parts of Amazonia".

Estonian asterism is made up of stars of the IAU constellations Leo and Hydra (Kuperjanov 2006). It is an arc of stars starting at Beta (β) Leonis (Denebola) and running through Delta (δ) Leonis, Gamma (γ) Leonis, Eta (η) Leonis, and Alpha (α) Leonis (Regulus) to Alpha (α) Hydrae (Alphard).

Great Shaftbow:

This Estonian asterism is made up of stars of the IAU constellations Leo and Hydra (Kuperjanov 2006). It is an arc of stars starting at Beta (β) Leonis (Denebola) and running through Delta (δ) Leonis, Gamma (γ) Leonis, Eta (η) Leonis, and Alpha (α) Leonis (Regulus) to Alpha (α) Hydrae (Alphard).

Great Ship:

This Welsh asterism is the Ptolemy's asterism Argo's Ship (see above) made up of stars of the IAU constellations Carina, Puppis, Pyxis, and Vela, as listed by Victorian folklorist Marie Trevelyan (1852 – 1922) in her *Folk-lore and Folk-stories of Wales* (1909). NOTE: Freer (2004) speculates that this may be the constellation Lynx.

Great Sign:

This Greek asterism "Τέρας μέγα" ("Téras méga") is the is the IAU constellation Scorpius as described by Aratus (315 – 240 B.C.E).

Great Sky Man:

This is an alternate Upper Tanana name for their asterism "Yihdaa" (see Traveler, below (Cannon 2021)).

Great South Star:

The identity of this Palawa star is currently uncertain, but Hamacher (2011) writes that it might be Alpha (α) Eridani (Achernar) or Alpha (α) Carinae (Canopus).

Great Spotted Bull:

This Vedic asterism is the is the Big Dipper asterism in the IAU constellation Ursa Major as listed in R. H. Allen's *Star Names* in 1899.

Great Square of Pegasus:

The Great Square is a quadrilateral formed by the stars of two IAU constellations: Pegasus and Andromeda. These four stars are Alpha (α) Pegasi (Markab- 90th brightest star), Beta (β) Pegasi (Scheat- 84th brightest star), Gamma (γ) Pegasi (Algenib), and Alpha (α) Andromedae (Alpheratz- 56th brightest star). The Great Square stands out in the sky above as to the unaided eye this box of stars seems empty:

- The Egyptian nome (district) "White Wall" ("ỉnbw-ḥḏ") from the Old Kingdom (3100 B.C.E.) is related to Great Square asterism (Berio 2014).
- The Norwegians call this "Pegasus Kvadretet" ("Pegasus Square").
- The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) lables this "Quarré de Pegase".
- This is listed as "the great square" in the third edition of Rev. Thomas William Webb's *Celestial Objects for Common Telescopes* in 1873.
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) labels this asterism the "Great Square of Pegasus".
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this as the "Great Square of Pegasus".
- *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns labels this the "Great Square".
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists the "Great Square".
- Jeffrey Corder lists this asterism as Corder 4926.

Great Star:

This /Xam star "//Xwhai" or "!Gaunu" is Alpha (α) Aquilae (Altair) in the IAU constellation Aquila (Dechend 1975, Alcock 2014). It is part of their asterism the "//kohai stars" (see below).

This Chinese Chenzhuo xing guan "Dachen" is the star Alpha (α) Scorpii (Acrab) in the IAU constellation Scorpius. It is also known as "Celestial King".

Great Star Cluster:

See Hercules Cluster.

Great Star of Midnight:

This Romanian star "Luceafărul cel Mare de Miezul Nopţii" is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra (Ottescu 2009).

Great Sun Swarm:

This American **telescopic** asterism is the globular cluster Messier 13 in the IAU constellation Hercules. *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this name and describes it as a "ball of suns".

Great Swallow:

This Babylonian asterism from the MUL.APIN tablets "KUNMUŠ (ša)", "mulSIM.MAH" (Bartel van der Waerden 1974), "SHIM.MA", or "SIM.MAḪ" is made up of the stars of the IAU constellations Aries, Cetus, and Pisces (Boutet 2014):

- The middle of the "body" from which the "wings" and triangular "tail" emerge is the binary star Alpha (α) Piscium (Alrescha),
- The "head" is a circle of stars made up of Delta (δ), Gamma (γ), 69, and 75 Ceti and HIP 11738,
- One "wing" runs from Alrescha to Delta (δ) Arietis,
- One "wing" runs from Alrescha to Theta (θ) and Eta (η) Ceti,
- One side of the "tail" is a line from Alrescha through Omicron (ο) and Rho (ρ) Piscium, and
- The other side of the "tail" runs from Alrescha through Mu (μ), Epsilon (ε), and Delta (δ) Piscium.

This Babylonian asterism is listed in the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) as "si-im-ma-a" or "MUL.SIM.MAH" (Hunger 1992) and in the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period as "mul sim.mah" (Koch-Westenholz 1995).

This Akkadian asterism "Šinūnūtu" or "Sinunutu".(Hunger 1992) from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) or "si-nun-tum" from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is identical to the Babylonian asterism Great Swallow.

This Sumerian asterism "mulsim-mahmušen" from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is identical to the Babylonian asterism Great Swallow.

This asterism disappears in later Seleucid sky lore, replaced by "the Swallow" (see Swallow, below) in a new location.

Great Twins:

This Babylonian asterism from the MUL.APIN tablets "MAŠ.TAB.BA.GAL.GAL" is the "upper" half of the IAU constellation Gemini. It is a box containing Alpha (α) Geminorum (Castor), Beta (β) Geminorum (Pollux), Epsilon (ε) Geminorum, and Delta (δ) Geminorum (Bartel van der Waerden 1974, Boutet 2014). The Great Twins are Lugalirra and Meslamta'ea or Lulal-irra and Meslamtaea, a pair of netherworld Gods (Belmonte & Esteve 2018). In the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) the lower half is "Tu'amu Sehrutu" (Little Twins, see below) and the upper half is "Tū'āmū Rabûtu", or "Tu'amu Rabutu" (Hunger 1992). In later Seleucid star lore "Tu'amu Rabutu" and "Tu'amu Sehrutu" are combined to form "the Twins" (see below). This is listed in the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period as "mul mas.tab.ba" and "mul mas.tab.ba.gal.gal" (Koch-Westenholz 1995) and is depicted on the K 8538 planisphere as "mulmaš-tab-ba-ga-gal" (Koch 1989). NOTE: The cuneiform tablet K 42 associates Lulal-irra and Meslamtaea with Mercury and Mars.

This Babylonian asterism "MASH.TAB.BA.GAL.GAL" or "tu'amu rabûtu" as listed in Anthony Hope's *A Guide to Ancient Near Eastern Astronomy* in 1996 is Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini.

This Assyrian asterism "MASH.TAB.BAGAL.GAL" listed in the *Astrological Reports to the Assyrian Kings* (Hunger 1992) is identical to the Babylonian asterism "MAŠ.TAB.BA.GAL.GAL" (see above).

This Mesopotamian asterism from the *Three Stars Each* tablet "MASH.TAB.BA" is two stars in the IAU constellation Canis Minor: Alpha (α) Canis Minoris (Procyon) and Beta (β) Canis Minoris (Gomeisa).

This Persian asterism "Tu'amu-rabuti" from the list of Masu Stars from the K 250 and VAT 9418 lists of the Persian (Achaemenid) Period (539 – 331 B.C.E.) is the stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini (Boll 1918, Jeremias 1929). It appears in the list of Zodiacal Signs in VAT 4956 from this period as "MASH" (Bartel van der Waerden 1974). Ernst Weidner lists it as "mas-tab-ba-gal-gal" in his *Fixsterne* in 1971

Great Valley:

This Polynesian (Society Islands) asterism "Faa-nui" is the IAU constellation Auriga. They call the star Alpha (α) Aurigae (Capella) "Tahi-anii" ("Unique Sovereign").

Great Wagon:

This German asterism "Großer Wagen" is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above):

- "Der Großer Wagen" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as the "Großen Wagen".

This Italian asterism "Grande Carro" is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above).

This Romanian asterism "Vagon Mare" is the Big Dipper asterism (see above) in the IAU constellation Ursa Major (Lite, Lodina, and Ignat 2018).

This Slavic asterism is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above).

This Danish, Swedish, and Icelandic asterism "Stori Vagn" is the Big Dipper Asterism in the IAU constellation Ursa Major as listed in R. H. Allen's *Star Names* in 1899.

Great Wain:

This Estonian asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Kuperjanov 2006).

Great Western Premier:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty "Xishangxiang" is the star Delta (δ) Leonis in the IAU constellation Leo and is part of their xing guan Supreme Palace Right Wall (see below).

This Chinese Chenzhuo xing guan "Xishangxiang" is the star Delta (δ) Leonis in the IAU constellation Leo. It is part of the Supreme Palace Right Wall.

Great Western General:

This Chinese Chenzhuo xing guan "Xishangjiang" is the star Sigma (σ) Leonis in the IAU constellation Leo. It is part of the Supreme Palace Right Wall.

This Chinese Three Kingdoms to Ming Dynasty xing guan "Xishangjiang" is the star Sigma (σ) Leonis in the IAU constellation Leo. It is part of the Supreme Palace Right Wall.

Great Yulo:

This Wichi asterism is made up of stars of the IAU constellations Orion and Taurus (Mariani 2017). The yulo's head is the Pleaides cluster, the Hyades cluster is the body, and the belt of Orion is the legs and feet. NOTE: A yulo is a large bird similar to a stork.

Greater Bear:

This Arabic asterism "Aldubu Al'akbar" (الدب الأكبر) is the IAU constellation Ursa Major:

- "Al-Dub al-Akbar" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his Book of the Fixed Stars in 964 (Hafez 2010).
- In 1754 in his *Urania*, John Hill lists the name as "Akber or Dub Akber"
- German astronomer Johann Bayer (1572-1625) listed it as "Dubhelacbar" in his *Uranometria* in 1603.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Dhub Aylabar" as an Arab name for Ursa Major.
- Robert Hues lists it as "Dub Alacbar" in his *A Learned Treatise of Globes* in 1659.
- Edward Sherburne lists "Akber or Dub Akber" in his *Sphere of Marcus Manilius* in 1675, attributing this name to the Persian astronomer "Ulugh Beigh" (Ulugh Beg Mirza (1394 – 1449)).
- R. H. Allen lists it as "Al Dubb al Akbar" in his *Star Names* in 1899.
- John Chilmead lists it as "Dub Alacber" in his *A Learned Treatise of Globes* in 1889.

This Italian asterism "Orsa Maggiore" is the IAU constellation Ursa Major.

This French asterism "Grande Ourse" is the IAU constellation Ursa Major.

This Saxon asterism "Grosser Bär" is the IAU constellation Ursa Major as depicted in the *Nördliche Sternhimmel* sky map of O. S. Reuters based on the work of German astronomer Johann Elert Bode (1747 – 1826).

This Italian asterism "Orsa Maggiore" is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above).

Greater Beauty of Pegasus:

This **telescopic** asterism "Púlchrior Pégasi" is the edge-on peculiar lenticular galaxy NGC 7469 (Arp 298) in the IAU constellation Pegasus. It was discovered in 1784 by William Herschel who listed it as "III 230". It became GC 4888 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "NGC 7469 forms a pair with the smaller irregular IC 5283. The former one is doubtless the more beautiful partner".

Greater Bier:

John Hill lists the Latin name "Feretrum Major" for the IAU constellation Ursa Minor in his *Urania* in 1754. This is probably influenced by the Arabic asterism Daughters of the Bier (see above).

Greater Cloud:

This American asterism is the Large Magellanic Cloud in the IAU constellation Dorado as listed by R. H. Allen in his *Star Names* in 1899.

Greater Cross:

This French asterism is the IAU constellation Cygnus and appears in *De cursu stellarum* of Saint Gregory of Tours (573).

Greater Dog:

This Arabic asterism "Alkalb Al'akbar" (الكلب الأكبر) is the IAU constellation Canis Major:

- This waslater latinized to "Alcheleb Alachbar" by John Chilmead in his *A Learned Treatise on Globes* in 1889.

This German asterism "Großer Hund" is the IAU constellation Canis Major as depicted in the *Nördliche Sternhimmel* sky map of O. S. Reuters based on the work of German astronomer Johann Elert Bode (1747 – 1826).

Greater Seven Bulls:

This Persian asterism "Hafturengh Mihin", "Heft Averengh Mihin", or "Heft Rengh Mihin" is the Big Dipper asterism in the IAU constellation Ursa Major as listed by R. H. Allen in his *Star Names* in 1899. Allen writes that English essayist J. F. Hewitt (1835 – 1908) lists "Hapto-iringas" as an earlier name (see Which Has Seven Signs, below).

Greater Wolf's Jaws:

This Saxon asterism "Grosser Wolfsrachen" is depicted in the 1934 *Nördliche Sternhimmel* map of O. S. Reuter is a large semicircle of stars in the IAU constellations Andromeda, Cygnus, and Pegasus. It starts at Gamma (γ) Andromedae and runs through Beta (β) Andromedae (Mirach), Alpha (α) Andromedae (Alpheratz), and Beta (β) Pegasi (Scheat), ending at Alpha (α) Cygni (Deneb).

This Old Icelandic asterism is identical to Reuter's Saxon asterism above. NOTE: The opening of the "jaws" is facing the north celestial pole, which makes it useful for navigation.

Greedy Wolf:

This Chinese star "Talang" from the Three Kingdoms to the Ming Dynasty is Alpha (α) Ursae Majoris (Dubhe) in the IAU constellation Ursa Major.

This Chinese Chenzhuo xing guan "Tanlang" is the star Alpha (α) Ursae Majoris (Dubhe) in the IAU constellation Ursa Major. It is part of their xing guan Northern Dipper.

Green Hill:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is an oval of stars in the IAU constellation Centaurus: Starting at the determinative star l Centauri (HIP 61789) it runs through HIP 61468, 61379, 61916, 63033, 63066, and n Centauri.

This Chinese xing guan Qīngqiū (青丘) is made up of six stars in the IAU constellation Crater: 17, 18, 19, 25, 28, and 29 Crateris.

This Chinese Chenzhuo xing guan is an oval of stars in the IAU constellation Centaurus. From HIP 62896 it runs through HIP 64408, 64003, 62683, 60449, 60855, and 62896.

Green Leaf Horn:

This Jū/Wãsi and Nyae Nyae !Kung star Alpha (α) Aurigae (Capella) in the IAU constellation Auriga (Slotegraaf 2013, Alcock 2014) and is part of their asterism "Tshxum" (see Rain Bull, above).

Green Nebula:

See Blue Racquetball, above.

Green Parrots:

This Kamilaroi asterism "Gijeri-gu" or "Gidgeriga" is two stars in the IAU constellation Scorpius, though the person who recorded this information (and the second name above) in 1873, William Ridley, did not specify which stars (Fuller et al 2014). The stars are Lambda (λ) and Upsilon (υ) Scorpii. The Boorong have a similar asterism, "Djuit" (see Red-Rumped Parrot, below).

Green Rectangle Nebula:

See Jewel Bug Nebula, below.

Green Ridge:

This Korean asterism "Nogsaeg Neungseon" (녹색 능선) in the IAU constellation Carina is an irregular oval of stars: r, s, q, p, w, and u Carinae and HIP 52742.

Green Ring Nebula:

This **telescopic** asterism is HII region is SH 2-3 in the IAU constellation Scutum.

Greenwood Box/Coffin:

The stars of this Dena'ina asterism "Tsal q'elchini" are unidentified at present (Cannon 2021).

Greeter of Lynx:

This **telescopic** asterism "Salutáta Lýncis" is the barred spiral Magellanic galaxy NGC 2799 (Arp 283) in the IAU constellation Lynx. It was discovered by Ralph Copeland in 1874. It became GC 5467 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as "NGC 2799 is inclined to its neighbour NGC 2798 as if it bows to greet him politely".

Gregory's Unnamed Stars:

This Gallic asterism likely includes the star Alpha (α) Virginis (Spica) of the IAU constellation Virgo. The Gallo-Roman historian and Bishop Gregory of Tours (538 – 594) created this asterism of two stars to help monks use certain stars in the sky to determine the time for prayers, which he oddly doesn't name (McKay 2020). The identity of the other star is uncertain.

Grey Jay:

This Mi'kmaq star "Mikjaqoqw" is Eta (η) Ursae Majoris (Alkaid) in the IAU constellation Ursa Major. It is part of their asterism Muin and the Seven Hunters (see below).

Greyhound:

This **telescopic** asterism is in the IAU constellation Coma Berenice and was listed by Jack Kramer of the Lake County Astronomical Society in Illinois. Kramer describes it in the LCAS *NightTimes* newsletter in April 1994 as "a group of eight stars arrayed in the shape of two diamonds that suggested a greyhound

dog running at full stride - the star at lower left being the front paw [HIP 62524], the star farthest to the right the rear paw [HIP 62176], and the brightest star being the head [28 Comae Berenices (HIP 624780)]. The group spans just over 1o and is about 15 east of the star Beta [β] Leonis." This asterism is surrounded by galaxies including NGC 4689, 4659 and 4654.

This Lithuanian asterism "Kurtas" is the IAU constellation Canis Minor.

Greyhound of the Skies:

See Barnard's Star, above.

Greyhounds:

This French asterism "Levriers" is the IAU constellation Canes Venatici. The French edition, Atlas Céleste, Seconde Édition (1776) of the Atlas Coelestis of English astronomer John Flamsteed (1646 – 1719) depicts "Les Vevrieres" as two dogs whose leashes are being held by "Le Bouvier" on the northern hemisphere chart. On a later close-up chart they are labeled "les Levriers" ("the greyhounds") and depicted as two leashed dogs, the leashes being held by Boötes.

This Italian asterism "Levrieri" is the IAU constellation Canes Venatici.

Griffin:

This Arabic asterism "Ghirifin" (غريفين) is the IAU constellation Phoenix.

Grill:

This Lokono (Arawak) asterism "Yorhada" is the Great Square asterism in the IAU constellation Pegasus (Rybka 2018). It is a grill taken up into the sky by the seven hunters of the myth of Siritjo.

Grivenescos:

This asterism is the IAU constellation Cancer as listed by German astronomer Johann Bayer (1572-1625), who describes this as a "barbarian" name.

Grizzly Bear:

This Shoshone asterism is the IAU constellation Cygnus (see Northern Cross below). He climbed a tall mountain to go hunting and the snow and ice crystals behind him is the Milky Way.

This Kootenai star is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (see Little Dipper below).

Grizzly Bear and Three Hunters:

There are three First Nations asterisms by this name:

- One Sčicwi (Coeur D'Alene) asterism is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper above). The bucket of the dipper is the bear, and the stars of the handle are the hunters (Shandin Pete 2022). In the Sčicwi (Coeur D'Alene) version of this story the hunters are grizzlies that are brothers-in-law of the grizzly being hunted. A Nlaka'pamux version has three black bears hunting the grizzly.
- One Nlaka'pamux asterism is the Little Dipper asterism in the IAU constellation Ursa Minor (see Little Dipper below). Alpha (α) Ursae Minoris (Polaris) is the Grizzly being hunted (Pete

2022). The stars Delta (δ), Epsilon (ε), and Zeta (ζ) Ursae Minoris are the hunters, and Theta (θ) Ursae Minoris (beside Zeta) is that hunter's dog.

- One Salish asterism is the Big Dipper Asterism in the IAU constellation Ursa Major (see Big Dipper above). The bucket of the dipper is the bear, and the stars of the handle are the wolves hunting it (Shandin Pete 2022).

Grizzly in the Sky:

This Salish star "Smxéy̓čn̓asqt" is Alpha (α) Ursae Minoris in the IAU constellation Ursa Minor (Pete 2023). This was originally documented in the early 1800's by Gregory Mengarini SJ.

Grizzly Sisters:

This Paiute asterism is the IAU constellation Aries. They play with the Deer Sisters (see above).

Gro Brzhin:

This Tibetan gyukar (lunar house) is the star Alpha (α) Lyrae (Vega) in the IAU constellation Lyra.

Groom:

This Korean asterism "Sinlang" (신랑) is a fan of stars in the IAU constellation Cepheus. The central star is Delta (δ) Cephei, and from this star three lines run out to the stars Epsilon (ε) and Zeta (ζ) Cephei, and HIP 109592.

Group:

See Many, below, for this Armenian asterism.

This Mayan asterism "Motz" ("the group") is the Pleaides cluster in the IAU constellation Taurus. The Mayan creation story, Popol Vuh, tells of how 400 boys trick Zipacna (a crocodile) to dig a giant post hole for their house and then try to kill him. Zipacna pulls the house down on them, killing the boys, who are transformed into the Pleiades.

This Aymara asterism "Qutu" is the Pleiades cluster in the IAU constellation Taurus (Urton 1981). Compare this to the Quechua asterism "Qutu" (see Pile, below).

Group of Arrernte Camps:

This Arrernte asterism is the IAU constellation Musca (Maegraith 1932). Maegraith writes that this represents a group of camps of the Arrernte people.

Group of Birds:

This Kolam asterism "Kovela Kor" is the Pleiades cluster in the IAU constellation Taurus (Vahia et al 2014). They saw this as one large bird with several smaller ones.

Group of Eavesdroppers:

This Tzotzil (of Zinacantán) asterism is the sword of Orion in the IAU constellation Orion (Milbrath 1999).

Group of Islands:

This Filipino (Mayayaw Ifugao) asterism "Mupu" or "Pupu" is the Pleiades cluster in the IAU constellation Taurus (Masong 2017).

Group of Men:

This /Xam (San) asterism is the IAU constellation Corona Australis (Slotegraaf 2013, Alcock 2014). The story is that a young woman, who should not have looked at a group of men for fear of harm to them, saw some sitting together at a rock rabbit's house of branches. Her looks fixed them and the branch house into stars in the sky.

Group of Rocks:

This Filipino (Mayayaw Ifugao) asterism "Nachalipo'pong" is the IAU constellation Corona Australis (Masong 2017).

Group of Soldiers:

This large Chinese xing guan from the Three Kingdoms to the Ming Dynasty is made up of stars of the IAU constellations Lupus, Norma, and Scorpius. In the center is a quadrilateral of the stars HIP 79320, 80212, 80945, and 80337. From each of these stars two lines run out:

- From HIP 79320 lines run out to the determinative star, Eta (η) Lupi and HIP 78323,
- From HIP 80212 lines run out to Epsilon (ε) and Theta (θ) Normae,
- From HIP 80945 lines run out to HIP 81305 and 81972, and
- From HIP 80337 lines run out to N and H Scorpii.

This later Chinese xing guan Jīzú (积卒) has shrunk to a line of two stars in the IAU constellation Lupus: Eta (η) and Theta (θ) Lupi.

This Chinese Chenzhuo xing guan is a quadrilateral of stars with two lines running out from each corner in the IAU constellations Lupus, Norma, and Scorpius. The square is made up of the stars HIP 80945, 80337, 79320, and 80212. From these corners the lines are:

- From HIP 80945 to HIP 81305 and 81972,
- From HIP 80337 to HIP 81304 and HIP 80911,
- From HIP 79320 to Eta (η) and Theta (θ) Lupi, and
- From HIP 80212 to Epsilon (ε) and Theta (θ) Normae.

Group of Stars:

This Tukano asterism "Ñohkoatero" or "Grupo de Estrelas", is their name for the Pleiades cluster in the IAU constellation Taurus (Cardoso 2015, Cardoso 2016).

This Basque asterism "Izar Molkoak" is the Pleiades cluster in the IAU constellation Taurus (Frank 2021).

This Italian (Piedmont and Ligurian Alps) asterism "Gnoch" or "Bucc 'd este`le" ("group of stars") is the Pleiades cluster in the IAU constellation Taurus.

This Jū/Wãsi, Nyae Nyae !Kung and Jū /'hoansi asterism "//kanosi" is the IAU constellation Orion (Alcock 2014). The belt of Orion is three zebras (see Three Zebras, below).

Group of Stars (Thrown into the Sky):

This !Xõ asterism "Kanandura" ("a group of stars thrown into the sky by God") is the Pleiades cluster in the IAU constellation Taurus.

Group of Theodosius:

This is a Welsh name for the Pleiades cluster in the IAU constellation Taurus as listed by Victorian folklorist Marie Trevelyan (1852 – 1922) in her *Folk-lore and Folk-stories of Wales* (1909). This is probably a reference to Theodosius of Bithynia (169 – 100 B.C.E.), an astronomer and mathematician. Freer (2004) lists this as "Theodosius' Group".

Group of Three Stars:

This Shona asterism "Chimutatu" is the belt of Orion in the IAU constellation Orion.

Group of Women:

This Pitjantjatjara asterism "Kunkarunkara" or "Kungkarangkara" is the Pleiades cluster in the IAU constellation Taurus (Clarke 2009, Hamacher and Norris 2011). They used it to determine when the breeding season of the Dingo was as they used the pups as a food source. It was also used as an indicator of frost season. They are being chased by the hunter "Nirunya" or "Njiru" (see Hunter, below), whom they constantly outsmart. Compare this to Seven Young Sisters, below.

This Mutitjulu asterism "Kungkarungkara" is the Pleiades cluster in the IAU constellation Taurus (Clarke 2015). Compare this to Seven Young Sisters, below.Their rising marks the beginning of the cold and dry nyinnga season (May to September).

This Yankunytjatjara asterism "Kunkarangkalpa" is the Pleiades cluster in the IAU constellation Taurus. Compare this to Seven Young Sisters, below.

Groups of Small Things Thrown into the Air:

This Dëne Suhne asterism is the Pleiades cluster in the IAU constellation Taurus (Cannon 2021).

Grove of Blodenwedd:

This Welsh asterism listed by Victorian folklorist Marie Trevelyan (1852 – 1922) in her *Folk-lore and Folk-stories of Wales* (1909). Ian Freer (2004) in his article *The British Constellations* believed the "Grove of Blodeuwedd" to be the IAU constellation Cepheus.

Grown-up:

This Korean asterism "Eoleun" (어른) is a line of two stars in the IAU constellation Columba: Alpha (α) Columbae (Phact) and Beta (β) Columbae (Wazn).

Grumium:

See Snout, below.

Grus:

This tiny constellation contains the star Alpha (α) Gruis (Alnair) which is the 31st brightest star and Beta (β) Gruis (Tiaki) which is the 62nd brightest star. The stars of this constellation show up in 72 asterisms in this handbook.

This IAU constellation (IAU abbreviation Gru), "the crane", was one of twelve constellations identified by the Flemish astronomer Petrus Plancius (1552 – 1622) in 1592 based on the observations of Dutch navigator and uranographer Pieter Dirkszoon Keyser (1540 – 1596) and Dutch navigator Frederick de Houtman (1565 – 1599) using some stars previously assigned to Piscis Austrinus. De Houtman originally called it "Den Reygher" ("the Heron"). It first appeared on globes by Plancius published in Amsterdam by

cartographer Jodocus Hondius (1563 – 1612) in 1598, 1600 and 1601 under the name “Krane” with a subtitle with the Latin name “Grus” (“crane”) and, though this was changed to “Crane” on Hondius’ 1601 globe.

Dutch historian Paulus Merula (1558 – 1607) listed it as “Phoenicopterus” and “Rondtvleugel”.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) depicts a crane in flight for this constellation but the image that I was working from did not reveal which name was used for this constellation.

When Dutch uranographer Willem Blaeu (1571 – 1638) listed it on his globe in 1603, and when Johann Bayer listed it in 1603 in his *Uranometria*, they used “Grus” as the name.

German uranographer Johann Bayer (1572 – 1625) depicts “Grus” in his *Uranometria* in 1603 as a flying crane.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts “Grus” as a crane standing facing to our left.

“Grus” is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and depicted as a crane in flight as viewed from below.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the name “Grus” for this constellation.

“Grus” is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a crane in flight as viewed from below.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts “Grus” as a crane in flight as viewed from above.

Grus is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661.

Dutch cartographer Frederik de Wit’s *Planisphaerium Coeleste* (1670) depicts Grus as a bird walking with its wings outstretched.

Edward Sherburne lists Grus in his *Sphere of Marcus Manilius* in 1675.

Grus is listed by English astronomer Edmond Halley in his *Catalogus Stellarum Australium* in 1679 and depicted as a heron on his southern star chart of 1678.

The 1688 celestial globe of Italian priest and uranographer Vincenzo Maria Coronelli (1650-1718) includes this constellation (Stevenson 1921).

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts “Grus” as a heron about to take flight. Hevelius’ *Firmamentum Sobiescianum sive Uranographia* (1690) depicts “Grus” as a heron about to take flight. The star lines are depicted as follows:

- Its “head” is Gamma (γ) Gruis,
- Its “neck” is a line running from Gamma (γ) Gruis through Lambda (λ) Gruis to Delta (δ) 1 Gruis,

- Its “body” is a line from Delta (δ) 1 Gruis to Beta (β) Gruis,
- One “wing” is a triangle made by Delta (δ) 1, Beta (β), and Alpha (α) Gruis (Alnair),
- One “wing” is a quadrilateral made by Delta (δ) 1, Beta (β), Iota (ι) and Theta (θ) Gruis, and
- Two lines run out from Beta (β) Gruis to form “legs”:
    - One to Zeta (ζ) Gruis, and
    - One to Epsilon (ε) Gruis.

Dutch uranographer Carel Allard’s *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) depicts “Grus” as a heron in flight.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley’s pirated catalogue of Flamsteed’s observations of 1712, label this constellation “Columba Noachi” and depict it as a dove in flight.

Grus is listed in English astronomer John Flamsteed’s *Atlas Coelestis* in 1729.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts Grus as a crane taking flight to our right.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts “Grus” as a crane taking flight.

German engraver and cartographer Tobias Conrad Lotter’s *Planisphaerium Coeleste* (1750) depicts Grus as a crane taking flight.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Grus as a crane in flight.

French astronomer Abbé Nicolas Louis de Lacaille’s *Planisphère des Étoiles Ausralea* (1756) depicts “la Grue” as a heron in flight as viewed from below.

French uranographer Gabriel Phillipe de la Hire’s *Planisphere Celeste* (1760) depicts “La Grue” as a heron in flight.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts “Grus” as a crane taking flight.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts “la Grue” as a crane taking flight, as does the 1778 edition.

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts “Grus” as a heron about to take flight.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts “Grus” as a crane taking flight.

Grus is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801) as “Kraanvogel” (“crane”): It is depicted as a crane in flight.

American uranographer William Croswell (1760 – 1834) depicts Grus on his *Mercator Map of the Starry Heavens* in 1810 as a heron standing with wings spread.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists "Grus" in his *Celestial Atlas* in 1822.

American uranographer Elijah Burritt's *Southern Circumpolar Map for each Month in the Year* (1835) depicts "Grus the Crane" as a heron with wings spread.

"Grus" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875): He indicates the borders of this constellation on the chart but offers no illustration of it.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this constellation simply as "Crane".

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Grus, The Crane" as an official constellation "recognized in the catalogue of the British Association".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Grus" and describes it as a "Crane", incorrectly attributing it to Bayer.

Grus is depicted on standard IAU charts this way:

- The "body" is a five-sided figure made up of Alpha (α) Gruis (Alnair), Beta (β) Gruis (Tiaki), Iota (ι) Gruis, Theta (θ) Gruis, and Delta (δ) 1 and 2 Gruis.
- The "neck" runs from Alnair through Lambda (λ) Gruis and HIP 108543 to a "beak" at Gamma (γ) Gruis, and
- Two lines forming "legs" run out from Tiaki:
    - One to Zeta (ζ) Gruis, and
    - One to Epsilon (ε) Gruis.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict in Grus their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* as a line of stars running from Gamma (γ) Gruis through HIP 108543, Lambda (λ) Gruis, Mu (μ) 1 and 2 Gruis, Delta (δ) 1 and 2 Gruis, Beta (β) Gruis, and Epsilon (ε) Gruis to Zeta (ζ) Gruis. A single line runs from Delta (δ) 1 and 2 Gruis to Alpha (α) Gruis (Alnair).

Sky and Telescope Magazine, founded in 1941, depicts Grus in a similar fashion to Hlad et al in their magazine and publications:

- The "body" of Grus is a triangle made up from Alpha (α) Gruis (Alnair), Beta (β) Gruis, and Delta (δ) 1 and 2 Gruis, and
- Two lines form "wings":
    - One runs from Beta (β) Gruis through Epsilon (ε) Gruis to Zeta (ζ) Gruis, and
    - One runs from Delta (δ) 1 and 2 Gruis through Mu (μ) 1 and 2 Gruis, Lambda (λ) Gruis and HIP 108543 to Gamma (γ) Gruis.

Grus Quartet:

This **telescopic** asterism is a quartet of galaxies in the IAU constellation Grus which were discovered by James Dunlop in 1826. The galaxies in this cluster are:

- Barred spiral galaxy NGC 7552
- NGC 7599
- NGC 7590
- Spiral galaxy NGC 7582

This is also known as the Four Horse Chariot Team of Grus (see above).

Guahayona:

This **telescopic** Taíno star "Guahayona" is the K type star HAT-P-26 in the IAU constellation Virgo (magnitude 11.76). It received this name in the IAU's NameExoWorlds competition in 2022. Guahayona is a mythological hero who was "the one who shone with his own light" and is identified with the morning star and Venus. It has an exoplanet, HAT-P-26b, "Guataubá", which is named for the herald of impending hurricanes and who brought clouds, lightning, and thunder.

Guanaco:

There are two Mapuche asterisms by this name:

- One, "Mañke", is stars of the IAU constellations Sagittarius and Scorpius (Catricheo 2022). This is the "tail" of Scorpius plus two stars from Sagittarius: Theta (θ), Iota (ι) 1, Kappa (κ), Lambda (λ), and Upsilon (υ) Scorpii and Eta (η), Epsilon (ε), Delta (δ), and Gamma (γ) Sagittarii.
- One, "Luan" or "Poxo Luan" is made up of stars of the IAU constellations Centaurus and Lupus (Menares 2008):
    - The "head" is Epsilon (ε) Centauri,
    - The "neck" is Epsilon (ε) and Zeta (ζ) Centauri,
    - The "back" is Zeta (ζ), Mu (μ), and Nu (ν) Centauri,
    - The "feet" are Eta (η) Centauri and Alpha (α) Lupi

NOTE: The guanaco is a camelid, related to camels and llamas, which is found in South America.

Guard:

This Egyptian Dendera star is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes (Hoffman 2017) and is part of their asterism Tawaret (see below).

Guard of the North:

This Arabic star "Al Ḥāris al Samā'" or Al Haris Al-Sama" is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes:

- Boötes was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his Book of the Fixed Stars in 964 (Hafez 2010) with the name "Hāris al-Shamāl" as well as the names "Al-'Awwā", "al-Sayyāh", and "al-Naqqār".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Háris as semá, keeper of heaven."

Guard of the Sun:

This Chinese xing guan Tàiyángshǒu (太阳守) is the star Chi (χ) Ursae Majoris in the IAU constellation Ursa Major. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained

unchanged in later Chinese sky lore. The IAU approved the name Taiyangshou for Chi (χ) Ursae Majoris.

This Chinese Chenzhuo xing guan "Taiyangshou" is the star Psi (ψ) Ursae Majoris in the IAU constellation Ursa Major.

Guardian Messenger:

This Chaldean star "Papsukal" is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes.

Guardian of Arcturus:

This Latin asterism "Arcturi Custos" is the IAU constellation Boötes as listed in the 15th century *Alfonsine Tables*. This is related to an earlier name of the star Arcturus (see Guardian of the Bear, below).

Guardian of Europe:

This Latin asterism "Custos Europae" is the IAU constellation Canis Major.

Guardian of the Bear:

This Greek star "Ἀρκτοῦρος", "Arktoúros", or "Arktouros" is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes. The name has been used since the time of Hesiod (c 700 B.C.E.), when he listed it in his *Works and Days*. It was replaced by Arabic names, but the name was revived during the Renaissance. This is related to their asterism and star Arcas (see above). Originally the name was used by Hesiod, Aratus (315 – 240 B.C.E), and Ptolemy (c.100 – c.170) for the entire constellation, but eventually it became used for the star Arcturus and another name used by Hesiod, "Arktofýlax" or "Arctophylax" was used for the constellation instead (see Bear Watcher, above) This led to uranographers using both names of the asterism up until the 18th century and combinations such as "Carlwaynesterre", which is a combination of the asterism Men's Wagon (see below) and this star:

- 1st century Roman architect Vitruvius called it "Custos" ("guardian") and "Custos Arcti" ("close guardian".
- The Roman poet Ovid (b. 43 B.C.E.) called it "Custos Erymanthidos Ursae" ("Guardian of the Erymanthian Bear").
- English scholar and translator John Wycliffe (c. 1320 – 1384) lists it as "Arture" in a translation of Amos v.8, and Cornish translator John Trevisa (1342 – 1402) lists it as "Arthurus" and other variations of the name include "Arturis", and Ariture".
- English author Geoffrey Chaucer (c.1340s – 1400) listed Arcturus as "Arctour".
- The mid 15th century Wein, Oesterr. National Bibl., manuscript Lat 5415, ff.168v-169r lists this star as "Alrameth".
- German uranographer Johannes Stöffler's Constance Celestial Globe (1493) lists this star as "Arcturus".
- The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) lists "Arcturus" for this star.
- The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) lists "Arcturus".
- English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) lists this star as "Arture" and "Alramec".

- Johannes Kepler's *Stella Nova in Pede Serpentarii* (1606) lists this star as "Arturo".
- This star is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as "Arcturus".
- German astronomer Johann Bayer (1572-1625) listed it as "Arcturzona".
- The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) list the names "Arctophylax" and "Bootes" for this constellation.
- "Arcturus" is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661.
- *The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678* by English uranographer James Clerk lists "Arcturus".
- French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760)
- French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) lists Arcturus.
- The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) lists Arcturus.
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Arcturus".
- Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this star as "Arturo" in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).
- William Herschel lists "Arcturus" in his *Catalogue of 500 new Nebulae* in 1802.
- American uranographer William Croswell (1760 – 1834) lists "Arcturus" on his *Mercator Map of the Starry Heavens* in 1810.
- German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this star as "Arcturus".
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists "Arcturus" in his *Celestial Atlas* and his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822).
- English Admiral Henry William Smyth's *Prolegomena* of 1844 lists "Arcturus" and his *Bedford Catalogue* in 1844 lists "Arctophylax, or bear keeper", but associates this name with the entire constellation. The name Arcturus was often used for the entire constellation.
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich lists this star as "Arcturus".
- This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Arcturus": The author is unknown, but it is based on Jamieson's *Celestial Atlas*.
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists Alpha (α) Boötis as "Arcturus (Job ix. 9)".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists Alpha (α) Boötis as "Arcturus".
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as "Arcturus" and translates it as "Bear Driver".
- German astronomer Hermann Joseph Klein (1844 – 1914) lists "Arcturus" in his *Star Atlas* (1893).
- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Arcturus" and describes it as "Guardian of the bear".
- *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists this star as "Arcturus… Gk. The Bearkeeper".

- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and the 14th (1959) list "Arcturus" for this star.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this star as "Arcturus".
- This constellation is known in Germany as "Arctur" and to the Italians and Spanish as "Arturo".
- The IAU approved the name Arcturus for the star Alpha (α) Boötis.

Guardian of the Hesperides:

This Latin asterism "Custos Hesperidum" or "Hesperidum Custos" is the IAU constellation Draco and relates to stories of Draco guarding the Garden of the Hesperides. Johann Bayer's *Uranometria* (1603) lists "Hesperidum Custos". English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Hesperidum Custos". Compare this to Ladon, below.

Guardians:

This asterism is the stars Beta (β) Ursa Minoris (Kochab) and Gamma (γ) Ursae Minoris (Pherkad), which are the two end stars in the "Little Dipper" asterism of the constellation Ursa Minor (see Little Dipper, above). They are called this as they are constantly circling Alpha (α) Ursae Minoris (Polaris). *The safegarde of saylers*, of Cornelius Antoniszoon (b. ca. 1499) translated out of Dutch into English by Robert Norman hydrographer in 1605 lists the "Guards".

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) lists the name "le Marins la Claire des Gardes" for the Little Dipper asterism.

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) lists these stars as "Guardians" in his book *The Stars - A New Way to See Them* (1952). Compare this to Guardians of the Pole, below.

This Norwegian asterism "Vokterne" is the stars Beta (β) Ursa Minoris (Kochab) and Gamma (γ) Ursae Minoris (Pherkad), which are the two end stars in the "Little Dipper" asterism of the constellation Ursa Minor (see Little Dipper, above).

Guardians of the Pole:

This asterism is the stars Beta (β) Ursa Minoris (Kochab) and Gamma (γ) Ursae Minoris (Pherkad), which are the two end stars in the "Little Dipper" asterism of the constellation Ursa Minor (see Little Dipper, above). They are called the Guardians of the Pole as they are constantly circling Alpha (α) Ursae Minoris (Polaris):

- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Guardians of the Pole" for these stars.
- *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists the star Gamma (γ) Ursae Majoris as "Guardian of the Pole".
- Compare this to Guardians, above.
- Jeffrey Corder lists this as Corder 2755.

Guards:

This Portuguese asterism “Las Guardas” or “Os Guarsas” (“the guards”) is the IAU constellation Crux as described by Portuguese navigator João Faras in 1500.

This Murrawarri asterism is the Pointer Stars (see Pointers below). These two guards are “Giduba:mbi” and “Dhadeba:mbi”, who are guarding the sacred fires (see Sacred Fires, below).

This Spanish asterism “Guardare” is the stars Beta (β) Ursae Minoris (Kochab) and Gamma (γ) 1 and 2 Ursae Minoris in the IAU constellation Ursa Minor as listed by English astronomical writer Thomas Hood (c. 1590). Compare this to the Arabic and Bedouin asterism Two Guards (below). English alchemist and translator Richard Eden (c.1520 -1576) in his 1572 translation of the *Arte of Navigation* written Spanish navigator Martin Cortés 1532 – 1589) gave the name “Guardians” or “Guardians of the North Pole”. *The Safegard of Saylers*, translated by the English mariner Robert Norman in 1632 from the rutter of Dutch navigator Cornelius Antoniszoon (1499 -c1557) lists these stars as the “Guards”, as does John Smith’s *The Sea-Mans Grammar* (1692). Italian astronomer Giovanni Batista Riccioli (1598 – 1671) listed it as “guardsmen” and “guardians”. American uranographer Elijah Burritt’s *The Constellations for each Month in the Year* (1835) lists these stars as “the Guards”. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Guardas”.

Guards of the North:

This Mayan asterism is the Little Dipper asterism in the IAU constellation Ursa Minor (see Little Dipper below).

Gudja:

See Water Goanna, below.

Gud’s Fairies:

This Saxon asterism “Gudssfeen” is the IAU constellation Lyra as depicted in the *Nördliche Sternhimmel* sky map of O. S. Reuters based on the work of German astronomer Johann Elert Bode (1747 – 1826).

Guest House:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a twisting line of stars in the IAU constellations Camelopardalis and Cassiopeia: HIP 20266, 19177, BE Camelopardalis, CQ Camelopardalis (the determinative star), HIP 8362, 35 Cassiopeiae, HIP 5566, HIP 4572, and HIP 3951.

This Chinese xing guan “Chuánshè” (传舍) is a line of stars in the IAU constellations Camelopardalis and Cassiopeia: HIP 16292, 16281, 16228, and 13665, and 55 and 32 Cassiopeiae, and HIP 117371.

This Chinese Chenzhuo xing guan “Chuánshè” is a long curving line of stars in the IAU constellations Cassiopeia and Cepheus: From Alpha (α) Cephei (Alderamin) it runs through Xi (ξ) Cephei, 26 Cephei, Iota (ι) Cephei, HIP 113864, Omicron (ο) Cephei, 50 Cassiopeiae, and HIP 12273 to HIP 14862.

Guide:

This Ayt Xebbac asterism “Amanar” (Arabic “Elmecbuḥ”) is the IAU constellation Orion (Souag 2019).

Guide of the People:

This Ininew (Cree) star is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Buck 2016).

Guide Star:

This German star "Leit Stern" is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor as listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

Guiding Star:

This Norse star "Leidarstjarna" is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Persson 2022).

This Phoenician asterism "Parrasis" is the IAU constellation Ursa Major as listed in R. H. Allen's *Star Names* in 1899. Allen later names it "Doube or Dōbher (?), similar to the Arabian title" (a reference to the Arabic asterism Back of the Bear, see above) and that English mythologist Jacob Bryant (1715 – 1804) called it "Cahen ourah, whatever that may be".

This Hebrew asterism "Pharashah" is the IAU constellation Ursa Major as listed in R. H. Allen's *Star Names* in 1899.

Guiding Stars:

This Norwegian asterism "Ledestjernene" the stars Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus. Compare this to Pointers, below.

Guitar:

This **telescopic** asterism is NGC 3561 (Arp 105), a pair of interacting galaxies in the IAU constellation Ursa Major. John Herschel listed it as h 835 and later as GC 2326 in his *General Catalogue* of 1864.It is also known as Ambartsumian's Knot (see above).

Gulf of Mexico Nebula:

This **telescopic** asterism is dark nebula is LDN 935 in the IAU constellation Cygnus. Size 150' X 40'. This is in the catalogues of American astronomer Beverly Turner Lynds (1929 – 2024)

Gumala:

This **telescopic** Malay star "Gumala" is HIP 94645 (HD 179949) in the IAU constellation Sagittarius (magnitude 6.24). A Gumala is a magical bezoar stone found in snakes or dragons. It has an exoplanet named Mastika, which means "gem" or "precious stone".

Gum Nebula:

This **telescopic** asterism is emission nebula Gum 12 is in the IAU constellation Vela. It was named for its discoverer, Australian astronomer Colin Stanley Gum (1924 – 1960). *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists the "Gum Nebula".

Guman:

This Wardaman star is Kappa (κ) Orionis (Saiph) in the IAU constellation Orion (Cairns and Harney 2003).

Gumball Cluster:

This **telescopic** asterism is the globular cluster Messier 12 (NGC 6218) in the IAU constellation Ophiuchus. It was discovered by French astronomer Charles Messier in 1764. Messier described it as a

"nebula without stars": One needs a telescope of at least 20 cm (8-inch) aperture to resolve the stars involved. It is listed in the General Catalogue of 1864 as GC 4238 and in John Herschel's catalogue as h 1971. *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) simply calls this a "Ophiuchus Cluster".

Gungangman:

This Wardaman star is Gamma (γ) Cygni in the IAU constellation Cygnus (Cairns and Harney 2003).

Gunggun:

This Darkingjung asterism is the belt of Orion in the IAU constellation Orion (Jones 1993).

Gunibuu:

See Robin, below.

!Guonni:

This /Xam star "!Guonni" is either Beta (β) Aquilae (Alshain) and Gamma (γ) Aquilae (Tarazed) in the IAU constellation Aquila. This is part of their asterism the //kohai stars (see below). !Guonni and ≠ku-kyam (see Cape Daisy, above) are sisters of !Gaunu (see Great Star, above) which is the star Altair. We are currently unsure exactly which represents each sister. !Guonni is named for a //garraken flower which grows from a bulb.

Guramana:

This Wardaman star is Beta (β) Canis Minoris (Gomeisa) in the IAU constellation Canis Major (Cairns and Harney 2003).

Guugaarr:

This Euahlayi star is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius (Fuller et al 2014).

Guyaru:

This Wardaman star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Cairns and Harney 2003).

Gwainbilla:

This Dharawal star is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus (Bursill 2014).

Gwyn and Gwyrthur:

This Welsh asterism is the IAU constellation Gemini. They are the sons of Greidawl, the "rivals of May" who are battling in the sky.

Gyes:

This **telescopic** asterism "Gýes Erídani" is the intermediate spiral galaxy NGC 1232 (Arp 41) in the IAU constellation Eridanus. . It was discovered by in October 1784 by English astronomer William Herschel, which he listed as "II 258". It is GC 651 in the *General Catalogue* of 1864. This is O'Meara 11 in Astronomer Stephen James O'Meara's *Hidden Treasures Catalogue* (2007). This name appears in *The*

Catalogue of One Thousand Named Galaxies by astronomers Gerard Bodifee and Michel Berger (2010). Gyes (sometimes written Gyges) is one of the three hekatoncheires, the hundred-armed giants figuring in the early phases of Greek cosmogony. It is also known as the "Eye of God" (see above).

Gypsy Moth Cluster:

This **telescopic** asterism is the open cluster NGC 5662 in the IAU constellation Centaurus. It was discovered by French astronomer Nicolas Louis de Lacaille in 1752 and added to Scottish astronomer James Dunlop's catalogue in 1826. It is GC 3922 in the *General Catalogue* of 1864.

Gyre in the Hilt of the Sword:

This Latin asterism "gyrus ille in capulo ensis" is the Double Cluster (see above) as listed in the 1551 edition of the *Almagest*. This is listed on Stellarium as the "Sword Handle". This refers to the sword of Perseus. Compare this to Sword Hand of Perseus, below.

Gyulbudaghian's Nebula:

This is a variable reflection nebula (HH 215, GM 1-29) surrounding the star PV Cephei in the IAU constellation Cepheus. It was discovered by Armenian astronomer Armen Gyulbudaghian at the Byurakan Observatory in 1977.

Ha-niddam mi-shtei ha-surot:

This is a Hebrew name for Alpha (α) Librae (Zubenelgenubi) as listed in the star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985).

Ḥā-tchat:

This Egyptian decan "Ḥā-tchat" was in the IAU constellation Leo. In later Hellenistic texts it was named "ητητ" ("Ha-tet"). In the Testament of Solomon, it became "Leroel" or "Kumeatêl", the 2nd century B.C.E. Jewish philosopher Aristobulus of Paneas called it "Effraa", in Greek Hermeticism it became "Ipi", in Latin Hermeticism "Zachor", 4th century Roman astrologer Julius Firmicus Maternus called it "Sic", Cosmas of Maiuma (d. 760) called it "Isis", French scholar Joseph Justus Scaliger (1540 - 1609) called it "Sithacer", and German Jesuit astronomer Athanasius Kircher (1602 – 1680) called it "περοεογς" ("Peroeus"). It has been depicted as a naked man with a lunar crescent on his head and a scepter in his hand.

Ha'amonga 'o Maui:

This Tongan asterism is made up of stars of the IAU constellation Orion. The stars Alpha (α) Orionis (Betelgeuse), Gamma (γ) Orionis, (Bellatrix), Kappa (κ) Orionis (Saiph) and Beta (β) Orionis (Rigel) form the corners. Inside is the asterism "Toloa" (see Wild Duck below).

ḫab-ba-tum:

This Akkadian asterism "ḫab-ba-tum" from the Ura = hubulla XXII lists (Block, Yigal, and Horowitz 2015) is unidentified currently. The Sumerian name is mul lúsa-gaz.

Habasiranu Demon:

This Babylonian asterism "EN.TE.NA.BAR.HUM" from the MUL.APIN tablets (Anthony 1996) or "habasiranu" or "MUL.EN.TE.NA.BAR.GUZ" (Hunger 1992) from the *Astrological Reports to the Kings* (~900 – 600 B.C.E) is the IAU constellation Centaurus.

This Persian asterism “EN.TE.NA.MAS.SIG” or “habasiranu” from the Persian (Achaemenid) Period (539 – 331 B.C.E.) as listed in the K 250 and VAT 9418 lists is the IAU constellation Centaurus (Boll, 1918, Jeremias 1929). Ernst Weidner lists it as “en-te-na-bar-sig” in his *Fixsterne* in 1971

This Chaldean asterism “mul ha-ba-si-ra-nu” from the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period (Koch-Westenholz 1995) is a quadrilateral of four stars: Beta (β) Ceti (Diphda), Iota (ι) Ceti, Tau (τ) Ceti, and Upsilon (υ) Ceti. Koch-Westenholz defines it as “the mouse-like”.

This Akkadian asterism “Habasiranu” (Hunger 1992) from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) or “ha-ba-si-ra-nu” from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015)is the IAU constellation Centaurus.

This Sumerian asterism “[mu]len-te-na-bar-hum” from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is a quadrilateral of four stars: Beta (β) Ceti (Diphda), Iota (ι) Ceti, Tau (τ) Ceti, and Upsilon (υ) Ceti.

Hadar:

See Settlement, below.

Hadari:

This Arabic star is Alpha (α) Phoenicis in the IAU constellation Phoenix.

Hadāri Causing the Swearing of a Bad Oath:

This Arabic star “al-zalīm wa-huwa hadāri al-muhnith yatlu’ qabla suhyal min matla’ihi” (“the ostrich: it is hadāri causing the swearing of a bad oath; it rises before suhayl at the same rising place”) is Beta (β) Centauri (Hadar) in the IAU constellation Centaurus as listed in the star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003).

Hades Supernova Remnant:

This telescopic asterism is SNR G288.2+5.6 in the IAU constellation Centaurus. This is next to A Centauri. This was discovered by amateur astronomers Aygen Erkaslan, Daniel Stern, Bray Falls, and Rob Fesen.

Hagrid’s Dragon:

This **telescopic** asterism is the open cluster NGC 2301 in the IAU constellation Monoceros. It was discovered by William Herschel in 1786 who listed it as “VI 27” in his catalogue. It is GC 1465 in the *General Catalogue* of 1864. In the 19th century it was known as Copeland’s Golden Worm, later named the Great Bird Cluster (see above) by Phil Harrington and as the “Sparrow” by South African astronomer Carol Botha. More recently astronomers who are fans of J. K. Rowling’s *Harry Potter* series named it Hagrid’s Dragon. This is O’Meara 36 in astronomer Stephen James O’Meara’s *Hidden Treasures Catalogue* (2007), which lists the names “Hagrid’s Dragon”, “Romulan War Bird”, and “Klingon Battle Cruiser”.

Hair:

This French asterism “Chevelure” is the IAU constellation Coma Berenices. French astronomer Joseph Jérôme Lefrançois de Lalande (1732 –1807) gave it the Latin name “Capilli” (“hair”).

This Italian asterism “Chioma” is the IAU constellation Coma Berenices.

This German asterism “Haupthaar” is the IAU constellation Coma Berenices.

This Belarussian asterism “Valosny”, “Valoski”, “Valasazhar”, or “Czary-valasazhary” is the Pleiades cluster in the IAU constellation Taurus (Avilin 2009). Avilin writes that these are believed to be names of the wives of the God Veles in some myths and that “a surviving legend from the Horvats tells of seven vil, souls of deceased brides who live in the Pleiades and take part every night in khorovod (walking in a circle holding hands with each other)”.

Hair Braids:

This Arabic asterism “adh-dhawa’ib” (الذوائب), meaning “hair braids” or “flowing locks of hair” is a cloud of stars attached to a curve of stars in the IAU constellation Orion:

- The cloud of stars is 1110 Tauri to 137 Tauri.
- The curve or “braid” starts at 15 Orionis, it runs through 11 Orionis, Omicron (o) 2 Orionis, Pi (π) 2, 3, 4, and 5 Orionis, ending at Pi (π) 6 Orionis.

Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) lists this as “Dhawā’ib al-Jauzā’” and describes it as the curve of the stars Pi (π) 1, 2, 3, 4, 5, and 6 Orionis in the IAU constellation Orion in his *Book of the Fixed Stars* in 964 (Hafez 2010).

Hair on the Tail:

This Arabic and Bedouin manzil “ʾAl-Ghafr” (ٱلْغَفْر) or “Al-Ġafr” (الغفر) is in the IAU constellation Virgo and is the stars Iota (ι) Virginis (Syrma), Kappa (κ) Virginis, and Lambda (λ) Virginis. This asterism was described by Persian astronomer az-Zajaz. This is a very old Arabic name and opinions on the translation vary. One is that this is the downy hair on the back of a neck which is hard to see, the other translation is “to conceal, cover, or hide” or “concealment”. As these stars are faint, both translations seem to fit. Iranian astronomer Abu Rayhan Muhammad ibn Ahmad al-Biruni (973 – c. 1050) described this asterism as the neck armor (“mighfar”) of their asterism “al-‘aqrab” (see Scorpion, below). Az Zijaz and al Biruni both suggest that Ibn Qutayba (d. 889 C. E.) mentioned this asterism:

- German astronomer Christian Ludwig Ideler (1776 – 1846) listed it as “Elgafar” in his 1838 book *Investigations on the Origin and Significance of the Names of Stars,* describing this manzil as made up of the stars Phi (ϕ), Iota (ι), and Kappa (κ) Virginis.
- W. Brennand lists this as “Al-Gaphr” in his *Hindu Astronomy* in 1896.
- The IAU Working Group on Star Names approved Elgafar as the name for the star Phi (ϕ) Virginis A in 2018. It is also known as Algafar II.

This Yemeni manzil “Ghafr” is the stars Iota (ι) Virginis, Kappa (κ) Virginis, and Lambda (λ) Virginis in the IAU constellation Virgo (Varisco 1995). This appears in the *Kitāb al-Tabṣira Fī’ilm al-Nujūm* of 13th century Rasulid ruler al-Malik al-Ashraf ‘Umar ibn Yūsuf (d 1296).

Hairbrush:

This Sumerian asterism is the Pleiades cluster in the IAU constellation Taurus (Boutet 2014).

Hairy Eyebrow:

This **telescopic** asterism is NGC 4526, a lenticular galaxy with a prominent dusty disk in the IAU constellation Virgo. It is also known as the Lost Galaxy (see below). It was discovered by English astronomer William Herschel in April 1784, who listed as two objects: “I 31” and “I 38”. It is GC 3075 in

the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010) as “Supercilióosa Vírginis” (“heavy eyebrow”). Stephen James O’Meara’s *Hidden Treasures Catalogue* (2007) lists it without a name. It is also known as the “Lost Galaxy”.

Hairy Head:

This Chinese Chinese xiù (lunar mansion) “Mao” (昴) or “Mǎoxiù” (昴宿) was mentioned in the *Shangshuyaodian* 尚书尧典 (*Canon of Yao* of the *Book of Documents*), a collection of political documents from the legendary Emperor Yao, founder of the Han Dynasty. It is the Pleiades cluster in the IAU constellation Taurus. In the *Han shu*, a history of the early Han dynasty that was finished in 111 C.E. this xiù “Mao” was associated to matters concerning the Jizhou territory. In the Tang Dynasty it was compared to the Vedic nakshatra Kṛttikā (Kotyk, 2017, see Cutters, above). This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Mǎoxiù” is the open cluster Messier 45, the Pleiades cluster in the IAU constellation Taurus.

Hairy One of Ursa Major:

This **telescopic** asterism “Hirsútus Úrsae Majóris” is the spiral galaxy NGC 3780 in the IAU constellation Ursa Major. It was discovered in 1789 by William Herschel who listed it as “I 227”. It became GC 2476 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of “the rather ‘hairy’ aspect of this spiral galaxy with its many, thin and fragmented arms”.

Half a Heart:

There are two **telescopic** “half a heart” asterisms:

- One is in the IAU constellation Lyra and is Leiter 12 on astronomer Frank Leiter’s list of asterisms. Its size is 1.5’ X 08’. The stars are 12th magnitude or fainter. It is next to the edge on galaxy UGC 11372.
- One is Ennis 13 in the IAU constellation Lyra. This is an arc of seven stars near Beta (β) Lyrae (Sheliak). The curve of the “half heart” starts at the double stars HIP 92829 and HIP 92833 and runs through HIP 92933 and the double star HIP 92932, Gaia DR3 2092032978811450368, SAO 67604, and SAO 67592 to HIP 92696. The “middle line” of the heart runs from HIP 92696 through SAO 67536, Gaia DR3 2092206495489325056, and SAO 67554 to HIP 92829. NOTE: This is next to another Half a Heart asterism, Leiter 12, which is much smaller.

Half Beast:

This Latin asterism “Semi Fer” is the IAU constellation Centaurus.

- Johann Bayer’s *Uranometria* (1603) lists “Semifer”.
- “Semifer” is listed in the *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638).

Half Breed:

This Hungarian asterism “Félkenyér” is probably the stars of the IAU constellation Corona Borealis. This is part of the end of a wagon handle. The celestial map of Hungarian uranographer Sandor Nagy (1915) depicts this asterism as the end of the shaft of Göncöl's Wagon (see above).

Half Folded Fan:

This **telescopic** asterism is Berkeley 3 (Stock 24) in the IAU constellation Cassiopeia. Robert Zebahl lists it on his *Faint Fuzzies* website. Size 4’ X 4’. René Merting describes it as “roughly arranged in a triangle… looks like a half-folded fan, the brightest star is at the top where the fan converges”.

Half Man:

There are two Latin asterisms with the name “Semi Vir” or “Semivir”:

- One is the IAU constellation Centaurus.
- One is the IAU constellation Sagittarius as listed by R. H. Allen’s *Star Names* in 1899.

Half the Course of the Sun Guiding Star:

The Celtic PRIN or guiding star in the Sequani Calendar in the eighth month, Simivisonnios (“half the course of the Sun”) is Alpha (α) Aquilae (Altair) in the IAU constellation Aquila (Benigni). Their PRIN for the seventh month “Giamonios” (see Beginning of Darkness, above) is also Altair. Compare to their asterism Semiuisoni Prinnios (see Twins, below).

Hall:

This Norse asterism is made up of stars of the IAU constellation Ophiuchus and was created by Canadian Bjorn Jónsson (1920 – 1995) who was trying to reconstruct traditional Scandinavian skies (Kuperjanov 2006).

Hall of Glory:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a triangle of stars in the IAU constellation Leo: Phi (ϕ) Leonis (the determinative star), 87 Leonis and Upsilon (υ) Leonis.

This Chinese xing guan “Míngtáng” (明堂) is a triangle of stars in the IAU constellation Leo: Tau (τ), Upsilon (υ), and 87 Leonis.

This Chinese Chenzhuo xing guan “Míngtáng” is a bent row of three stars in the IAU constellation Leo: Nu (ν) Leonis, 87 Leonis, and Phi (ϕ) Leonis.

Halley’s Coronet:

This **telescopic** asterism is NGC 1532, an edge-on barred spiral galaxy in the IAU constellation Eridanus. It was discovered by Scottish astronomer James Dunlop in October 1826. It is GC 823 in the *General Catalogue* of 1864. Interaction with the amorphous dwarf galaxy NGC 1531 has resulted in plumes of stars above the disk of NGC 1532. It is named after English astronomer Edmond Halley (1656 – 1742). It is also known as “Embracing of Eridanus” (see above).

Haloed of Reticulum:

This **telescopic** asterism “Halonáta Retículi” is the lenticular galaxy NGC 1574 in the IAU constellation Reticulum. It was discovered in 1834 by English astronomer John Herschel who listed it as 2640 in his

catalogue and later as GC 850 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Halved Horse:

This asterism "Equus Dimidiatus" is the IAU constellation Pegasus. This name is listed in Johann Bayer's *Uranometria* (1603). Geminus of Rhodes (1st century B.C.E.) described it as the "fore part of a horse according to Hipparchus". It was often referred to in the earliest texts as cut in two or incomplete with adjectives such as "Dimidiatus" ("halved") and 5th century Greek poet Nonnus referred to it as the "half visible Libyan horse". Danish astronomer Tycho Brahe described it as "Equi Sectio" ("horse's section").

Hamal:

See Head of the Ram, below.

Hamburger:

There are two **telescopic** "Hamburger" asterisms:

- One is NGC 3628, a spiral galaxy with a prominent dust lane in the IAU constellation Leo. This was discovered by English astronomer William Herschel in 1784 who listed it as "V 8" in his catalogue. It is GC 2378 in the *General Catalogue* of 1864. It is also known as King Hamlet's Ghost (see below), Sarah's Galaxy (see below), "King Hamlet's Ghost" (see below), the "Northernmost of the Triad of Leo" (see below) and the Vanishing Galaxy (see below). Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) lists this as O'Meara 58 and lists the names "Hamburger Galaxy" and "Sarah's Galaxy".
- One is the galaxy NGC 5128 (Caldwell 77) in the IAU constellation Centaurus. This was discovered by Scottish astronomer James Dunlop in 1827 who listed it as h 3501. It is GC 3525 in the *General Catalogue* of 1864. It is an edge on galaxy that got this name due to its prominent dust lane. South African astronomer Auke Slotegraaf (1981) lists this galaxy under this name. As a prominent radio source, it is known as Centaurus A.

Hammer Stars:

This Semelai asterism "Bintang Kukul" is the Big Dipper asterism in the IAU constellation Ursa Major (Jaafar and Khairuddin 2014).

Hammerer of Draco:

This **telescopic** asterism "Malleátor Dracónis" is the spiral galaxy NGC 3147 in the IAU constellation Hydra. It was discovered in 1785 by William Herschel who listed it as "I 79". It became GC 2024 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to "the remarkable hammer-like feature at the west side of this galaxy".

Hammerhead Shark:

This Kiribati asterism "Ánoi" is five stars at the "tail" end of the IAU constellation Scorpius (Trussel and Groves 1978): Upsilon (υ), Lambda (λ), Kappa (κ), Iota (ι) 1, Theta (θ), Eta (η), Zeta (ζ) 1, Mu (μ) 1, and Epsilon (ε) Scorpii.

Hammon:

This asterism is the IAU constellation Aries as listed in an "Ancient Zodiac of Egypt" in *Hindu Astronomy* by W. Brennand in 1896. Brennand has labelled this illustration "from the Barberini Museum", which is probably a reference to the 17th century Palazzo Barberini, which is now the Galleria Nazionale d'Arte Antica. This depicts a man with horns carrying a staff in each hand and also gives the name "Amun" (see Amun, above). Aries did not appear at all in ancient Egyptian skies and its stars appeared as part of the asterism Sheep (see below) in Seleucid skies. Baal Hammon was the chief God of Carthage. Brennan attributes this name for this constellation to the 5th century Roman Macrobius Ambrosius Theodosius, who believed that the Egyptians created the signs of the zodiac and that they were later adopted by the Greeks. Brennan writes that the "Ram was assimilated to Jupiter Ammon" by Macrobius. Brennand writes that "the Ram was an animal consecrated to the Egyptian Neitha, a goddess who presided over the Upper Hemisphere, whence Aries was dedicated to her". Neitha is an Egyptian archer Goddess of war, creation, funerals, and motherhood from the Predynastic Period (c. 6000 – 3150 B.C.E) to the time of Ptolemy (c.100 – c.170) and I can find nothing that associated her with a ram.

Hammosciush:

This Hebrew asterism "Hammosciush" is the IAU constellation Triangulum as listed in Edward Sherburne's *Sphere of Marcus Manilius* in 1675 and John Hill's *Urania* in 1754. R. H. Allen lists "Shālīsh" in his *Star Names* in 1899.

Hamstring:

This Arabic star "al-ʿArqūb" (العرقوب) is the binary star Beta (β) Sagittarii in the IAU constellation Sagittarius:

- "'Urqūb al-Rāmī" is listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- This was later latinized to "Arkab" and "Urkab".
- The star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985) lists the Arabic name "urqūb al-rāmī" and the Hebrew name "qarsol ha-qeshet ha-semoli".
- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists "'urqūb al-rāmī al-aysar".
- This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "urkab ur ramih": The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822.
- NOTE: The IAU has assigned the name Arkab Prior to Beta (β) 1 Sagittarii and Arkab Posterior to Beta (β) 2 Sagittarii.

Hán:

This Chinese star "Hán" from the 3 Kingdoms and Ming Dynasty Period is the star Zeta (ζ) Ophiuchi in the IAU constellation Ophiuchus and is part of their xing guan Heavenly Market West Wall (see below).

Hance:

This "Arabic" asterism "Hance", "Al Hance" or "Al Tahin" is the IAU constellation Sagitta as listed in John Hill's *Urania* in 1754.

Hand:

This Kumeyaay asterism is the IAU constellation Corona Borealis.

This Vedic nakshatra (lunar mansion) “Hasta” is in the IAU constellation Corvus and is the stars Alpha (α) Corvi (Alchiba), Beta (β) Corvi (Kraz), Gamma (γ) Corvi, Delta (δ) Corvi, and Epsilon (ε) Corvi (Bhagwath 2019). It is related to their deity Saviti or Surya. In 2019 Leitz lists “Hasta” as appearing in the *Atharveda*, but in one place identifies this as “the star Carvi” (probably mistaking the suffix Corvi as a star name and misspelling it) and elsewhere as Alpha (α) Cancri. Leitz writes that it appears on the nakshatra list of the scholar Varahamihir. Ivanković (2021) lists this as “Hásta” from the Rig Veda and “Hástah” from the *Taittirīya Brāhmana*, describes it as the constellation Corvus, and relates it to the solar God Savitar. W. Brennand lists this as “Hasta” in his *Hindu Astronomy* in 1896. Bhagwath (2019) lists its symbols as either a hand or a fist.

This Myanmar nekkhat (lunar mansion) “Hathada” (ဟဿဒ) is in the IAU constellation Corvus and is

the stars Alpha (α) Corvi (Alchiba), Beta (β) Corvi (Kraz), Gamma (γ) Corvi, Delta (δ) Corvi, and Epsilon (ε) Corvi.

This Tibetan gyukar (lunar house) “Me Zhi” or “Mezhi” is in the IAU constellation Corvus and is the star Delta (δ) Corvi (Johnson-Groh 2013).

This Dakota/Lakota/Nakota asterism **“**Nape” is made up of the stars of the IAU constellations Orion and Eridanus. The “arm” starts at Alpha (α) Orionis (Betelgeuse) and runs down to the “wrist”, which is the three stars of the belt of Orion with the “fingers” spreading out with the “little finger” being the sword of Orion, the “middle finger” ending at the star Beta (β) Orionis (Rigel), and the “thumb” ending in Beta (β) Eridani (Cursa).

This **telescopic** asterism is the open cluster NGC 3114 in the IAU constellation Carina. It was discovered by Scottish astronomer James Dunlop in 1827 who listed it as h 3224 in his catalogue. It is GC 2007 in the *General Catalogue* of 1664. An oval of stars at one side is the “palm” and five lines of stars radiating out from it the “fingers”. Auke Slotegraaf (2008) attributes this name to astronomer Dieter Willasch. It is also known as the Spider (see below), or the Octopus (see below).

Hand Before:

This star “Yed Prior” is Delta (δ) Ophiuchi in the IAU constellation Ophiuchus. “Yed” is the modern Arabic name, derived from “yad” (يد), meaning hand, and this is combined with the term Prior to indicate that it leads Epsilon (ε) Ophiuchi (Yed Posterior) across the sky. Another name for this is Palm of Al Awwa (see below):

- The Sloane astrolabe BM SL 54 in the British Museum which dates to 1290 – 1300 lists this as “IED” (Dekker 2000).
- The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists this as “Yed”.
- Johann Bayer’s *Uranometria* (1603) lists this star as “Yed”.
- This is listed in the abbreviated form “Yed” in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852: The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Yed Prior, from the Arabic word yed, the hand.”
- NOTE: John Raymond has named this asterism “Yed Prior” on his list and Jeffrey Corder has it as Corder 3021.

- In 2016 the IAU approved the name Yed Prior for Delta (δ) Ophiuchi.

Hand Behind:

This star "Yed Posterior" is Epsilon (ε) Ophiuchi in the IAU constellation Ophiuchus. "Yed" is the modern Arabic name, derived from "yad" (يد), meaning hand, and this is combined with the term Posterior to indicate that it follows Delta (δ) Ophiuchi (Yed Prior) across the sky:

- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Yed Posterior… from the Arabic word yed, the hand".
- In 2016 the IAU approved the name Yed Posterior for Epsilon (ε) Ophiuchi.

Hand of al-Jauzā:

This Arabic star "Yad al-Jauzā'" (يد الجوزاء) or "yad ul-Jawzā'" is Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion. When translated to Latin in the 13th century the translator mistook "ya" as "ba", which led to the latinized name "Betelgeuse". There are four different opinions on how this name should be pronounced, depending on whether the first "e" is pronounced short or long and whether the "s" is pronounced as "s" or "z":

- "Yad al Jauzā'" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- Variations include "Bed Elgueze", "Beit Algueze", "Bet El-geuze", "Beteigeuze", "Betelguese", "Betelgeuze", and "Betelgeux".
- The Sloane astrolabe BM SL 54 in the British Museum (1290 – 1300) lists "Bedelgeuze" (Dekker 2000).
- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists "yad al-jawzā'".
- The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.170v-171r lists "Bedelgeuze".
- The *Alfonsine Tables* of the 15th and 16th centuries listed "Beldengenze" or "Beldelenze" (Kunitzsch 1986).
- Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) list this star as "Betelgeuze".
- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) listed "Bectelgeuze" and "Bedalgeuze".
- Robert Hues lists "Ied Algeuze", "Bed Elgeuze", and "Bet Elgeuze" in his *A Learned Treatise of Globes* in 1659.
- "Betelgeuse" is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661.
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Betelgeuse".
- American uranographer William Croswell (1760 – 1834) lists "Betelgeuze" on his *Mercator Map of the Starry Heavens* in 1810.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists this star as "Betelgeux" in his *Celestial Atlas* in 1822.

- This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Betelgue": The author is unknown, but it is based on Jamieson's *Celestial Atlas*.
- English Admiral Henry William Smyth's *Prolegomena* in 1844 lists "Betelgeuse" and his *Bedford Catalogue* in 1844 lists "ibt-al-jauzá, the giant's axilla, or shoulder".
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich list this star as "Betelgeuse".
- German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this star as "Betelgeuse".
- R. H. Allen lists it as "Ibt al Jauzah" and "Betelgeuze" in his *Star Names* in 1899 and translates it as "armpit of the central one" and others have translated it as "hand of the central one".
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as "Betelgeux".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Betelgeuz".
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as "Betelgeuse" and incorrectly translates it as "martial star".
- German astronomer Hermann Joseph Klein (1844 – 1914) lists "Betelgeux" in his *Star Atlas* (1893).
- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Betelgeuse" and describes it as the "armpit of the giant".
- *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Betelgeuse".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists "Betelgeux" and "Betelgeuse" for this star, but the 14th edition (1959) only lists "Betelgeuse" for this star.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists "Betelgeuse" for this star.
- The IAU approved the name Betelgeuse for Alpha (α) Orionis Aa.

Hand of God:

This **telescopic** asterism is planetary nebula PSR B1509-58 is in the IAU constellation Circinus. It was discovered in 1982 by the Einstein X-Ray Observatory.

Hand of the Crook:

This Seleucid star is Theta (θ) Aurigae in the IAU constellation Aurigae and is part of their asterism Crook (see above).

Hand with a Bangle:

This Tibetan khyim (zodiac constellation) "Lak-Sur" is made up of stars in the IAU constellation Scorpius (Johnson-Groh 2013): Alpha (α) Scorpii (Antares) is the "wrist", with "fingers" going out to Psi (ψ) Scorpii, Nu (ν) Scorpii, Beta (β) Scorpii (Acrab), Delta (δ) Scorpii, and Eta (η) Scorpii.

Handcart (that Lost its Wheels):

This **telescopic** asterism is in the IAU constellation Andromeda and is Ennis 26 on the observing list of Canadian astronomer Charles Ennis. The "carrying base" of the handcart is formed by an "L" shaped arrangement of the three stars Sigma (σ) Andromedae, Rho (ρ) Andromedae, and Theta (θ)

Andromedae. The "handle" is a loop of five stars: HIP 525 and 714 and the double stars HIP 508A, HIP 626, and HIP 737. The handcart has lost its "wheels" which are the nearby Andromeda Galaxy (M 31) and M 110. NOTE: The three stars of the "carrying base" are Corder 78 on the observing list of American astronomer Jeffrey Corder.

Handful:

This K'iche' asterism "Mot" or "Motz" is both the Hyades and Pleaides star clusters in the IAU constellation Taurus. To the K'iche' the Pleiades represent a handful of maize kernels and the Hyades a handful of beans. The evening setting of the Pleiades in March indicates the beginning of the planting season for high altitude maize, and the planting of low altitude maize by the conjunction of the Pleiades with the Sun in May. They begin ploughing when the Pleiades reach the meridian shortly after sunset.

This Belarussian asterism "Kupki" is the Pleiades cluster in the IAU constellation Taurus (Avilin 2009).

Handgun:

There are two **telescopic** "Handgun" asterisms:

- One is open cluster Collinder 69 in the IAU constellation Orion. It is listed on the AstroHam blog of the William Brydone Jack Unit of the New Brunswick Centre of the RASC. Size 1° 10'.
- One is in the IAU constellation Pegasus and is Corder 4645 on the observing list of American astronomer Jeffrey Corder. Size 50' X 30'. This is six 6^{th} – 8^{th} magnitude stars and some fainter stars including HIP 110092, 110166, and 110225.

Handle:

This Filipino (Mayayaw Ifugao) asterism "Balbala'ys Ilihan" is part of the Big Dipper asterism in the IAU constellation Ursa Major (Masong 2017).

This Māori asterism "Te Kakau", "Te Kakau a Maui" ("The Handle of Maui"), "Te Tira o Puanga" ("The Handle of Puanga" or "the handle of Rigel"), "Te Tuke o Tautoru", or "Te Tuke o Maui" is the three stars of the belt of Orion. This is the handle of an adze. It is also the glittering waters streaming back from the rear of Tainui's boat (see Sail of Tainui). It is also known as "Tautoru" (see below).

Handle of Antlia:

This **telescopic** asterism "Multianuláta Ántliae" is the barred lenticular ring galaxy NGC 3084 in the IAU constellation Antlia. It was discovered in 1835 by John Herschel who listed it as h 3212 and later as GC 1987 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this "because of its southern arm" which to them resembled a handle.

Handlebar:

This **telescopic** asterism "Manubrian Nebula" is the planetary nebula Messier 27 (NGC 6853) in the IAU constellation Vulpecula. It was discovered by French astronomer Charles Messier in 1764. It is also known as the Diabolo Nebula (see above), the Double-Headed Shot (see above), the Dumbbell Nebula (see above), and the Apple Core Nebula (see above). Manubrian means "handle shaped". "Manubrio" ("handlebar") was posted on the Astrophotography Facebook page by Italian astrophotographer Sergio

Paganelli on 24 August 2025. It is also known as the Dumbbell Nebula (see above), Diabolo Nebula (see above), the Double-Headed Shot (see above), the Manubrian Nebula (see below), and the Apple Core Nebula (see above).

Hands of Nunki:

This Seleucid star "Nunki" is Gamma (γ) Velorum in the IAU constellation Vela which is one corner of their asterism Harrow (see above). Compare this to Star of Eridu, below.

Hanis:

This Babylonian star listed as "mul hanis" in the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period (Koch-Westenholz 1995) is Beta (β) Centauri (Hadar) in the IAU constellation Centaurus and is part of the "foot" of their asterism Numushda (see below). Compare this to the Seleucid star Khanish. It is listed in the Babylonian star catalogue BM 78161 (Liechty 1988) as "hanis" but identified as the star Epsilon (ε) Centauri.

This Persian (Achaemenid Period 539 – 331 B.C.E.) star "hanis" as listed by Ernst Weidner's *Fixsterne* in 1971 is Beta (β) Centauri (Hadar) in the IAU constellation Centaurus.

Hans the Dwarf:

This Holstein star "Hans Dümken" or "Hans Dünkle" is 80 Ursae Majoris (Alcor) in the IAU constellation Ursa Major as listed by R. H. Allen in his *Star Names* in 1899 and Grimm in 1883. A Dümken is a Dwarf or Thumbkin and comes from the Lower German word "dümeke". The story goes that gave Jesus a ride and was allowed to drive across the sky forever astride the "Middle Horse" (Mizar). Allen translated the word as "dim witted", but that would actually be "dunkel". In 2020 Herman Bender speculated that an Anglo-Saxon name for Alcor may have been a "cognate of the words dümeke (dwarf), in Anglo-Saxon *dveorg* and Norse *dverger* (Cleasby and Vigussion 1874.110), and Dünkl/dunkel".

Hanumat:

This asterism is the IAU constellation Capricornus as listed in an "Ancient Zodiac of Egypt" in *Hindu Astronomy* by W. Brennand in 1896. Brennand has labelled this illustration "from the Barberini Museum", which is probably a reference to the 17th century Palazzo Barberini, which is now the Galleria Nazionale d'Arte Antica. This depicts a dog headed man with a staff in his left hand and a leash in his right hand to which is attached a goat headed fish and also gives the name "Pan" (see Pan, below). Brennan attributes this name for this constellation to the 5th century Roman Macrobius Ambrosius Theodosius, who believed that the Egyptians created the signs of the zodiac and that they were later adopted by the Greeks. A dog or jackal headed figure is used in Egyptian hieroglyphics to represent their God Anubis, which they related to the stars of Canis Major, not Capricornus. There was no Hanumat in Egyptian mythology: Hanumat is a deity found in Jainism and Hinduism.

Hao-o-rua:

This Māori asterism is the sword of Orion in the IAU constellation Orion.

Hapi:

This Egyptian Dendera asterism is the IAU constellation Aquarius (Hoffman 2017), but it has been depicted as the Egyptian God of the Nile, Hapi.

Hapleturengh Mehen:

This "Persian" asterism is the IAU constellation Ursa Major as listed in John Hill's *Urania* in 1754.

Happiness:

This Bhutan star "Gakyid" is HIP 42446 (HD 73534) in the IAU constellation Cancer (magnitude 8.24). It was given this name in the IAU NameExoWorlds campaign. It has an exoplanet Drukyul, which is the land of the thunder dragon, a native name for Bhutan.

Happy Arabia:

This Latin star "Felix Arabia" is Alpha (α) Canis Major (Sirius) in the IAU constellation Canis Major. English Admiral Henry William Smyth lists this name in his *Bedford Catalogue* in 1844.

Haratan:

This Arabic star "Haratan" is Theta (θ) Centauri in the IAU constellation Centaurus.

NOTE: The name "Al Haratan" has been associated with the star Theta (θ) Leonis by some sources.

Harbinger:

This Zulu star "isAndulela" is Alpha (α) Carinae (Canopus) in the IAU constellation Carina (Slotegraaf 2013, Holt and Slotegraaf 2022). It is a guide for shepherds, marking the time to begin travelling to new grazing grounds during the dry season.

This Latin star "Antecursor" is Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor. It is a variation of their Antecanis (see Preceding the Dog, below).

Hard Flint Boys:

This Diné asterism "Beesh Ashiké" is the Pleiades cluster in the IAU constellation Taurus (Childrey 2008). These young warriors perform healing activities during the summer months.

Hard to Discern of Dorado:

This **telescopic** asterism "Dýscritus Dorádus" is the intermediate spiral galaxy NGC 1515 in the IAU constellation Dorado. It was discovered in 1826 by James Dunlop in 1826. It was listed as 2609 in John Herschel's list, and then as GC 811 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): The name is a reference to its being nearly edge-on, making the spiral arms hard to see.

Hard to Understand of Perseus:

This **telescopic** asterism "Dysgnóstus Pérsei" is the spiral galaxy NGC 1003 in the IAU constellation Perseus. It was discovered in 1784 by William Herschel who listed it twice, once as "II 238" and once as "III 198". It became GC 571 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). They gave it this name due to difficulty in interpreting it "morphologically".

Hardcastle's Galaxy:

This **telescopic** asterism "Hardcastle's Galaxy" or "Hardcastle Nebula" is PGC 45901, a spiral galaxy in the IAU constellation Centaurus. I was named for English astronomer Joseph Alfred Hardcastle (1868 – 1917), grandson of John Herschel.

Hardcastle Nebula:

See Hardcastle's Galaxy, above.

Hare:

This Greek asterism "Λαγῶς" ("Lagõs") or in the Epic dialect "Λαγωός" ("Lagoós") is the IAU constellation Lepus as mentioned in Aratus' poem *Phaenomena* (270 B.C.E.) and as originally described in Ptolemy's *Almagest* (2nd century).

This Arabic name "Al'arnab" (الأرنب) is used for both the IAU constellation Lepus and for its star Alpha (α) Leporis:

- Lepus was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) as "al-Arnab" in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- This was later latinized to "Arneb", "al-Arnab", "Alarnebet", "Elarneb", and "Harneb".
- Johann Bayer's *Uranometria* (1603) lists "Harneb" and "Elarneb".
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Harneb" and "Elarneb".
- Robert Hues lists "Alarnebet" in his *A Learned Treatise of Globes* in 1659.
- John Hill lists "Arneb" and "Arnebeth" as names for this constellation in his *Urania* in 1754.
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Arneb, from al-arneb, the hare".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists Alpha (α) Leporis as "Arneb".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list "Arneb" for this star.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists Alpha (α) Arietis as "Sheratan".
- The IAU approved the name Arneb for Alpha (α) Leporis A.

This Hebrew asterism "Arnebeth" is the IAU constellation Lepus.

Hare Star:

This Anglo-Saxon star "harasteorra" is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Hall 1916). This is a reference to it "chasing" the hare (the IAU constellation Lepus), which rises before Sirius.

Harem:

This Chinese star from the Three Kingdoms to the Ming Dynasty "Hougong" is 4 Ursae Minoris in the IAU constellation Ursa Minor.

This Chinese Chenzhuo xing guan “Hougong” is the star 4 Ursae Minoris in the IAU constellation Ursa Minor. It is part of their xing guan “Northern Pole”.

Haris:

This Czech star is Gamma (γ) Boötis in the IAU constellation Boötes as listed in Czech astronomer Antonín Bečvář's 1951 atlas *Atlas Coeli*. This may have been derived from the Arabic “Al-Haris Al-Sama” (see Guard of the North, above).

Harmonious Radiance:

This Chinese Chenzhuo xing guan “Shunguang” is the star HIP 92056 in the IAU constellation Draco. It is part of their xing guan Purple Forbidden East Wall.

Harnessing Horses:

This Vedic nakshatra (lunar mansion) “Ashvini” (अश्विनी *aśvinī*) or “Aśvayúj” is in the IAU constellation Aries and is the stars Beta (β) Arietis (Sheratan) and Gamma (γ) Arietis. Ivanković (2021) lists this as “Asvinī”, translates this as “horse tamers”, and relates it to the Ashvini, the “horse twins” who are the physicians of the Gods. Ivanković also lists an earlier name as “Asvayújau” (See Horse Yoking, below). Bhagwath (2019) notes that the symbol of this nakshatra is a horse’s head and W. Brennand lists this as “Ashwini” in his *Hindu Astronomy* in 1896 and translates it as “a horse’s head”. In 2019 Leitz listed “Asvini” as appearing in the *Atharveda* but identifies this as “the star Arietis”: Of course, Arietis is a suffix which could be applied to any star in Aries. Leitz writes that the maharshi Parasara lists Alpha (α) Arietis (Hamal) and Beta (β) Arietis (Sheratan) and that the *Brhat Samhita* lists 3 stars. Leitz also lists “Asvini” as appearing on the nakshatra list of the scholar Varahamihir, calling Asvini “physicians to the gods”. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Aswini, the horse’s head”.

This Myanmar nekkhat (lunar mansion) “Athawani” (အသဝဏီ) is in the IAU constellation Aries and is the stars Beta (β) Arietis (Sheratan) and Gamma (γ) Arietis.

This Tibetan gyukar (lunar house) “Tha Skar”, “Takar” or “Yugu” (Johnson-Groh 2013) is in the IAU constellation Aries and is the star Beta (β) Arietis (Sheratan).

Harp:

This English asterism is the IAU constellation Lyra as listed by Robert Hues in his *A Learned Treatise of Globes* in 1659.

This Teutonic asterism “Harapha” is the IAU constellation Lyra.

This Saxon asterism “Hearpe” is the IAU constellation Lyra.

This Irish asterism is the IAU constellation Lyra. This asterism is found in Julie Ormonde’s *Constellation Stories of Ancient Ireland* (2015).

This Venetian asterism “Harpa” is the IAU constellation Lyra as listed by bishop and poet Venantius Fortunatus (c. 530 – c. 609).

There are two Arabic asterisms with the name “harp”:

- One, “Al Lurā”, is the IAU constellation Lyra:

- This was later latinized into “Allore” (in the 1515 edition of the *Almagest*), “Alahore” and “Alohore” (in other 16th century editions of the *Almagest*), “Alloure”, “Alchoro” (in the 15th century *Alfonsine Tables*).
- Johann Bayer’s *Uranometria* (1603) lists the name “Alohor” for Lyra.
- John Hill lists “Lura”, “Alohor”, Alhador”, “Allore” and Alohore” in his *Urania* in 1754. Hill also gives “Alohor” as a name for Alpha (α) Lyrae (Vega).
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Alohor… or Al lúrá”.

- One, “Al-Silyāq”, is the IAU constellation Lyra as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010). This was corrected by Kunitzsch to “Salbāq” which is a type of harp (Kunitzsch & Smart 2006).

Harp Cluster:

This **telescopic** asterism is the open cluster NGC 2244 in the Rosette Nebula (Caldwell 49) in the IAU constellation Monoceros. English astronomer William Herschel rediscovered this open cluster in 1784 and listed it as “VII 2” in his catalogue, and it is listed as GC 1424 in the *General Catalogue* of 1864. It is also known as the Pearl Cluster and the Satellite Cluster.

Harpocrates:

This Seleucid asterism is the IAU constellation Gemini as described by the rulers of Ptolemaic Alexandria, who adapted the Egyptian Gods Horus the Elder and Horus the Younger into this God of silence, secrets, and confidentiality.

Harrow:

This Babylonian asterism “Maskakatu” from the MUL.APIN tablets is made up of stars of the IAU constellations Carina and Vela. It is a circle of the stars Beta (β) Carinae (Miaplacidus), Epsilon (ε) Carinae, Theta (θ) Carinae, Mu (μ) Velorum, Lambda (λ) Velorum, and Gamma (γ) Velorum. Anthony Hope lists it as “GÁN.ÙR(.RA) (GISH.GÁN.ÙR)” and “mashkakatu” in his *A Guide to Ancient Near Eastern Astronomy* in 1996. It appears in later Seleucid sky lore.

This Babylonian and Sumerian asterism “gis-gan-gur” listed in the BM78161 star catalogue (Liechty 1988) is identical to the Babylonian asterism “Maskakatu”, above.

This Romanian asterism “Grapa” is the IAU constellation Ursa Minor (Ottescu 2009).

This Ukrainian asterism “Borona” (борона) is the “W” asterism of the IAU constellation Cassiopeia.

Harry Potter and the Golden Snitch:

This **telescopic** asterism is the open cluster NGC 7380 (SH 2-142, LBN 511, Cr 452, Ced 206) in the IAU constellation Cepheus. It was discovered by English astronomer Caroline Herschel in 1787 and listed by her brother William Herschel as “VIII 77”. It is GC 4842 in the *General Catalogue* of 1864. Recently fans of J. K. Rowling’s *Harry Potter* series gave it this name after the principal game piece of the game Quidditch. It is also known as the Wizard Nebula.

Hartebeests:

This San asterism is made up of stars in the IAU constellations Orion and Taurus. The star Alpha (α) Tauri (Aldebaran) is the male hartebeest and Alpha (α) Orionis (Betelgeuse) is the female hartebeest.

Harvest:

This Latin asterism “Arista” (“harvest” or “ear of corn”) is the IAU constellation Virgo.

- German astronomer Johann Bayer (1572-1625) lists the name “Arista” in is Uranometria (1603).
- “Arista Puella” is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
- German poet Philipp von Zesen (1619 – 1689) listed it as “Arista Puellae” (“maidens of the harvest”), which Allen points out should probably be the singular “Arista Puella”.
- R. H. Allen’s *Star Names* in 1899 lists “Arista“.

Harvest Keeper:

This asterism “Custos Messium” was created by French astronomer Jérôme Lalande in 1775 to honor astronomer Charles Messier. It is located in the stars between the IAU constellations Camelopardalis, Cassiopeia, and Cepheus and is next to another obsolete constellation, Rangifer (see Reindeer, below). This part of the sky had previously been known as the “Wheat Field” (see below), which probably inspired Lalande to choose this name for his asterism. He also called it “le Messier”.

German astronomers of the time called it “Erndtehüter”.

Scottish astronomer Alexander Jamieson (1782 – 1850) listed “Custos Messium” in his *Celestial Atlas* and his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822): He is depicted as a male in a toga wearing a laurel wreath and holding a shepherd’s staff in his left hand and a sickle in his right hand.

“Custos Messium” is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852: The author is unknown, but it is based on Jamieson’s *Celestial Atlas*.

Urania’s Mirror depicts a standing male wearing a laurel wreath, holding a sickle in his right hand and a shepherd’s crook in his left hand.

Harvester:

This Greek asterism “Τρυγετής” or “Trygetís” is the IAU constellation Boötes as described by Aratus (315 – 240 B.C.E) and is listed in R. H. Allen’s *Star Names* in 1899. Allen translates it as “vintager”.

Hassaleh:

Hassaleh is the star Iota (ι) Aurigae in the IAU constellation Auriga and appears under this name in Czech astronomer Antonín Bečvář's 1951 atlas *Atlas Coeli*. No connection to any language has been discovered for this name. The IAU approved the name Hassaleh for Iota (ι) Aurigae.

Hastorang:

This Persian star “Hastorang” (“watcher of the south”) is Alpha (α) Piscis Austrini (Fomalhaut) in the IAU constellation Piscis Austrinus and is part of their asterism Four Guardians of Heaven (see above). Compare to the Zoroastrian asterism “Haftōring” (see General of the North, above).

Hasus Chail Rezmin:

This “Hebrew” asterism “Hasus Chail Rezmin” is the IAU constellation Pegasus as listed in John Hill’s *Urania* in 1754.

Hat of Zubenelgenubi:

This **telescopic** asterism the “Hat of Zubenelgenubi” is Hay-Merting 9 in the IAU constellation Libra. Robert Zebahl lists it on his *Faint Fuzzies* website. Its size is 30’ X 30’. Zebahl describes it as “a conspicuous formation of six stars of 7th to 9th magnitude in the shape of a cap or hat directly north of Alpha (α) Librae (Zubenelgenubi). René Merting refers to it in his description as “Zubs Hut” (“Zub’s Hat”). This includes the stars HIP 72769, 72676, and 72640. Jeffrey Corder lists this as a rough “U” and it is Corder 2724 on his list.

Hatchet:

There are two **telescopic** “Hatchet” asterisms:

- One is Lorenzin 23 on American astronomer Tom Lorenzin’s asterism list and is in the IAU constellation Sextans. Size 30’ X 30’. The straight line that forms the “handle” includes HIP 52856 and 52821
- One is in the IAU constellation Vulpecula and is Corder 4366 on the observing list of American astronomer Jeffrey Corder. Size 45’ X 15’. This is seven 7th – 9th magnitude stars. The “blade” includes the stars HIP 105129, 105161, 105344, and 105255. The “handle” is the line of stars HIP 105071, 105111, and 105435.

Hatching Hen and Her Chicks:

This Romanian asterism “Cloşca cu Pui” is the Pleiades cluster in the IAU constellation Taurus (Ottescu 2009, Lite, Lodina, and Ignat 2018). They also call it the Hen (see below).

This French is the Pleiades cluster in the IAU constellation Taurus (Ottescu 2009).

Hathor:

There are two Egyptian stars with this name:

- One is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Holbrook 2020). This is found in the Circular Zodiac of the Temple of Hathor at Dendera (Holberg 2007, Bomhard 2009). Hathor, whose name means “house of Horus”, was a cow-headed Goddess who was the predominant Mother Goddess in Egypt before she was replaced by Isis. Compare this to the later Egyptian star Sopdet (see below).
- One is Alpha (α) Columbae (Phact) in the IAU constellation Columba as listed in the 19th dynasty Cairo Calendar (Hardy 2003).

Hathor Cow:

This Egyptian Dendera asterism is the IAU constellation Canis Minor (Hoffman 2017). Hathor was a major sky Goddess and one of her maternal aspects, as depicted here, is the cow.

Hatysa:

This is Iota (ι) Orionis in the IAU constellation Orion and appears under this name in Czech astronomer Antonín Bečvář's 1951 atlas *Atlas Coeli.* No connection to any language has been discovered for this name. The name Hatysa was approved by the IAU for Iota (ι) Orionis Aa.

Haunch:

This Medieval Latin star "Ancha" ("haunch" or "hip") is Theta (θ) Aquarii in the IAU constellation Aquarius. R. H. Allen lists Dutch uranographer Hugo Grotius (1583 – 1645) as the person who assigned this name to the star. "Ancha" is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822. German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this star as "Ancha" and Bode's *Vorstellung Der Gestirne* (1782) also lists this star. A French variation of the name is "Hanche". The IAU approved the name Ancha for Theta (θ) Aquarii in 2016.

Haversack:

This Italian (Piedmont and Ligurian Alps) asterism "Portopan" is the sword of Orion in the IAU constellation Orion.

Havi:

This Estonian asterism is made up of stars in the IAU constellation Pisces (Kuperjanov 2006).

Having a Goat:

This Latin asterism "Habens oleniam capram" is the IAU constellation Auriga and related to the asterism Capra (see Kids, below). The Roman poet Ovid (43 B.C.E. – 18 C.E.) lists this in his *Metamorphoses*.

Having a He-Goat:

This Latin asterism "Habens Hircum" is the IAU constellation Auriga and related to the asterism Capra (see Kids, below). The Roman poet Ovid (43 B.C.E. – 18 C.E.) lists this in his *Metamorphoses*.

Having Goats:

This Latin asterism "Habens Capellas" is the IAU constellation Auriga and related to the asterism Capra (see Kids, below). The Roman poet Ovid (43 B.C.E. – 18 C.E.) lists this in his *Metamorphoses*. Johann Bayer's *Uranometria* (1603) lists this as "Habenifer", and "Habens hircum capellas hoedos oleniam capram".

Having Horns:

This Greek asterism "Ἀιγοκέρως" or "Aigokéros" is the IAU constellation Capricornus as listed by Aratus (315 – 240 B.C.E). Ptolemy (c.100 – c.170) listed it as "Αἰγόκερος" ("Ægoceros") in his *Almagest*. It was later latinized to "Aegoceros". The 1515 edition of the *Almagest* lists it as "Alcaucurus" and defines it as "habens cornua hirci" ("having horns") and German astronomer Johann Bayer (1572-1625) lists it as "Alcantarus" in his *Uranometria* (1603). The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch lists "Aegocerus" and "Caper Cornutus" ("horned goat"). Aegoceros is listed under this name in John Hill's *Urania* in 1754. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Aegoceros" as a name for Capricornus. This is how Ptolemy described it:

- The "body" is a bending pentagon of the stars Beta (β) Capricorni (Dabih), Theta (θ) Capricorni, Iota (ι) Capricorni, Zeta (ζ) Capricorni, 24 Capricorni, Omicron (ο) Capricorni, and Sigma (σ) Capricorni,
- The "front leg" runs between Omicron (ο) Capricorni and Psi (ψ) Capricorni,
- The "rear leg" runs between 24 Capricorni and Omega (ω) Capricorni,
- The "tail" starts at Iota (ι) Capricorni, runs through Gamma (γ) Capricorni to a bend at Delta (δ) Capricorni and then through Kappa (κ) Capricorni to Epsilon (ε) Capricorni,
- From Beta (β) Capricorni two lines run out to form "horns":
    - One runs out to Xi (ξ) Capricorni, and
    - The other runs out to a bend at Alpha (α) 1 and 2 Capricorni (Algedi) and ends at Nu (ν) Capricorni.

NOTE: This Greek asterism appears on the *Daressy Zodiac* of the Roman Imperial Period as a goat-fish next to a baboon or ape.

Having Kids:

This Latin asterism "Habens Haedos" is the IAU constellation Auriga and related to the asterism Capra (see Kids, below). The Roman poet Ovid (43 B.C.E. – 18 C.E.) lists this in his *Metamorphoses*.

Hawaiki:

This Hawaiian star is Alpha (α) Cygni (Deneb) in the IAU constellation Cygnus.

Hawk:

This Norse asterism "Vedrfolnir" or "Ve.rfonir" ("the hawk which lives in the world tree") was listed by Cleasby and Vigfusson in 1874, though it is not clear precisely which stars are involved. Kuperjanov (2006) shows Alpha (α) Aquilae (Altair) as the head of the hawk with the stars of Cygnus forming the body. Timothy Stephany on his Norse Constellations webpage describes it as sitting on the head of their asterism Eagle (see above) with "one star for its body and one star for its head, two stars for its left wing, and three stars for its right wing."

This Greek lunar mansion, representing a hawk or a falcon, is made up of stars of the IAU constellation Aquila and is listed in the Magical Papyrus 121, preserved in the British Museum, and dated to the 3rd century C.E. (Mosenkis, date n/k).

This Egyptian asterism is one of the paranatellonta of the decans of Sagittarius as listed in *the Sphaera Barbarica* described by Teucros (Mosenkis, date n/k) and is the IAU constellation Aquila.

This Macedonian star "Jastreb" or "Yastreb" is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga (Cenev 2004 & 2014). "Jastreb" is right next to their asterism "Petal" (see Rooster below) and their asterism "Kvachka" (see Mother Hen below).

This K'iche asterism "Xic" is the IAU constellation Aquila (Milbrath 1999). This is specifically the Swainson's hawk (Buteo swainsoni).

This Welsh asterism is listed in Marie Trevelyan's *Folk-lore and Folk-stories of Wales* (1909) and is currently unidentified.

Hawk Footprint:

This central Australian aboriginal asterism is the False Cross asterism (see False Cross above) made up of the stars of the IAU constellations Vela and Carina: Delta (δ) Velorum (Alsephina), Kappa (κ) Velorum (Markab), Epsilon (ε) Carinae (Avior) and Iota (ι) Carinae (Aspidiske).

Hawk of May:

This Welsh asterism "Gwalchmai" is the IAU constellation Aquila.

Hay:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is made up of six stars forming two intersecting triangles in the IAU constellation Cetus:

- One triangle is the stars Rho (ρ) Ceti (the determinative star), Sigma (σ) Ceti, and HIP 12444, and
- The other triangle is the stars AB Ceti, Epsilon (ε) Ceti, and HIP 11029.

This later Chinese xing guan "Chúgǎo" (刍藁) is made up of six stars forming two intersecting triangles in the IAU constellation Cetus, just like the earlier version, but some of the stars have changed:

- One triangle is the stars Epsilon (ε) Ceti, 71 Ceti, and HIP 11029, and ,
- The other triangle is the stars Rho (ρ), 77 and 67 Ceti.

This Chinese Chenzhuo xing guan "Chúgǎo" is a zig-zagging line of stars in the IAU constellation Cetus: Starting at HIP 12562 it runs through Sigma (σ) Ceti, Epsilon (ε) Ceti, Rho (ρ) Ceti, and HIP 12444 to HIP 11029.

Hayebâje:

This Chakavian asterism is a combination of the IAU constellations Aquarius and Capricornus. The central star is Delta (δ) Capricorni.

Hayk:

This Armenian asterism is the IAU constellation Orion and is named for their legendary patriarch and founder.

Haymakers:

This Lithuanian asterism "Šienpjuvis", "Šienpjiūvis", or "Šienpjoviai" is the belt of Orion in the IAU constellation Orion.

Haystack:

This **telescopic** asterism is the open cluster NGC 2477 (Caldwell 71) in the IAU constellation Puppis. It was discovered by French astronomer Abbé Nicolas Louis de Lacaille in 1751. It is GC 1593 in the *General Catalogue* of 1864. It was given this name by American astronomer Wayne Schmidt, who describes it as a 15-arcminute long haystack.

Hazy Tail of Canis Major:

This **telescopic** asterism "Vagicaudátus Cánis Majóris" is the spiral galaxy NGC 2280 in the IAU constellation Canis Major. It was discovered in 1835 by English astronomer John Herschel who listed it as 3062 and later GC 1450 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

HD 98046 Cascade:

See Waterfall, below.

HE.GAL.A.A:

This Babylonian asterism "HE.GAL.A.A" is listed by Bartel van der Waerden in his *Science Awakening II: The Birth of Astronomy* in 1974. The identity of this star is not known.

He-Goat:

This Arabic star "al-Māʿaz" (المعز) is Epsilon (ε) Aurigae in the IAU constellation Auriga:

- This was later latinized to "Maaz", "Almaaz", "Al Ma'az", and "Alanz".
- The Persian astronomer Zakariyya' al-Qazwini (1203 – 1283) listed it as "Al Anz".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "al'anz, the goat".
- The IAU approved the name Almaaz for Epsilon (ε) Aurigae.

This Greek lunar mansion is listed in the Magical Papyrus 121, preserved in the British Museum, and dated to the 3rd century C.E. (Mosenkis, date n/k). Mosenkis describes this as "Taurus or less Monoceros".

This Egyptian asterism "Capra" is one of the paranatellonta of the decans of Libra as listed in *the Sphaera Barbarica* described by Teucros (Mosenkis, date n/k) and is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga.

This Etruscan asterism "Caper" is the IAU constellation Capricornus. Johann Bayer's *Uranometria* (1603) lists "Caper" as a name for Capricornus.

This Romanian asterism "Tapul" or "Capra" is the IAU constellation Capricornus (Ottescu 2009, Lite, Lodina, and Ignat 2018). NOTE: Ottescu (2009) lists "Capra" as a name for Alpha (α) Aurigae (Capella).

He Leans Away from Us:

The stars of this Ahtna asterism "Nec'aadze' Teltaen" are unidentified at present (Cannon 2021). This is a humanoid or remnant monster ("ggux") from ancient times with "knives in his mouth" that spews evil. Nek'eltaeni (see That Which Moves Over Us, below) threw it into the sky, where it circles around with Nek'eltaeni. The Ahtna avoid speaking of it.

He Who Never Goes Out on Newly Formed Ice:

This Inuit star "Sikuliaqsiujuittuq" is Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor (MacDonald 1998). It is also known as "Name of a Murdered Man" (see below).

He Who Pours Out the Water:

This Romanian asterism "Cel Care Varsă Apa" or "Vărsătorul" is the IAU constellation Aquarius (Ottescu 2009, Lite, Lodina, and Ignat 2018).

He Who Stands Alone:

This Tuamotu people star "Te Tau-rari" or "Marere-te-tavahi" is Alpha (α) Carinae (Canopus) in the IAU constellation Carina.

He Who Will Be Killed by the Bell Board:

This Romanian star “Ucigă-l Toaca” is 80 Ursae Majoris in the IAU constellation Ursa Major (Ottescu 2009). This is a reference to the Devil (compare to He Who Will Be Killed by the Cross, below). See Bell Board, above.

He Who Will Be Killed by the Cross:

This Romanian star “Ucigă-l Crucea” is 80 Ursae Majoris in the IAU constellation Ursa Major (Ottescu 2009). This is a reference to the Devil (compare to He Who Will Be Killed by the Bell Board, above).

Head of Al Jawza’:

This Arabic star “Al Rās al Jauzā’” or “ra’s al-jawza’” is Lambda (λ) Orionis in the IAU constellation Orion and this name is related to its position in that constellation. R. H. Allen lists this in his *Star Names* in 1899 and attributes it to the 9th century astronomer Aben al Khethir of Fergana (Al Ferghani) and 16th century Arabic astronomer Al Tizini. NOTE: Elsewhere in his book Allen also associates this name (as have some other early astronomers and uranographers) with Beta (β) Geminorum (Pollux).

Head of Family:

This Korean asterism “Gajang” (가장) is a line of two stars in the IAU constellation Ophiuchus: Beta (β) Ophiuchi (Cebalrai) and Gamma (γ) Ophiuchi.

Head of Rams:

This Latin asterism “Caput Arietinum” is the IAU constellation Aries.

Head of Town:

This Korean asterism “Ma-eul-ui Meoli” (마을의 머리) is a bent “W” of stars in the IAU constellations Aquila and Scutum: 12, 14, and 15 Aquilae and Lambda (λ), Eta (η), Beta (β), Epsilon (ε), Delta (δ), and Alpha (α) Scuti. This is identical to the Chinese xing guan “Market Officer” (see below).

Head of the Cacodaemon:

This asterism “Caput Cacodaemonis” is an alternate name for the asterism “Medusa’s Head” (see above) in the IAU constellation Perseus and is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

Head of the Evil One:

This Khorasmian asterism “Sardhiwa” is the stars Zeta (ζ) and Eta (η) Ophiuchi in the IAU constellation Ophiuchus.

Head of the Foremost Twin:

This Arabic star “Ra’s al-taw’am al-muqaddam” is Alpha (α) Geminorum (Castor) in the IAU constellation Gemini:

- “Ra’s al-taw’am al-muqaddam” is listed on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992).
- The star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985) lists the Arabic name “ra’s al-taw’am al-muqaddam” and the Hebrew name “rosh he-te’om ha-niqdam”.

- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists "ra's al-taw'am huwa muqaddam al-dhirā'" ("the head of the twin; it is the first one of al-dhirā'").
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists it as "Rás al tawum al mokaddem, head of the foremost twin".
- R. H. Allen lists it as "Al Rās al Taum al Muḳaḍḍim" in his *Star Names* in 1899.

Head of the Ghoul:

This Arabic star "(Ra'as) al-Ghūl" ((head of) "the Ghoul" رأس الغول) or "Ra's al Ghul" is Beta (β) Persei in the IAU constellation Perseus:

- "Rae's al-Ghūl" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- This was later latinized to "Algol" and "Alove".
- It is listed on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992) as "Ra's al-ghūl". This probably influenced the later European asterism "Caput Medusa" (see Medusa's Head, below).
- The star list of Abraham Bar Hiyya in 1104 (Goldstein 1985) lists "rosh ha-shed" and the Arabic name "ra's al-ghūl".
- The star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985) lists the Arabic name "ra's al-ghūl" and the Hebrew name "rosh ha-satan".
- The rete of astrolabe NMM AST 0750 in the National Maritime Museum lists "Algon" (Dekker 2000).
- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists "ra's al-ghū'".
- Dorn (1829) describes it as "head of a monster" as depicted on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283).
- An anonymous Hebrew star list from 1392 (Goldstein 1985) lists "ra's al-ghūl" and the Hebrew name "rosh ha-shed".
- A 14th century Christian Spanish astrolabe #4560 lists "Algol" (King 2002).
- The mid 15th century Wein, Oesterr. National Bibl., manuscript Lat 5415, ff.168v-169r lists "Ras algol".
- Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) list this star as "Algol".
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Algol".
- This star "Ras Algol" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
- Robert Hues lists this as "Ras Algol" in his *A Learned Treatise of Globes* in 1659.
- In his *Sphere of Marcus Manilius* in 1675, Edward Sherburne translates this Arabic name as "portans caput larvae" ("ghosts carrying hair") but also lists "Ras Al Gol".
- A wooden precession globe (1730) by German uranographer Johann Georg Puschner (Dekker 2003) labels this star "Persuso/Algl".

- A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, lists "Caput Medusa" for this star.
- The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) lists "Algol" for this star.
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Algol".
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists this star as "Algol" in his *Celestial Atlas* and his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822).
- This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Algol": The author is unknown, but it is based on Jamieson's *Celestial Atlas*.
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists it as "Algol, a variation of Al-ghúl, the monster or demon".
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as "Algol".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Algol".
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as "Algol, the Demon-Star".
- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Algol" and describes it as "the monster".
- *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists this star as "Algol, the Ghoul, or Demon Star".
- The 1st edition (1910) and the 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) list "Algol" for this star and describes it as the "Demon Star" or the "Winking Demon Star".
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists "Algol" for this star.
- The IAU approved the name Algol for the star Beta (β) Persei Aa1.

Head of the Hindmost Twin:

This Arabic star "Al Rās al Taum al Muʾaḥḥār" is Beta (β) Geminorum (Pollux) in the IAU constellation Gemini:

- The star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985) lists the Arabic name "ra's al-taw-am al-mu'akhkar" and the Hebrew name "rosh he-te-om ha-me'uhhar".
- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists ra's al-taw'am al-mu'akhkhar".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists " "Rás al tawum al muäkhkhar, the head of the hindmost twin".

Head of the Kneeler:

This Arabic star "Ra'as ul-Jathī" (رأس الجاثي) or "Al Rās al Jāthīyy" is Alpha (α) Herculis in the IAU constellation Hercules. This name relates to an older name for this constellation (see Kneeler, below):

- "Rae's al-Jāthī" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

- This is listed as “Ra’s al-jāthī” on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992). This was later latinized to “Rasalgethi”, “Ras Algethi”, “Ras Algeti”, “Ras Algiatha”, or “Ras Algathi”.
- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists “ra’s al-jāthī”.
- The first three editions of the *Alfonsine Tables* (1483 – 1515) list “Ras Alheti” or “Rasalheti” (Kunitzsch 1986) but for some reason the fourth edition (and Robert Hues) incorrectly lists “Rasaben”, which is a corruption of Rastaban (see Head of the Snake, below) which is Beta (β) Herculis.
- “Rasalheti” appears on the 1468 astrolabe of Regiomontanus (Kunitzsch 1986).
- The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists “Rasalheti”.
- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) lists “Ras Elhhathi”, “Ras Alhathi”, and “Rasalheti”.
- Johann Bayer’s *Uranometria* (1603) lists “Rasaben” as a name for Hercules.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Algethi”.
- “Ras Algethi”, “Rasogathii”, “Algethi”, “Algathio”, and “Alai rochbatihi” are listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch
- John Chilmead (1899) lists “Rasacheti”, which he derived from Robert Hues’ *A Learned Treatise of Globes* in 1659.
- This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as “Ras Algethi”.
- Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists this star as “Ras Algethi”.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists “Ras Algothi” in his *Celestial Atlas* and his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822).
- English Admiral Henry William Smyth’s *Prolegomena* of 1844 lists “Ras Algeti” and his *Bedford Catalogue* in 1844 lists “Rasalgeti, from the Arabian rás al játhí, the kneeler’s head”.
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich lists this star as “Ras Algethi”.
- English Uranographer Thomas Malby depicted “Ras Algothi” on his globes in 1850.
- This is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852 as “Ras Algethi”: The author is unknown, but it is based on Jamieson’s *Celestial Atlas*.
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as “Ras Algethi”.
- English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists this star as “Ras Algethi”.
- American astronomer Winslow Upton’s *Star Atlas* (1896) lists this star as “Ras Algethi” and describes it as “head of the kneeler”.
- The *Standard Dictionary* of Facts (1908 – 1924) lists “Ras Algetta”.
- The 1st edition of British schoolmaster Arthur P. Norton’s *A Star Atlas and Telescopic Handbook* (1910) lists “Ras Algethi” and “Rasalegti” for this star, but his 14th edition (1959) lists the name “Ras Algethi” for this star.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this star as “Ras Algethi”.

- The IAU approved the name Rasalgethi for the star Alpha (α) 1 Herculis Aa.

Head of the Lion:

There are two Arabic stars with this name:

- One, "Ra'as ul-Assad" (رأس الأسد), is Epsilon (ε) Leonis in the IAU constellation Leo, later Latinized to "Rasalased" or "Ras Elased".
- One, "hāmat al-asad" is Mu (μ) Leonis in the IAU constellation Leo as it appears on the star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003).

This Latin star "Ras Elased Australis" ("southern Rasalased") or "Asad Australis" is Epsilon (ε) Leonis in the IAU constellation Leo.

This Persian (Achaemenid Period 539 – 331 B.C.E.) star "SAG.A" is Epsilon (ε) Leonis in the IAU constellation Leo (Hunger and Sachs 1988). R. H. Allen lists "Rishu A" as a Babylonian name for this star in his *Star Names* in 1899.

Head of the Ram:

This Arabic star "Rā's al-Ḥamal" (رأس الحمل) is Alpha (α) Arietis in the IAU constellation Aries:

- This was later latinized to "Hamal", "Hemal", "Hamul", and "Hammel".
- The Sloane astrolabe BM SL 54 in the British Museum (1290 – 1300) lists "Caputar", which is an abbreviation of the Latin "caput Arietis" (Dekker 2000).
- A 14th century Christian Spanish astrolabe #4560 lists "al hamal" for the entire constellation Aries. Giovanni Battista Riccioli (1598 – 1671) lists this star as "Ras Hammel".
- Johann Bayer's *Uranometria* (1603) lists "Arietium Caput", "Elhemal", and "Elhamel".
- John Hill gives the name "Hamel" or "Alhamal" as an Arabic name for the entire constellation of Aries in his *Urania* in 1745.
- American uranographer William Croswell (1760 – 1834) incorrectly lists this star as "Arietis" on his *Mercator Map of the Starry Heavens* in 1810.
- Scottish uranographer Alexander Jamieson (1782 – 1850) mistakenly lists "Arietis" as the name of this star in his *Celestial Atlas* in 1822.
- English Admiral Henry William Smyth lists "Hamal" in his *Prolegomena* and "Hamal" in his *Bedford Catalogue* in 1844 and translates it as "a sheep".
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich list "alhama".
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) describes this star as "α Arietis (Alpha of Aries, more commonly called simply Arietis)" but does NOT mention the name Hamal.
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Hamal".
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as "Hamal".
- *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Hamal" as the "Shepherd's Star".

- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list "Hamal" for this star.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this star as "Hamal".
- The IAU approved the name Hamal for Alpha (α) Arietis.

Head of the Razor Blade:

This star "Rasoguli Caput Attenuationis" is Beta (β) Persei (Algol) in the IAU constellation Perseus as listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

Head of the Series:

The Arabic star "Ra's al-Musalsala" is Alpha (α) Pegasi (Markab) in the IAU constellation Pegasus as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

Head of the Snake:

This Arabic star "Ra'as uth-Thuʿabān" (رأس الثعبان) or "Al Rās al Thuʿbān" is Beta (β) Draconis in the IAU constellation Draco and later latinized to "Rastaban:

- The Sloane astrolabe BM SL 54 in the British Museum which dates to 1290 – 1300 lists "Raztaben" (Dekker 2000).
- The celestial globe (1480) of German mechanic Hans Dorn (c 1430 – 1506) lists "razdaben".
- The 4th edition (16th century) of the *Alfonsine Tables* listed "Rasaben" (Kunitsch 1986).
- The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists "Rasaben".
- German astronomer Johann Bayer (1572-1625) listed it as "Rastaben" in his *Uranometria* (1603).
- In the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch the names "Cauda Draconis" and "Ras taben seu Rasotahbani" are listed.
- German astronomer Wilhelm Schickard (1592 - 1635) listed "Raso tabbani".
- Robert Hues lists it as "Rastaben" and Rusaben" in his *A Learned Treatise of Globes* in 1659.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists this star as "Rastaban" in his *Celestial Atlas* in 1822 and in his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822).
- American uranographer Elijah Burritt's *The Constellations for each Month in the Year* (1835) lists this star as "Rastaban".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Rás al thu'bán, head of the devouring basilisk".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists "Rastaban" and "Rasaben" for this star, but the 14th edition (1959) lists "Rastaban" for this star.
- The IAU approved the name Rastaban for the star Beta (β) Draconis A.

Head of the Snake Man:

This Arabic star "Ra'as ul-Ḥawwāʿ" (رأس الحوّاء) or "Rās al Ḥawwāʿ" is Alpha (α) Ophiuchi in the IAU constellation Ophiuchus:

- This is listed as “Ra’s al-hawwā” on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992).
- The star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985) lists the Arabic name “ra’s al-hāwī” and the Hebrew name “rosh mi sh-eyn lo ko’ah”.
- This was later latinized to “Ras alhague”, “Rasalgue”, “Rasalhague”, “Ras Alhagas”, “Ras Alhagus”, “Rasalange”, “Ras al Hangue”, “Rasalangue”, “Ras Alaghue”, “Rasalhagh”, “Ras al Hayro”, “Alhague”, “Alangue”, and “Azalange”.
- The star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985) lists the Arabic name “ra’s al-hāwī” and the Hebrew name “rosh mi she-eyn lo ko’ah” .
- The Sloane astrolabe BM SL 54 in the British Museum which dates to 1290 – 1300 lists “ALhAVE” (Dekker 2000).
- The rete of the 14th century Spanish astrolabe NMM AST0570 in the National Maritime Museum lists “Alhavni”.
- The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.168v-169r lists this star as “Rasalhabe”.
- The 1521 edition of the 16th century *Alfonsine Tables* lists it as “Rasalauge” (Kunitzsch 1986).
- The celestial globe (1522) of German polymath Johann Schöner (1477 – 1547) lists this star as “Rasalhague”.
- Johann Bayer’s *Uranometria* (1603) lists “Rasalhague” for this star.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Alhague” and “Aseichus”.
- This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as “Ras Alague”.
- Robert Hues lists it as “Rasalangue” in his *A Learned Treatise of Globes* in 1659.
- Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists this star as “Ras Alhague”.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists it as “Ras Alhague” it in his *Celestial Atlas* and his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822)
- German astronomer Johann Elert Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this star as “Ras Alhague”.
- English Admiral Henry William Smyth’s *Prolegomena* of 1844 lists “Rasalague” and his *Bedford Catalogue* in 1844 lists “rás al hawwá, the serpent charmer’s head” as well as “el hauwé of the Moors… being spelt el hague by the Spaniards”.
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich list this star as “Ras Alhague”.
- This is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852 as “Ras Alhague”: The author is unknown, but it is based on Jamieson’s *Celestial Atlas*.
- English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists this star as “Ras Alhague”.
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as “Ras Alhague”.
- American astronomer Winslow Upton’s *Star Atlas* (1896) lists this star as “Ras Alhague” and describes it as “head of the serpent charmer”.

- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists "Ras Alhagua" and "Ras-al-hague" for this star but the 14th edition (1959) lists "Ras Alhague" for this star.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists the name "Ras Alhague" for this star.
- The IAU approved the name Rasalhague for the star Alpha (α) Ophiuchi A.

Head of the Triangle:

This Arabic star "Ra'as ul-Muthallath" (الرعس المثلث) is Alpha (α) Trianguli in the IAU constellation Triangulum:

- "R'as al-Muthallath" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- It was later latinized to "Mothallah", "Methallah", "Rasalmudallah", "El Muthalleth", "Almutallath", "Almutaleh", "Almutlato", "Mutlat", "Mutlaton", "Mutlathum", "Mutlathun", "Mutlatun" or "Rasalmothallah".
- Johann Bayer's *Uranometria* (1603) lists "Mutlathum".
- Robert Hues lists "Almuta'eh" and "Mutlathun" as names for the constellation Triangulum in his *A Learned Treatise of Globes* in 1659.
- Edward Sherburne lists "Mothallah" as the name of the entire constellation Triangulum in his *Sphere of Marcus Manilius* in 1675
- "Mothallah" is listed in John Hill in his *Urania* in 1754.
- English Admiral Henry William Smyth lists "Rás al Mothallath" as the Arabic name in his *Bedford Catalogue* in 1844.
- R. H. Allen lists "Ras al Muthallath" and "Caput Trianguli" in his *Star Names* in 1963. Hill also lists "Almutabel Algunuli" as a name for Triangulum Australe in Urania, describing it as ""a name by which those, who love strange names for every thing [sic], have called the southern triangle; 'tis an Arabic name of their forming for a constellation the Arabs know nothing of." As Hill points out, the Arabs did not have a name for this constellation.
- The IAU approved the name Mothallah for Alpha (α) Trianguli.

This Latin star "Caput Trianguli" is Alpha (α) Trianguli in the IAU constellation Triangulum. English Admiral Henry William Smyth lists this name in his *Bedford Catalogue* in 1844.

Head of the Twin:

This Arabic star "R'as al-Taw'am" is Beta (β) Geminorum (Pollux) in the IAU constellation Gemini:

- "R'as al-Taw'am" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- "Head of the Twin" is listed by R. H. Allen in his *Star Names* in 1899, although he incorrectly assigns the Arabic name ""Al Rās al Jauzā'", which means "head of al Jauzah" and is related to Orion, not Gemini (See Head of Al Jauzah, above):
    - This shows up in the 15th century *Alfonsine Tables* as "Rasalgense" (Kunitzsch 1986) and "Rasalgeuze" and elsewhere as "Rasalgauze".

- The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.168v-169r lists this star as “Rasalgeuze”.
- The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists the name “Rasalgenze” for Alpha (α) Geminorum (Castor).
- German astronomer Johann Bayer (1572-1625) assigns “Rasalgeuze” to Castor instead of Pollux in his *Uranometria* (1603).
- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) also assigns it to Castor instead of Pollux and lists it as “Algueze”, “Elhenaat”, and “Elgiautzi”.
- Robert Hues lists “Algeuze” as a name for the constellation Gemini in his *A Learned Treatise of Globes* in 1659, and lists “Rasalgeuze” as a name for Pollux.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Ras al geuze, the twin’s head” and attributes this to the “Alphonsine [sic] Tables, and in other old astronomical works”.

Head of the Twins:

This Latin asterism “Caput Geminorum” is the stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini. The Sloane astrolabe BM SL 54 in the British Museum (1290 – 1300) lists Alpha (α) Geminorum (Castor) as “Caputgemino”, which is an abbreviation of the Latin “caput Geminorum” (Dekker 2000).

Head of the Whale:

This asterism from the Saguaro Astronomy Club asterisms database is made up of star of the IAU constellation Cetus: Alpha (α) Ceti (Menkar), Lambda (λ) Ceti, Mu (μ)Ceti, Xi (ξ) 2 Ceti, Nu (ν) Ceti and (γ) Gamma Ceti form a circlet.

Head of the Woman in Chains:

This Arabic star “Al Rās al Marʾah al Musalsalah” is Alpha (α) Andromedae (Alpheratz) in the IAU constellation Andromeda and is related to their asterism “al-mar’ah al-musalsalah” (see Chained Woman, above):

- The star list of Abraham Bar Hiyya in 1104 (Goldstein 1985) lists the Arabic name of this star as “ra’s al-mar’a” (“head of the woman”).
- The star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985) lists the Arabic name “ra’s al-mar’a” and the Hebrew name “rosh ha-ishsha”.
- Johann Bayer’s *Uranometria* (1603) lists the Latin version “Caput Andromedae”.
- English Admiral Henry William Smyth lists this in his *Bedford Catalogue* in 1844.

Headband of the Archer:

This Arabic star “‘Isābat al-rāmī” is Zeta (ζ) 2 Sagittarii in the IAU constellation Sagittarius as listed on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992).

Headhunter:

This **telescopic** asterism also known as the Starfighter, is the open cluster NGC 2269 in the IAU constellation Monoceros. It was discovered by William Herschel in 1784 who listed it as “VI 3” in his catalogue. It is GC 1444 in the *General Catalogue* of 1864. Headhunter is a reference to the particular

model of Starfighter from the Star Wars series franchise created by George Lucas in 1977: We don't know who chose this name at present.

Headless Angel:

This asterism is the IAU constellation Sagittarius as renamed by the Unitarian Universalist Hysterical Society in 2024 on their Facebook page.

Headless Corpse:

This Barasana asterism "Rihoa Mangu" ("headless corpse of the eagle") is the IAU constellation Sagittarius. Hugh-Jones (2006) translates this as "headless one". This headless eagle is Wekomi, the mythical father-in-law of both the morning star (busuri nyoko) and evening star (nyamikarima), whose head was mistakenly cut off by this own daughter Star Snake (see below).

Headphone Nebula:

This **telescopic** asterism is planetary nebula Jones-Emerson 1 (PK 164+31.1) in the IAU constellation Lynx. This was discovered in 1939 by Rebecca Jones and Richard M. Emerson.

Heap of Corpses:

This Chinese xing guan "JīShī" (积尸) is the star 22 Persei in the IAU constellation Perseus. This is located inside their xing guan Mausoleum (see below). This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

Heap of Corpses (in Mausoleum):

This Chinese Chenzhuo xing guan "JīShī" is the star Pi (π) Persei in the IAU constellation Perseus.

Heap of Sand:

This **telescopic** asterism is the globular cluster Messier 2 (NGC 7089) in the IAU constellation Aquarius. This was discovered by French astronomer Giovanni Domenico Maraldi (1709 – 1788) in 1746. English astronomer John Herschel described it as a "heap of fine sand". It is GC 4678 in the *General Catalogue* of 1864. Italian astronomer Giuseppe Piazzi's assistant Niccolò Cacciatore (1770 – 1841) described it as "l'arena delle spiaggie maritime" ("the sea beach arena" to English Admiral Henry William Smyth, who records this and Herschel's description in his *Bedford Catalogue* in 1844. It is listed in the third edition of Rev. Thomas William Webb's *Celestial Objects for Common Telescopes* in 1873, which notes Herschel's description. *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) calls this the "Aquarius Cluster".

Heap of Sheaves:

This Estonian asterism "Kuhjalava" is the IAU constellation Corona Borealis. Compare this to the Belarussian asterism Kuchki (see Ten Sheaves, below).

Heap of Stars:

This Belarussian asterism "Kučka zorak" or "Kuročka", is the Pleiades cluster in the IAU constellation Taurus (Avilin 2018).

Hear Star of Learning:

This Vedic nakshatra (lunar mansion) “Shravana”, “Sravana”, “Śravaṇā” (Ivanković 2021), or “Sravan” (Devanagari नक्षत्र) is in the IAU constellation Aquila and is the stars Alpha (α) Aquilae (Altair), Beta (β) Aquilae (Alshain), and Gamma (γ) Aquilae. Ivankovic (2021) lists it as “Srávanā”, translates it as “hearing”, lists the variation (contraction) “Sronā” (which appears in the *Taittirīya Samhitā* and the *Taittirīya Brāhmana*), and relates it to the God Visnu or Vishnu who is the preserver of the universe. It is listed as “Srávana” in the *Atharveda* (Leitz 2019, Ivankovic 2021). Leitz lists it as “Sravana” on the nakshatra list of the maharshi’s Varahamihir and Parasara but identifies this as “The star Aquilae”: Of course, Aquilae is a suffix which could be applied to any star in Aquila. W. Brennand lists this as “Sravana” in his Hindu Astronomy in 1896 and translates this as “the three-footed step of Vishnu”. Bhagwath (2019) lists its symbols as either an ear or three footprints.

This Myanmar nekkhat (lunar mansion) “Tharawun” (သရုဝဏ်) is in the IAU constellation Aquila and is the stars Alpha (α) Aquilae (Altair), Beta (β) Aquilae (Alshain), and Gamma (γ) Aquilae.

Heart:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a row of three stars in the IAU constellation Scorpius:

- Sigma (σ) Scorpii: “Taizi” (“Crown Prince”). This is the determinative star.
- Alpha (α) Scorpii (Antares): “Tianwang” (“Celestial King”), “Mintang” (“Cosmological Temple”), or “Dahuo” (“Great Fire”).
- Tau (τ) Scorpii: “Shuzi” (“Bastard”).

This Chinese xiù (lunar mansion) “Xīnxiù” (心宿) is a line of three stars in the IAU constellation Scorpius: Sigma (σ), 21, and Tau (τ) Scorpii. In the *Han shu*, a history of the early Han dynasty that was finished in 111 C.E. this xiù was associated to matters concerning the Yuzhou territory. This appears in the Tang Dynasty (618 – 907 C.E.) as “Xīn” (心) and was compared to the Vedic nakshatra Jyeshtha (Kotyk 2017, see Eldest, Most Excellent, above).

This Chinese Chenzhuo xing guan “Xin” is a line of three stars in the IAU constellation Scorpius:

- Tau (τ) Scorpii, known as “Shuzi” (“Bastard”),
- Alpha (α) Scorpii (Antares), known as “Dachen” (“Great Star”) or “Tianwang” (“Celestial King”), and
- Sigma (σ) Scorpii, known as “Taizi” (“Crown Prince”).

This Japanese sei shuku or lunar mansion “Nakago Boshi” is a bent line of three stars in the IAU constellation Scorpius: Alpha (α) Scorpii (Antares), Sigma (σ) Scorpii, and Tau (τ) Scorpii. It is one of three sets of three stars known as “Oyaninai Boshi” (see below).

There are nine **telescopic** “heart” asterisms:

- One, often described as heart-shaped or as a blunt arrowhead and also known as the Coil Cluster, is the open cluster Messier 50 (NGC 2323) in the IAU constellation Monoceros. It was recorded by G. D. Cassini before 1711 and independently discovered by Charles Messier in 1772. It is listed as GC 1483 in the *General Catalogue* of 1864.
- One is the open cluster NGC 2546 in the IAU constellation Puppis. It was discovered by French astronomer Abbé Lacaille in 1751 who listed it in his catalogue as Lac II 4. It is GC 1635 in the *General Catalogue* of 1864. It is also known as the Heart and Dagger or Wounded Heart as there is a line of stars through its center.

- One, from *Pattern Asterisms* by American astronomer John A. Chiravalle is found in the IAU constellation Hydra less than a degree northeast of 38 Hydrae. It includes the stars HIP 47697, 47754, 47634 and 47616.
- One is Vastagh 19, listed in 2009 by Hungarian astronomer László Vastagh, which is in the IAU constellation Cassiopeia. Its apparent diameter is 50'. Vastagh describes this as a "Heart-shaped [asterism] with a structure made of star strings… its total brightness is 5.6 [magnitude]., it consists of 100 members. The two parts of the heart are slightly different in size, the two chambers are clearly separated by a cascade. A thickening can be observed at the tip of the shape, this is the NY marked NGC 225."
- One is Mayer 100 in the IAU constellation Gemini. Its size is 11' X 11'. This is listed on Robert Zebahl's *Faint Fuzzies* website.
- One is Ruprecht 173 in the IAU constellation Cygnus. René Merting lists it on the *Faint Fuzzies* website as a "verquollenes Herz" ("swollen heart"). Size 49' X 49'. This includes the stars HIP 102105, 102276, 102049, 102195, and 101974. It is located on the line between and Gamma (γ) and Epsilon (ε) Cygni.
- One is in the IAU constellation Eridanus and is Ennis 39 on the observing list of Canadian astronomer Charles Ennis. This starts at Gaia DR3 3253579462686260224 and runs around through HD 25780, HD 25781, the visual double HD 25751 and Gaia DR3 3252998579200881152, HD 25696, HD 25630, HD 25609, HD 25571, and HD 25559 to HD 25629. Size 45'. This is Corder 622 on Jeffrey Corder's list: Corder describes it as a "very deep arc, nearly a circlet… located 35' following 35 [Eridani]". The galaxy NGC 1507 is just south of this asterism.
- One is open cluster NGC 2547 in the IAU constellation Vela. It was discovered by French astronomer Abbé Nicolas Louis de Lacaille in 1751 who listed it as Lac III 2 in his catalogue. It is GC 1636 in the *General Catalogue* of 1864. It is also known as the Golden Earring (see above), Saint Peter's Cross (see below), "T" (see below), the Malus Cluster (see below). South African astronomer Magda Streicher (2011) writes: "This cluster… could well be nick named the "Heart Cluster". Willie Koorts draw [sic] my attention to the shape of this cluster. After investigation I could whole heartedly agree with him. The brighter stars are… in a round half-moon shape towards the eastern side… [and] the pointed heart shape point towards the north [sic]". NOTE: "Heart Cluster" is a name more commonly used for NGC 2546. Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) lists this as O'Meara 40.
- One is made up of the stars of the IAU constellation Cygnus. "Live Long" posted it on *Cloudy Nights* in February 2022 and describes it as "a group of stars which surrounds Gamma [γ] Cygni".

Heart and Dagger:

This **telescopic** asterism is the open cluster NGC 2546 in the IAU constellation Puppis. It was discovered by French astronomer Abbé Lacaille in 1751 who listed it in his catalogue as Lac II 4. It is GC 1635 in the *General Catalogue* of 1864. It is also known as the Wounded Heart as there is a line of stars through its center. It is also known simply as the Heart Cluster. Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) lists this as O'Meara 42 and he lists the names "Wounded Heart Cluster" and "Heart and Dagger Cluster".

Heart Nebula:

This **telescopic** asterism is the emission nebula and open cluster IC 1805 (SH 2-190, LBN 654, Mel 15, Ced 7) in the IAU constellation Cassiopeia. It was first recorded by American astronomer Edward Emerson Barnard (1857 – 1923). This is also known as the Running Man (see below) and the Valentine Nebula (see below).

Heart of Brahma:

This Vedic and Hindu star "Brahma-hrdaya" is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga.

Heart of Scorpio:

This Coptic lunar mansion "Kharthian" is the star Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius as listed by W. B. Yeats in *A Vision* in 1917, which was derived from German Jesuit astronomer Athanasius Kircher's *Lingua Aegyptiaca Restituta* in 1636, in which Kircher described it as "Cor Scorpii":

Heart of the Bull:

This Latin star "Cor Tauri" is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus as listed in the 15th century *Alfonsine Tables*.

Heart of the Fish:

This Arabic manzil "Al Ḳalb al Ḥūt" is the star Beta (β) Andromedae (Mirach) in the IAU constellation Andromeda. It is also known as Belly of the Fish (see above) and is part of their asterism Well Bucket rope (see below). The star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985) gives the Arabic name "qalb al-hūt" and the Hebrew name "lev ha-dag".

Heart of the Lion:

This Arabic star "Qalb al-Asad" (قلب الأسد) is the star Alpha (α) Leonis (Regulus) in the IAU constellation Leo:

- "Qalb al-Asad" is listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- "Qalb al-Asad" is listed on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992):
- This was later Latinized to "Al Kalb al Asad", "Al Kalb", "Kabeleced", "Kalbelasit", "Kalbeleced", "Kalbeleceid", "Kalbol asadi", "Calb-elez-id", "Calb-elesit", "Calb-alezet", and "Kale Alased".
- King (2002) lists the variants "Calbalazeda", "Galbalaceda", "Calbalaceda", "Calbalaze", "Calbalazed", and "Kalb elected".
- The star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985) lists the Arabic name "galb al-asad" and the Hebrew name "lev ha-aryeh".
- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists "qalb al-asad malakī" ("heart of the lion, Regulus").
- An anonymous Hebrew star list from 1392 (Goldstein 1985) lists the Arabic name "qalb al-asad" and the Hebrew name "lev ha-aryeh".
- Johann Bayer's *Uranometria* (1603) lists "Kalbeleced", "Kalbeleceid", and "Kalbelasit" for this star.

- "Calbelezid" and "Kalbol-asadi" are listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
- Robert Hues lists it as "Cale Alased" in his *A Learned Treatise of Globes* in 1659.
- The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) lists "le Cœur du Lion" for this star.
- Dorn (1829) lists it as "Kalb-el-Asad" and "Kalbelesed" and describes it as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283).
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Kalb al Asad, or lion's heart".
- W. Brennand lists this as "Al-Kalb" in his *Hindu Astronomy* in 1896.

This Hebrew star is "lev ha-aryeh" is Alpha (α) Leonis (Regulus) in the IAU constellation Leo as listed on the star list of Abraham Bar Hiyya in 1104, who also lists the Arabic name "qalb al-asad" (Goldstein 1985).

This Greek star "Καρδία λεόντος" ("Kardia Leontos") is Alpha (α) Leonis in the IAU constellation Leo as listed by R. H. Allen's *Star Names* in 1899.

This Latin star "Cor Leonis" is Alpha (α) Leonis (Regulus) in the IAU constellation Leo:

- The Sloane astrolabe BM SL 54 in the British Museum which dates to 1290 – 1300 lists "Corleonis" (Dekker 2000).
- The rete of the 14th century Spanish astrolabe NMM AST0570 in the National Maritime Museum lists this as "Cor"
- A 14th century Christian Spanish astrolabe #4560 lists the abbreviated form "Cor Leo" (King 2002).
- The celestial globe (1480) of German mechanic Hans Dorn (c 1430 – 1506) lists this star as "Cor Leonis".
- The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists this star as "Cor Leonis".
- This star is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as "Cor Leonis" and "Cauda Leonis".
- This star is listed by Robert Hues in his *A Learned Treatise of Globes* in 1659 as "Cor Leonis".
- This star is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as "Cauda Leonis" and "Cor Leonis".
- "Cor Leonis" and "Cauda Leonis" are listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661.
- Robert Hues lists this in his *A Learned Treatise of Globes* in 1659, Edward Sherburne lists this in his *Sphere of Marcus Manilius* in 1675, and John Hill lists this name in his *Urania* in 1754.
- *The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678* by English uranographer James Clerk lists "Cor Leonis".
- The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer lists this star as "Cor Leonis".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Cor Leonis".

- This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Cor Leonis vel Regulus": The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822.
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Cor Leonis" and "Regulus".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list this star as "Cor Leonis".

Heart of the Scorpion:

This Arabic and Bedouin manzil "Ḳalb al ʿAḳrab" or simply "al-qalb" (القلب) is the star Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius:

- "Qalb al-'Aqrab" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- This is listed as "Qalb al'aqrab" on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992).
- The star list of Abraham Bar Hiyya in 1104 (Goldstein 1985) lists the Hebrew name "lev ha-aqrav" and the Arabic name "qalb al-aqrab".
- The star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985) with the Arabic name "qalb al-'aqrab" and the Hebrew name "lev ha-'aqrav".
- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists "qalb al-'aqrab".
- An anonymous Hebrew star list from 1392 (Goldstein 1985) lists the Arabic name "qalb al'aqrab" and the Hebrew name "lev ha'aqrav".
- Latinized variations include "Kelbalacrab", "Calbalacrab", "Calbolacrabi", and "Cabalatrab".
- It appears in the *Alfonsine Tables* as "Calbalatrab" (Smyth 1844, Kunitzsch 1986).
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists this star as "Calb Alatrab".
- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) lists it as "Alcantub" and "Kalb Aakrab".
- Robert Hues lists "Kelebalacrab" in his *A Learned Treatise of Globes* in 1659.
- Dorn (1829) lists this as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283).
- The rete of the 14th century Spanish astrolabe NMM AST0570 in the National Maritime Museum lists "Calbalagra" (Dekker 2000).
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Kalb al 'akrab… the scorpion's heart".
- NOTE: The IAU approved the name Acrab for Beta (β) Scorpii Aa, (see Scorpion, below). Compare this to Heart of Scorpio (above).

This Yemeni manzil "Qalb" is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius (Varisco 1995). This appears in the *Kitāb al-Tabṣira Fī'ilm al-Nujūm* of 13th century Rasulid ruler al-Malik al-Ashraf 'Umar ibn Yūsuf (d 1296).

This Greek star "Καρδία Σκορπίου" ("Kardía Skorpíou") is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius.

This Latin star "Cor Scorpii" is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius:

- The Sloane astrolabe BM SL 54 in the British Museum which dates to 1290 – 1300 lists "Corscorpionis" (Dekker 2000).
- A 14th century Christian Spanish astrolabe #4560 lists the abbreviated form "Cor Scorpi" (King 2002).
- The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists "Cor" for this star.
- Johann Bayer's *Uranometria* (1603) lists "Cor Scorpij" for this star.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists the name "Cor Scorpii" for this star.
- This star is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as "Cor Scorpii".
- Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius label this star "Cor Scorpy".
- This star is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 both as "Cor Scorpi" and "Antares".
- Edward Sherburne lists Cor Scorpii in his *Sphere of Marcus Manilius* in 1675.
- Johannes Kepler's *Stella Nova in Pede Serpentarii* (1606) lists this star as "Cor Scorpionis".
- The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer lists this star as "Cor Scorpii".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Cor Scorpionis".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Antares" and "Cor Scorpionis".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists "Cor Scorpionis" for this star, but his 14th edition (1959) lists both "Cor Scorpii" and "Cor Scorpionis" for this star.
- R. H. Allen lists this in his *Star Names* in 1899. Compare to Heart of the Scorpion (below).

This Tzotzil star is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius (Milbrath 1999).

Heart of the Serpent:

This Latin star "Cor Serpentis" is Alpha (α) Serpentis (Unukalhai) in the IAU constellation Serpens:

- The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) lists "le Cœur du Serpent".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists it as "Cor Serpentis of astrologers".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list "Cor Serpentis" for this star.
- R. H. Allen's *Star Names* in 1899 lists it as an astrological name.

Heart of the Sky:

This K'iche' Maya asterism is the IAU constellation Orion, which they associate with a deity by this name. In their creation story, Popol Vuh, one of the aspects of Heart of Sky is the one-legged Jun Rakán or Huracán ("one leg" or "hurricane")

Heart Star:

This Chinese xing guan "Xin Xing" (心星) also known as the "heart of the Dragon" is the stars Alpha (α) Scorpii, Sigma (σ) Scorpii and Tau (τ) Scorpii in the IAU constellation Scorpius. It appears in the turtle plastrons and ox scapulae from the reigns of the last few kings of the Shang Dynasty (1250 – 1450 B.C.E.). It is part of the larger xing guan Dragon Star (see above).

This Japanese star "Shin Boshi" is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Renshaw and Ihara 2000).

Hearth:

This Latin asterism "Lar" is the IAU constellation Ara.

- Jesuit German mathematician Christopher Clavius (1538 – 1612) lists this constellation as "Lar, sive Thuribulum, sev Ara" in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).
- Johann Bayer's *Uranometria* (1603) lists "Lar" for this constellation.
- John Hill lists this name for Ara in his *Urania* in 1754.
- Other Latin names for hearth also applied to this constellation include "Focus" and "Ignitabulum".

Hearts of the First People:

This Payómkawichum asterism is the Pleiades cluster in the IAU constellation Taurus.

Heaven Point:

This Chinese star "Thien Shu" is 32 Camelopardalis in the IAU constellation Camelopardalis which around 800 C.E. would have been within 7° of celestial north.

Heavenly Beast:

This Ticuna asterism "Wücütcha" is the belt of Orion in the IAU constellation Orion.

Heavenly Bird:

This asterism "Avis Paradisiaca" is the IAU constellation Apus and is listed in John Hill's *Urania* in 1754. This is a mixture of the Latin word Avis ("bird") and the Italian word Paradisiaca ("heavenly"). Hill also lists the name Avis Indica (see Indian Bird, above). Earlier German poet Philipp von Zesen (1619 – 1689) called it "Paradisaeus Ales".

Heavenly Couples:

This Estonian asterism "Taevapaarid" ("heaven's couples" or "heavenly pairs") is made up of pairs of stars in the IAU constellation Leo and Ursa Major and appears in the *Sky of Ests (Chudes)* by Aleksander Heintalu (Sass of Vigala) (Kuperjanov 2006). The pairs of stars are:

- Delta (δ) and Theta (θ) Leonis,
- Eta (η) and Alpha (α) Leonis (Regulus),

- Gamma (γ) 1 and Zeta (ζ) Leonis,
- Mu (μ) and Epsilon (ε) Leonis, and
- Iota (ι) and Kappa (κ) Ursae Majoris.

Heavenly Fish Deity:

The Chinese translation of the Sūryagarbha-parivarta from 585 describes the IAU constellation Pisces as "Heavenly Fish Deity" (Kotyk 2017).

Heavenly G:

The Heavenly G is a loop of eight of the 21 brightest stars starting with Alpha (α) Aurigae (Capella) in the IAU constellation Auriga, Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini, Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor, Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major, Beta (β) Orionis (Rigel) in the IAU constellation Orion, and Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus, ending back in the IAU constellation Orion again with Alpha (α) Orionis (Betelgeuse).

Heavenly Market Enclosure:

"Tiānshìyuán" (天市垣) is one of the three enclosures in Chinese sky culture, the others being Supreme Palace Enclosure and Purple Forbidden Enclosure (see Lunar Mansions, Stations of the Moon, Nakshatra, and Zodiacs above).

Two asterisms mark the boundaries of this enclosure:

- **Heavenly Market Left Wall ("Tiānshìzuǒyuán" (天市左垣)):** This Chinese xing guan is a long curving line of stars in the IAU constellations Aquila, Hercules, Ophiuchus, and Serpens. It starts at Eta (η) Ophiuchi and runs through Xi (ξ) Serpentis, 64 Ophiuchi, Eta (η) and Theta (θ) Serpentis, Zeta (ζ) Aquilae, 112, 103, Mu (μ), and Lambda (λ) Herculis, ending at Delta (δ) Herculis. It is in a similar location and is similar part of the Korean asterism "Market Fence" (see below). In the Three Kingdoms and Ming Dynasty period this was called the Heavenly Market East Wall.
- **Heavenly Market Right Wall ("Tiānshìyòuyuán" (天市右垣)):** This Chinese xing guan is a long, curving line of stars in the IAU constellations Hercules, Ophiuchus, and Serpens: Beta (β) Herculis (Kornephoros), Gamma (γ) Herculis, Kappa (κ) Herculis, Gamma (γ) Serpentis, Beta (β) Serpentis (Nasak Shamiya), Delta (δ) Serpentis, Alpha (α) Serpentis (Unukalhai), Epsilon (ε) Serpentis, Delta (δ) Ophiuchi, Epsilon (ε) Ophiuchi, and Zeta (ζ) Ophiuchi. This is identical to one of the two Korean asterisms "Market Fence" (see below). In the Three Kingdoms and Ming Dynasty period this was called the Heavenly Market West Wall.

In Chinese Chenzhuo skies two asterisms mark the boundaries of this enclosure:

- **Right Wall**: This is a long line of stars of the IAU constellations Hercules, Ophiuchus, and Serpens: Beta (β) Herculis (Kornephoros, "Hezhong"), Gamma (γ) Herculis ("Hejian"), Kappa (κ) Herculis ("Jin"), Gamma (γ) Serpentis ("Zheng"), Beta (β) Serpentis (Nasak Shamiya, "Zhou"), Delta (δ) Serpentis ("Qin"), Alpha (α) Serpentis (Unukalhai, "Shu"), Epsilon (ε) Serpentis ("Ba"), Delta (δ) Ophiuchi ("Liang"), Epsilon (ε) Ophiuchi ("Chu"), and Zeta (ζ) Ophiuchi ("Han"), and
- **Left Wall**: This is a long line of stars of the IAU constellations Aquila, Hercules, Ophiuchus, and Serpens: Delta (δ) Herculis ("Wei"), Lambda (λ) Herculis ("Zhao"), Mu (μ) Herculis ("Jiuhe"), Omicron (ο) Herculis ("Zhongshan"), 110 Herculis ("Qi"), Zeta (ζ) Aquilae ("Wuyue"), Theta (θ)

Serpentis (“Xu”), Eta (η) Serpentis (“Donghai”), Nu (ν) Ophiuchi (“Yan”), Xi (ξ) Serpentis (“Nanhai”), and Eta (η) Ophiuchi (“Song”).

Heavenly Mountain:

This Latin star “Mons Coelius” is Alpha (α) Ursae Minoris in the IAU constellation Ursa Minor as listed in R. H. Allen’s *Star Names* in 1899. It is related to the asterism “Tramontane” (see Person Living on the Side of a Mountain, below).

This Finnish star “Taehti” is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor.

Heavenly of Hydra:

This **telescopic** asterism “Coelestina Hýdrae” is the barred spiral galaxy NGC 3313 in the IAU constellation Hydra. It was discovered by Ormond Stone in 1886. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Heavenly of Virgo:

This **telescopic** asterism “Caeléstis Vírginis” is the grand design spiral galaxy NGC 4030 in the IAU constellation Virgo. William Herschel listed this as “I 121”. John Herschel listed this as h 1048 and later as GC 2663 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): The Plinian Sciapods were one-legged people who protected themselves from sunlight by using their big foot as a parasol.

Heavenly Scales:

This Lithuanian asterism “Dangaus svarstyklės” is made up of the stars of the IAU constellations Aquila, Cygnus, and Lyra: The constellation Cygnus is the “scales” and the “weights” are the stars Alpha (α) Aquilae (Altair) and Alpha (α) Lyrae (Vega).

Heavenly Sieve:

This Belarussian asterism “Нябеснае Сіта” is the Pleiades cluster in the IAU constellation Taurus (Avilin 2018). Compare this to the Estonian asterism “Taeva Sõel” (see Sieve of Heaven, below).

This Lithuanian asterism “Dangaus sėtas” or “Dangaus sietas” is the Pleiades open cluster in the IAU constellation Taurus.

Heavenly Staircase:

This Dogon asterism is the Belt of Orion in the IAU constellation Orion.

This Akkadian asterism “Ḫegala” is the IAU constellation Coma Berenices.

Heavenly Steps:

This Chinese Chenzhuo xing guan “Tianjie” (天阶) is made up of stars of the IAU constellation Ursa Major:

- The Lower Step is the stars Xi (ξ) and Nu (ν) Ursae Majoris,
- The Middle Step is the stars Mu (μ), and Lambda (λ) Ursae Majoris, and
- The Upper Step is the stars Kappa (κ) and Iota (ι) Ursae Majoris.

It is also known as the “Three Steps”.

Heavenly Swordsman:

This Elvish asterism “Menelmacar” is the IAU constellation Orion. He is the “heavenly swordsman” from the works of J. R.R. Tolkien (1892 – 1973).

Heavenly Umbrella:

This Japanese asterism “Tengaisei” is stars near the north celestial pole (Miyajima 2014) as depicted by Japanese Emperor Go-Yozei (1586 – 1611). NOTE: A tengaisei is a silk umbrella placed above statues of the Buddha.

Heavenly Wagon:

This asterism “Woz Niebeski” is the IAU constellations Boötes and Ursa Major. Ursa Major is the wagon. R. H. Allen lists this in his *Star Names* in 1899 and describes Ursa Major as the wagon and the IAU constellation Boötes as the “Ogka or Thills”. Thills are a pair of shafts connecting the cart to the animal drawing it.

This German asterism “Himmel Wagen” is the Big Dipper Asterism in the IAU constellation Ursa Major as listed in R. H. Allen’s *Star Names* in 1899. Allen lists the “Dutch and German versions Wagen am Himmel”.

This English asterism is the Big Dipper Asterism in the IAU constellation Ursa Major as listed in Myles Coverdale’s *Coverdale Bible* of 1535. R. H. Allen notes in his *Star Names* in 1899 that Anglican theologian Edmund Becke listed it in his Bible in 1549 as “Vaynes”.

Heavenly Woman Deity:

The Chinese translation of the Sūryagarbha-parivarta from 585 describes the IAU constellation Virgo as “Heavenly Woman Deity” (Kotyk 2017).

Heavy Eyebrow of Eridanus:

This **telescopic** asterism “Episcýnius Erídani” is the intermediate spiral galaxy NGC 1637 in the IAU constellation Eridanus. This was listed as “I 222” by William Herschel and 327 by his son John Herschel, later becoming GC 888 in John’s *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as “the large dark cloud at the northern part of this galaxy gives it the shape of an eye with a heavy eyebrow”.

Heavy Object Came Out:

This T’atsaol’ine and Wiidiideh star “bek’a yéhká” is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes (Cannon 2021).

Hebrew Harp:

This Hebrew asterism “Nevel” is the IAU constellation Lyra. Johann Bayer’s *Uranometria* (1603) lists this as “Nablon”. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists this as “Nablon”. “Nablon” is probably derived from the Phoenician “Nabla”.

Hecate's Dogs:

This Greek asterism is the IAU constellations Canis Major and Canis Minor. Lithuanian archaeologist Marija Gimbutas (1996) identifies these constellations as representing Hecate's dogs. Hecate is an ancient Greek Goddess, often accompanied by snakes or dogs and often depicted as carrying two torches. She is also described as being able to transform herself into a dog or a bear. Hecate is associated with crossroads, entrances, night, light, and magic.

Hedge of Cetus:

This **telescopic** asterism "Saeptátus Céti" is the intermediate spiral galaxy NGC 681 in the IAU constellation Cetus. This was discovered by William Herschel in 1785. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as it "has the appearance of a hedge".

Hedj-Hotep:

This Egyptian star is Gamma (γ) Leonis in the IAU constellation Leo as listed in the 19th dynasty Cairo Calendar (Hardy 2003). Hedj Hotep was a minor God of fabrics and clothing dating back to the 12th dynasty who later was given medicinal roles. NOTE: Hedj Hotep is sometimes described as a Goddess.

Heel:

This Latin star "Calx" is Mu (μ) Geminorum in the IAU constellation Gemini. English astronomer John Flamsteed (1646 – 1719) listed this name in his translation of Danish astronomer Tycho Brahe's catalogue.

Heifer Inachia:

This Latin asterism "Juvenca Inachia" is the IAU constellation Taurus as listed in R. H. Allen's *Star Names* in 1899. This refers Inachus, who is the father of Io, who was seduced by the God Zeus and then turned into a cow to hide her from his wife Hera, who sent her wandering the world without rest.

Heimdallur:

This Norse asterism is made up of stars of the IAU constellation Cepheus and was created by Canadian Bjorn Jónsson (1920 – 1995) who was trying to reconstruct traditional Scandinavian skies (Kuperjanov 2006). Heimdallur or Heimdallr is the watchman of the Gods, dwelling at the entry to Asgard where he guards Bifrost, the rainbow bridge. He depicts Heimdallur as a bearded male in a tunic and boots with light radiating from his head and both arms raised high.

Heir of the Emah Temple:

This Babylonian star from the MUL.APIN tablets "Apilemah", translated as "Heir of the Emah Temple" or "Heir of the Sublime Temple", is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Hunger and Pingree 1989). This appears in later Seleucid sky lore as "Heir of the Sublime Temple" or "First Ranking Son of Anu".

Heirloom War Club:

This Samoan asterism "'Anava" is made up of stars of the IAU constellations Auriga, Lynx, and Ursa Major (Fitisemanu 2022):

- The “club handle” runs from Alpha (α) Aurigae (Capella) through 15 Lyncis to Omicron (o) Ursae Majoris.
- The “club head” is the triangle formed by the stars Omicron (o) Ursae Majoris, Beta (β) Ursae Majoris (Merak), Gamma (γ) Ursae Majoris, Delta (δ) Ursae Majoris, and Alpha (α) Ursae Majoris (Dubhe).

Héjiān:

This Chinese star “Héjiān” from the 3 Kingdoms and Ming Dynasty Period is the star Gamma (γ) Herculis in the IAU constellation Hercules and is part of their xing guan Heavenly Market West Wall (see above).

Helical:

This Greek asterism “Ἕλιξ” (“Élix”) or “Ἑλίκη” (“Elíki”) is the IAU constellation Ursa Major as described by Aratus in his *Phaenomena* in 270 B.C.E. (see Little Dipper below), Hesiod, and as described by Greek author Apollonius Rhodius (b. 295 B.C.E.). Both are indications that the Greeks of their time recognized that it was circumpolar (Guglielmino, Cipolla, and Giudice 2017). The *De ordine ac positione stellarum in signis* (“*On the order and position of the stars in the signs*”) in the Salzburg compilation (810 – 818) of Abbot Arno of Salzburg (785 – 821) lists “Helice”, “Haelice”, and “Henrice”. The Omens in Klosterneuberg manuscript of the 11th century *De signis caeli (“of the signs of heaven*”) lists “Helice” and “Helix”.

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists this constellation as “Ursa Maior, quam Helicen vocant” in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

Danish astronomer Tycho Brahe’s *Astronomiae Instauratae Progymnasmata* (1602) lists “Helice” as a name for Ursa Major.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Helice” as an alternate name for Ursa Major.

Johann Bayer’s *Uranometria* (1603) lists “Helice” as a name for Ursa Major.

The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch lists “Helice” as a name for Ursa Major.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists “Ursa Major” and “Helice” for this constellation.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius lists the names “Ursa Maior”, “Helice”, and “Casto” for this constellation.

John Hill lists “ElíkZ” (“Helice”) as a “name used by old writers” for Ursa Major in his *Urania* in 1754.

American uranographer William Croswell (1760 – 1834) labels this constellation “Ursa Major vel Helice the Great Bear” on his *Mercator Map of the Starry Heavens* in 1810.

R. H. Allen also lists the variation “Helicen” for Ursa Major in his *Star Names* in 1899 and gives the translation “helix”. Helice is the nurse of the infant God Zeus in Greek mythology.

Italian author Dante Alighieri calls Ursa Minor “Helice” in his *Paradiso*.

NOTE: English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Helice” as a name for Beta (β) Ursae Majoris and Ursa Major.

Helical Nebula:

This **telescopic** asterism is the planetary nebula NGC 7293 (Caldwell 63) in the IAU constellation Aquarius. It was discovered by German astronomer Karl Ludwig Harding before 1824. It is GC 4795 in the *General Catalogue* of 1864. It is also known as the Helix Nebula, the Eye of Sauron, the Eye of God, or the Sunflower Nebula. English astronomer Harry Edwin Wood (1181 – 1946) described it as the “Great ring nebula in Aquarius”.

Helios:

This Latin asterism “Trinacria” is the IAU constellation Triangulum as listed in R. H. Allen’s *Star Names* in 1899. This is another name for the island of Helios, to which Odysseus traveled in the 8th century B.C.E. poet Homer’s *Odyssey*.

Helix:

There are two **telescopic** “helix” asterisms:

- One is the planetary nebula NGC 7293 (Caldwell 63) in the IAU constellation Aquarius. It was discovered by German astronomer Karl Ludwig Harding before 1824. It is GC 4795 in the *General Catalogue* of 1864. Scottish astronomer Robert T.A. Innes (1861 – 1933), writing in his observation notes in 1917, notes “Helix or ring not seen”, which indicates the name Helix was already in use. Robert Zebahl lists this on his *Faint Fuzzies* website as the “Helix”. *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this as the “Helix Nebula”. Sir Patrick Caldwell Moore listed it as Caldwell 63 as it is the brightest planetary nebula. It is also known as the Helical Nebula, the Eye of Sauron, the Eye of God, or the Sunflower Nebula.
- One is NGC 2685, a lenticular and polar ring galaxy in the IAU constellation Ursa Major. This is Arp 336 in Arp’s *Atlas of Peculiar Galaxies*. Size 4.6’ X 2.1’. It is also known as the Pancake Galaxy (see below). It is also known as the “Perpendicular of Ursa Major” (see below).

Helm:

This Latin star “Gubernaculum” (“ship’s helm”) is Alpha (α) Carinae (Canopus) in the IAU constellation Carina as described by Roman statesman Marcus Tullius Cicero (106 – 43 B.C.E.).

Helmet:

This Dutch asterism “Casque” is the IAU constellation Tucana and was created by Dutch uranographer Willem Blaeu in 1603.

Helper:

This pair of Korean asterisms “Dobneun Salam” (돕는 사람), are both triangles of stars in the IAU constellation Boötes:

- One triangle is the stars Omicron (ο), Eta (η) 1, and Zeta (ζ) Boötis, and
- One triangle is the stars Upsilon (υ), Tau (τ), and Eta (η) Boötis.

This Korean double star “Wi” is the double stars Zeta (ζ) Ursae Majoris (Mizar) and 80 Ursae Majoris (Alcor) in the IAU constellation Ursa Major.

Helping Hand:

There are two “Helping Hand” asterisms:

- One is the Kiribati star “Baibuobuoki”, which is an unidentified star in the IAU constellation Pegasus (Trussel and Groves 1978).
- One **telescopic** “Helping Hand” is LDN 1355, a dark and reflection nebula in the IAU constellation Cassiopeia. This is in the catalogues of American astronomer Beverly Turner Lynds (1929 – 2024).

Helvetios:

This Swiss star is 51 Pegasi in the IAU constellation Pegasus and was given this name in the IAU NameExoWorlds campaign. This is Latin for “Helvetian”, referring to the Celtic tribe that lived in Switzerland in ancient times. It has an exoplanet named Dimidium (“half”).

Hemitocles Hippus:

This “Greek” asterism is the IAU constellation Pegasus as listed in John Hill’s *Urania* in 1754.

Hen:

This Arabic asterism “Aldajaja” (الدجاجة) or “Al Dajājah” is the IAU constellation Cygnus:

- “Al-Dajāja” was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- This was later latinized to “Adige”, “Adigege”, “Aldigaga”, “Addigagato”, “Degige”, “Edegiagith”, and “Eldigiagich”.
- The Madrid edition of the *Alfonsine Tables* lists “Altayr Aldigeya”. The 1515 edition of the *Alfonsine Tables* lists “Eurisim”, which it describes as a flying hen, and the 1521 edition has “Hyresym” with the same translation but adding “returning like a lily”.
- Johann Bayer’s *Uranometria* (1603) lists the names “Hirezem”, “Degige vel Adegige”, “Digegi”, and “Adigegi vel Adigege”
- Robert Hues lists it as “Aldigaga” and “the hen” in his *A Learned Treatise of Globes* in 1659.
- Variations include “Hirezym” and “Hierizim”.
- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) listed “quasi Galli rosa” (“like a rooster’s rose”).
- Alpha (α) Cygni (Deneb) is listed sometimes as “Deneb el Adige”.

This Greek asterism “᾽Ορνις” (“Ornis”) is the IAU constellation Cygnus as mentioned in Aratus’ poem *Phaenomena* (270 B.C.E.) and as it appeared in Ptolemy’s *Almagest* (2nd century). This is pretty much the same as the Northern Cross asterism (see Northern Cross below) but with lines connecting the “wing tips” to the “tail” at Alpha (α) Cygni (Deneb). John Hill lists this name for Cygnus in his *Urania* in 1754.

This Latin asterism “Gallina” is the IAU constellation Cygnus:

- The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists this constellation as “Gallina” and “Olor”.
- The “Nuremburg Maps”, a pair of celestial hemispheres made in 1503 by Conrad Heinfogel lists this constellation as “Gallina” and depicts it as a swan in flight as viewed from above.
- Unmounted gores for a celestial globe by Johannes Schöner from 1515, 1534, and 1535 (Dekker & Lippincott 1999) list “Gallina” and depict this constellation as a heraldic rooster. Celestial globe gores (1517) of Johann Schöner depicts “Gallina” as a swan in flight as viewed from below.
- The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.168v-169r depicts “Gallina” as a swan in flight as viewed from below.
- A 15th century text Biblioteca Apostolica Vaticanna MS Pal. Lat. 1368, folio 51, depicts Cygnus as a hen with chicks (Dekker & Lippincott 1999).
- The “Nuremburg Maps” *(Die Karte des Nördlichen Sternenhimmels* inv.-Nr. Hz 5576), a pair of celestial hemispheres made in 1503 by Conrad Heinfogel, labels this constellation “Gallina” and depicts it as a swan in flight as viewed from above.
- Jesuit German mathematician Christopher Clavius (1538 – 1612) lists this constellation as “Olor, sive Cygnus qvi Etiam. Auis, feu Gallina dicitur” (“Olor, also Cygnus. A fowl is called a hen”) in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).
- Johann Bayer’s *Uranometria* (1603) lists the name “Gallina” for this constellation and as an alternate name for Alpha (α) Cygni (Vega).
- “Gallina” is listed as a name for Cygnus in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
- Giovanni Paolo Gallucci’s *Theatrum Mundi, et Temporis* (1614) labels this constellation “Cisne” and “Galina” and depicts it as a swan in flight.
- “Gallina” is listed in Robert Hues’ *A Learned Treatise of Globes* in 1659.
- “Gallina” is listed in John Hill’s *Urania* in 1754 and R. H. Allen’s *Star Names* in 1899.
- German astronomer Johann Bayer (1572-1625) named it “Galina”.
- The star Beta (β) 1 Cygni is called “Rostrum Gallinae” (“hen’s beak”), which is a Latin translation of the original Arabic name “minqār al-dajājah” (منقار الدجاجة), which also means “hen’s beak”.

This Romanian asterism “Găină” is the Pleiades cluster in the IAU constellation Taurus (Ottescu 2009, Lite, Lodina, and Ignat 2018). They also call it Hatching Hen and Her Chicks (see above).

Hen and Her Chicks:

This Italian asterism “Gallinella” is the Pleiades cluster in the IAU constellation Taurus as listed in John Hill’s *Urania* in 1754.

This German asterism “gallina fovens pullos suos” (“hen nursing her chicks”) is the Pleiades cluster in the IAU constellation Taurus and is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

This Ukrainian asterism ‘kurka ta kurchata” (курка та курчата) is the Pleiades cluster in the IAU constellation Taurus.

This German (Volga Community, Argentina) asterism “la gallina y sus pollitos” is the Pleiades cluster in the IAU constellation Taurus (Mudrik 2011).

There are two Basque asterisms about a hen and her chicks (Frank 2021):

- One, “Oilo Txitoek” or “Oilo Txitoak” is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above).
- “Oilo Txitoek” is also used to describe the Pleiades cluster in the IAU constellation Taurus. This is also known as “Oiloa Kolka Txitekin” (see Broody Hen and her Chicks, above).

NOTE: Many European cultures from southern England to the Ukraine see the Pleiades cluster as a hen and her chicks.

This Mali asterism “niugu-niugu” is the Pleiades Cluster in the IAU constellation Taurus.

This Bulsa asterism “chibiisa” is the Pleiades Cluster in the IAU constellation Taurus.

This Mapuche asterism “Chawün Achawall” or “Chawün Achawaj” (“hen and her chicks” or “gathering of chicks”) is the Theta (θ) Carinae open cluster (Melotte 102), also known as the Southern Pleiades. The star Theta (θ) Carinae is the hen and the rest of the stars the chicks.

Hen and Her Chicks and a Girl:

This Serbian asterism is the Pleiades cluster in the IAU constellation Taurus as listed in R. H. Allen’s *Star Names* in 1899. Allen suggests that the “girl” is the star Eta (η) Tauri (Alcyone) in this cluster.

Hen Nesting Chicks:

This Latin asterism “Butrum” is the Pleiades cluster. The Gallo-Roman historian and Bishop Gregory of Tours (538 – 594) lists the names “Butrio” and “Butrionem” as names for this cluster. It is listed by 7th century philosopher Isidor of Seville as “Butrum”. R. H. Allen lists “Butrum” in his *Star Names* in 1899. This later appeared in German catalogues as “Bruthean” and English catalogues as “Butrio”, which can also be translated as “chicken run”.

Hen Ostriches:

This Arabic asterism “al-naʿāmāt”, later latinized to “Al Naymat” is the stars Theta (θ) Ceti (Thanih Al Naamat or Al Naymat I), Tau (τ) Ceti (Thalath Al Naamat or Al Naymat II), Upsilon (υ) Ceti (Al Naymat III), Eta (η) Ceti (Deneb Algenubi), and Zeta (ζ) Ceti (Baten Kaitos) in the IAU constellation Cetus. Compare this to the Arabic asterism Ostriches (see below). NOTE: Another star nearby, Eta (η) Ceti, is their star First Ostrich.

Hen with Chickens:

See Mother Hen and Her Chicks, below.

Hens:

This Belarussian asterism “Kurki”, “Koruchka”, “Kuročka”, “Kury”, “Kurica”, or “Kurački” is the Pleiades cluster in the IAU constellation Taurus (Avilin 2009, 2018).

Hen’s Beak:

This Arabic star “minqār al-dajājah” (منقار الدجاجة), “Al Minḥar al Dajājah”, or “Menchir al Dedjadjet” is Beta (β) 1 Cygni in the IAU constellation Cygnus as listed in the *Calendarium* of Al Achasi al Mouakket in 1650:

- “Minqār al-Dajāja” was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists “minqār al-dajāja”.
- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) listed it as “Menkar Eldigiagich” and “Hierizim”.
- Johann Bayer’s *Uranometria* (1603) lists the name “Rostrum Gallinae” for this star.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Minkár el dejájeh, the hen’s beak.”

Ḥer-ab-uâa:

This Egyptian decan “Ḥer-ab-uâa” was in the IAU constellation Sagittarius. In later Hellenistic texts it was named “ⲏⲣⲏⲟⲩⲱ”(“Hre-ua”). In the Testament of Solomon, it became “Anatreth”, Aristobulus of Paneas called it “Ortusa”, in Greek Hermeticism it became “Sebos”, in Latin Hermeticism “Clinothois”, 4th century Roman astrologer Julius Firmicus Maternus called it “Eregbuo” or “Ergbuo”, Cosmas of Maiuma (d. 760) called it “Loimos”, French scholar Joseph Justus Scaliger (1540 - 1609) called it “Eregbuo” and German Jesuit astronomer Athanasius Kircher (1602 – 1680) called it “ⲧⲟⲗⲙⲟⲫϯ” (“Tolmophta”). It has been depicted as a man covered with a net having a needle in his hand next to several spears.

Ḥer-âb-khentu:

This Egyptian decan “Ḥer-âb-khentu” was in the IAU constellation Pisces. In later Hellenistic texts it was named “ⲃⲓⲟⲩ” or “ⲧⲡⲓⲃⲓⲟⲩ” (“Tpi-bui”). In the Testament of Solomon, it became “Bianakith”, Aristobulus of Paneas called it “Ajaras”, in Greek Hermeticism it became “Syro”, in Latin Hermeticism “Piatris”, Roman astrologer Julius Firmicus Maternus called it “Uiu” or “Aatexbui”, Cosmas of Maiuma (d. 760) called it “Elpis”, French scholar Joseph Justus Scaliger (1540 - 1609) called it “Atembui” and German Jesuit astronomer Athanasius Kircher (1602 – 1680) called it “ⲫⲁⲗⲗⲟⲫⲟⲣⲟⲥ” (“Phallophorus”). Variations include “Suro”. It has been depicted as a crowned invisible man with a beard with a dragon coiled around him.

Her Bracelet:

This **telescopic** star “Siwarha” is a star orbiting Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion. This was reported in Steve Howell et al, "Probable Direct Imaging Discovery of the Stellar Companion to Betelgeuse," The Astrophysical Journal Letters (2025). This Arabic name has been proposed but not approved.

Heracles:

This Greek star “Ἡρακλῆς” (“Iraklís”) or “Ἡρακλέης” (“Irakléis”) is Beta (β) Geminorum (Pollux) in the IAU constellation Gemini:

- The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) lists “Abrachaleus” for this star.
- Dutch uranographer Hugo Grotius (1583 – 1645) listed this as “Abrachaleus”, “Aracaleus”, and “Iracleus”.
- English orientalist Thomas Hyde (1636 – 1703) listed it as “Heraclus”.

- Italian astronomer Giovanni Battista Riccioli (1598 – 1671)) listed it as “Garacles”.
- The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch lists “Abracheleus” as a name for “Hercules”.
- Robert Hues lists it as “Abracaleus” and “Gracleus” in his *A Learned Treatise of Globes* in 1659.

This Egyptian asterism “Heracles” is one of the paranatellonta of the decans of Gemini as listed in *the Sphaera Barbarica* described by Teucros (Mosenkis, date n/k) and is the IAU constellation Hercules.

Herald:

This Arabic star “’al-Murzim” (الْمُرْزِم) is Beta (β) Canis Majoris in the IAU constellation Canis Major.

- This was later latinized to “Murzim”, “Murzam”, or “Mirzam”.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Mirzam, the roarer” and “al-mirzam” for this star.
- English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists this star as “Mirzam”.
- R. H. Allen in his *Star Names* in 1899 translates this as “the roarer” or “the announcer”.
- The 1st edition of British schoolmaster Arthur P. Norton’s *A Star Atlas and Telescopic Handbook* (1910) and the 14th edition (1959) lists this star as “Mirzam”.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this star as “Mirzam”.
- The IAU approved the name Mirzam for this star.

Herald of Al-Jauza:

This Arabic star “Mirzam al-Jauzā’” is Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010). Sufi explained that some Arabs called it this incorrectly, as it was the practice of the Arabs to begin the name of any bright star by the word “Mirzam”.

Heralds:

This Arabic asterism is the stars Alpha (α) Orionis (Betelgeuse) and Gamma (γ) Orionis (Bellatrix) in the IAU constellation Orion. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “al-mirzamáni, the two roarers” for these stars, which is related to his translation “roarer” of the name “al mirzam” for Beta (β) Canis Majoris (see Herald, above).

Herald’s Wand:

This Greek lunar mansion is the IAU constellation Scorpius and is listed in the *Magical Papyrus 121*, preserved in the British Museum, and dated to the 3rd century C.E. (Mosenkis, date n/k).

Herculaeus:

This Latin asterism “Herculeus” or “Herculeus Leo” is the IAU constellation Leo as described by 1st century B.C.E. poet Ovid. It is called this to honor Hercules, who killed the Nemean lion. Variations include “Herculeum Astrum”.

Hercules:

None of the stars in this constellation are brighter than 3rd magnitude, but its stars appear in 250 of the world's asterisms.

The modern IAU constellation Hercules (IAU abbreviation Her) originated in the ancient Babylonian asterism "MUL.DINGIR.GUB.BA.MESH" (see Standing Gods, below). The earliest Greek references to this constellation are not as Hercules, but as "Εγγόνασιν" ("Engónasin", "the Kneeler"), which is how it appeared in the 2nd century in Ptolemy's *Almagest* (see Kneeler below).

The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) depicts this constellation as a nude male kneeling on his left knee with his arms raised.

The Mainz Globe from the eastern end of the Roman empire (c. 150 – 220 C.E.) depicts this constellation as a nude male kneeling on his left knee with his arms raised.

The globe of the 2nd century Farnese Atlas depicts this constellation as a nude male viewed from the rear who is kneeling on his right knee and has his empty hands raised (Stevenson 1921).

This constellation appears in the 8th century *Revised Aratus Latinus*:

- In several editions (St. Gall, Stiftsbiliothek MS 902, fol. 84) Hercules is a man facing left, kneeling on his left knee, with a lion skin draped over this left arm and holding a branch aloft in his right hand,
- In other editions (Dresden DC 183, Paris BN 12957, Cologne 83 II) Hercules is shown as a kneeling naked male facing the snake in the Garden of Hesperides,
- In the Dresden edition he is holding a branch,
- In the Prague IX C. 6 edition Hercules is standing in a tree facing left with a branch beside him,
- In the Vat Reg lat 1324 edition Hercules is holding a leafy frond,
- In the Gottweig 7 (146) and Siena L. IV. 25 manuscripts Hercules is holding a small knife in his left hand.

This constellation is depicted in the Leiden *Aratea* (816) as a man in a short tunic and sandals with a crook in his right hand and a lion skin draped over his left arm (Katzenstein & Savage-Smith, 1988).

The 9th century Berlin 130, Madrid 3307, Monza F.9/176 and Vat lat 645 manuscripts of the *De ordine ac positione stellarum in signis* depict Hercules nude, kneeling on his left knee, with a lion's skin over his left arm and a club upraised in his right hand. The Munich 210 and Vienna ÖNB 387 manuscripts of the *De ordine ac positione stellarum in signis* depict Hercules with an animal skin, running to the right, holding a branch in his right hand. The Austin, TX, Ransom Ms 29, Paris BN, n.a. 1614, and St. Petersburg, Q.V. IX, no.2 manuscripts of the *De ordine ac positione stellarum in signis* depict Hercules nude from the rear, kneeling on his right knee, holding a lion's skin over his left arum and a club in his right hand. The Paris BN, 12117 and Vat Reg lat 309 manuscripts of the *De ordine ac positione stellarum in signis* depict Hercules nude walking to the left, holding a lion's skin over his left arm in front of him and holding a raised stick in his right hand behind him. The Los Angeles, Getty Ludwig XII, 5 manuscript of the *De ordine ac positione stellarum in signis* depicts Hercules as nude, running to the left holding an oddly shaped club in his left hand and an animal skin in his right hand: The Paris BN lat 8663 manuscript is identical, except he is holding a piece of cloth rather than a skin.

The Maass 1898 manuscript of the 11th century *De signis caeli ("of the signs of heaven*") lists "Hercules" and "Ercules, qui stans genuflexu" ("Ercules, who was standing kneeling"). The Oxford Laud 644, Padua 27 and Venice VIII 22 manuscripts depict Hercules striding to the left, a lion's skin over this right arm. The Klosterneuberg 685, Paris BN 5239, Paris BN 5543, Vat lat 643, and Zwettl 296

manuscripts of *De signis caeli* depict Hercules in the Garden of Hesperides with a snake. The Klosterneuberg 685, Paris BN 5239, Paris BN 5543, Vat lat 643, Montecassino 3, and Zwettl 296 manuscripts of *De signis caeli* depict Hercules kneeling in the Garden of Hesperides in front of the snake. The Klosterneuberg 685, Vat lat 643, Laon 422, Rouen 26, and Zwettl 296 manuscripts arm him with a club. The Freiburg im Breisgau 35 manuscript of *De signis caeli* depicts Hercules in the Garden of Hesperides.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi's son depicts Hercules as a clean-shaven male wearing a head band with a floral decoration on the front, dressed in knee-length robes. On one page he is kneeling on his left knee, turned to our left, holding his right palm out in front of him as if to gesture someone to halt and he is brandishing a sickle in his left hand. On the other page he is kneeling on his right knee, turned to our right, holding his left palm out in front of him and brandishing a sickle in his right hand.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Hercules as a male kneeling on his left knee and is turned to our left. He is brandishing a sickle over his head in his left hand and is gesturing towards the ground before him with his right hand.

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Hercules as a male kneeling on his left knee, turned slightly to our left. He is wearing a cap on his head. He is brandishing a sickle over his head in his left hand and is gesturing to his right as if to warn someone not to approach.

The mid 15th century Wein, Oesterr. National Bibl., manuscript Lat 5415, ff.168v-169r depicts "Hercules Genuflexus" as a male kneeling on his right knee, viewed from behind. He is dressed in Medieval tunic and tights. His left hand is held out in front of him, and his right hand is brandishing a scimitar over his head.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.71v-72r depicts Hercules as a male kneeling on his right knee as viewed from behind. It is a very poor drawing that seems to show him wearing a tunic, shorts and knee pads. His left arm is extended out to his side and he is brandishing a sword aloft with his right hand.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Hercules as a nude male walking to our left. He has a lion's skin draped over his extended left arm and a club raised in his right hand. It is not labelled.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Hercules as a clean-shaven nude male striding to our left. He is brandishing a long sword above his head in his left hand and has a lion's skin draped over his right arm. He is walking towards an apple tree around which a serpent is winding.

The *Germanicus Aratea* (Siciliensis, c. 1469) depicts Hercules as a nude male walking to our left with a lion's skin draped over his left shoulder and a club raised in his right hand. He is walking towards an apple tree around which a serpent is wound.

The *Germanicus Aratea* with scholia Strozziana (c. 1475) depicts Hercules as a nude male walking to our left with a lion's skin draped over his left shoulder and a club raised in his right hand. He is walking towards an apple tree around which a serpent is wound.

The Constance Celestial Globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts "Hercules aut Genuflexus" as a man in colourful attire kneeling on his right knee with his left foot above the head of Draco. He holds a lion's skin in his left hand and brandishes a club in his right hand. A branch bearing fruit is in front of this right lower leg.

The early 16th century Real Academia de Historia, manuscript D-97, f.102v – 103r depicts Hercules as a nude male kneeling on his right knee facing to our right. He has a sickle raised over his head in his right hand.

The "Nuremburg Maps" *(Die Karte des Nördlichen Sternenhimmels* inv.-Nr. Hz 5576), a pair of celestial hemispheres made in 1503 by Conrad Heinfogel, depicts "Hercules" as a nude bearded male kneeling on his right knee with his back to us: He is turned towards our left, holding aloft a club in his right hand and has a lion's skin draped over his left forearm.

The *imagines coeli septentrionales cum duodecint imaginibus zodiaci* ("images of the northern sky with twelve images of the zodiac"), commonly known as the *Northern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius (Dekker & Lippincott, 1999) depicts "Hercules" as a nude bearded male kneeling on his right knee with his back to us: He is turned towards our left, holding aloft a club in his right hand and has a lion's skin draped over his left forearm.

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts "Hercules" as an armoured warrior as viewed from behind, kneeling on his right knee. He is gesturing forward with his left hand and brandishing a scimitar over his head in his right hand. A celestial globe (1522) of Schöner (1477 – 1547) depicts "Hercules" as a nude male viewed from behind, kneeling on his right knee. He is holding an animal skin in his left hand and is brandishing a club over his head in his right hand.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts "HERCVLES" as a nude male with is back to us, kneeling on his right knee, holding a club aloft in his right hand and having a lion's skin draped over his extended left arm.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts Hercules in the same manner as Dürer et al.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts "Hercules" as a nude male kneeling on his right knee as viewed from behind. He is facing to our left with a club raised in his right hand and has gripped a lion by the neck with his left hand.

Dele Stelle Fisse ("Of the Fixed Stars") by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as "Di Hercole". The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

The Northern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Hercules as a bearded nude male with his back to us, kneeling on his right knee and turned slightly to our left. He is brandishing a club over his head in his right hand and has a lion's skin draped over his left forearm.

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists this constellation as “Engonasin qui et Hercules” in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572): see Kneeler, below.

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts “Hercules” as a male in a loin cloth kneeling on his left knee. He has a club raised over his head in his left hand and has raised his right arm straight out at shoulder level: There is nothing in his right hand.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts this constellation as a nude male kneeling on his left knee facing to our right holding a club over his head in his right hand. The label is unintelligible.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts “Hercules” as a nude male with his back to us, kneeling on his right knee. He has a lion skin draped over his left arm and is holding aloft a spiked mace in his right hand.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) lists this constellation as “Engonasin” with the subtitle “Hercules”. He is depicted as a very long-haired, bearded male kneeling on his left knee with a serpent wound around his extended left arm.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) depicts “Engonasin” as a male dressed in a tunic and sandals, walking to our right, with a crook in his right hand and a lion’s skin draped over his left arm.

German astronomer Johann Bayer (1572 – 1625) depicts in his *Uranometria* in 1603 this as a long-haired man wearing a lion’s skin with a club raised in his left hand and an apple branch in his right hand. Bayer lists the following names for this constellation: “Hercules, Engonasi, Ingeniculus, Prociduus in genua, Incuruatus in genu, Genu flexus, Nixus, Nisus, Saltator, Aper, Cetheus, Theseus, Alcides, Ixion, Prometheus, Thamyras, Orpheus, Algiethi, Algethi, Rasaben, Elgeziale rulxbachi, Persis Ternuelles”. NOTE: Bayer also lists “Hercules” as an alternative name for Ophiuchus, for Leo (“Herculeius”), and for Beta (β) Geminorum (Pollux).

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts “Hercules” as a bearded male viewed from behind, kneeling on his right knee. He has a club raised in his right hand, a lion skin draped over his left arm, and his holding an apple branch in his left hand.

“Hercules” is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and depicted as a bearded male kneeling on his left knee, pointing towards Lyra with his left hand and raising a club in his right hand.

Giovanni Paolo Gallucci’s *Theatrum Mundi, et Temporis* (1614) labels this constellation “Hercules” and “Enconaso” and depicts a nude bearded male kneeling on his right knee with his back to us. He had an animal skin draped over his left arm and is holding aloft a club in his right hand.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) list the names “Hercules” and “Engonasi” for this constellation.

“Heracles” is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a long-haired male kneeling on his right knee raising a club in his right hand and holding out a branch with three balls (apples presumably).

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius labels this constellation “Engonasi” and “Hercules”.

The huge *Gottorf Globe* (c1650) made for the Duke of Holstein, Frederick III, one of the world’s first planetariums, depicts Hercules as a bearded male wearing a loincloth as viewed from behind. He is kneeling on his left knee. He is brandishing a club aloft in his left hand, has a lion’s skin draped over his extended right arm, and is holding an apple branch in his right hand.

Hercules is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 and is depicted as a male kneeling on his right knee.

English uranographer John Seller’s *A coelestiall planisphere* (1678) depicts “Hercules” as a nude long-haired male wearing what looks like a fez. We view him from his left side and he is kneeling on his right knee holding a branch in his left hand and raising a club in his right hand.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts “Hercules” as a nude bearded male viewed from behind who is kneeling on his right knee, with a lion’s skin draped over his left arm, holding a club in his right hand and a three headed snake labelled “Cerberus” (see above) in his left hand.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli depicts “Hercules” as a bearded male with long hair kneeling on his left knee. He is holding aloft a club in his left hand and holding an apple branch in his right hand.

Dutch uranographer Carel Allard’s *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) labels Pollux as “Pollux al Hercules”.

A celestial pocket globe created by British uranographer Herman Moll in 1719 depicts Hercules as a nude male viewed from behind kneeling on his right knee. He is holding a branch with three serpents in his left hand and holding aloft a club in his right hand.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley’s pirated catalogue of Flamsteed’s observations of 1712, depicts Hercules as a male wearing a lion’s skin, kneeling on his left knee, holding aloft a club in his left hand and the asterism “Ramus Cerberus” (see Cerberus, above) in his right hand.

Hercules is listed in English astronomer John Flamsteed’s *Atlas Coelestis* in 1729: He is depicted as a bearded male kneeling on his right knee. He is holding aloft a club in his right hand and has his empty left hand fisted in front of him.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts “Hercules” as a nude male kneeling on his left knee facing away from us. He has a lion skin draped around his neck and his holding a three headed snake in his right hand.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts “Hercules” as a male kneeling on his left knee with his body turned away from us, looking over his right shoulder. He has a lion skin draped over his right shoulder and is holding a three headed snake labelled “Cerberus” in his right hand.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Hercules as a bearded male with hair which reaches down his back to almost his knees. He is turned slightly away from us, facing to our right, and kneeling on his left knee. He is holding an apple branch in his right hand and brandishing a club aloft in his left hand.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts Hercules as a male kneeling on his right knee, facing left away from us, holding a club aloft in his right hand and a branch with serpents in his left hand.

The French edition, *Atlas Céleste, Seconde Édition* (1776), of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "Hercule" as a male kneeling on his right knee, wearing a lion's skin, with a club raised in his left hand and a branch with three serpents twined through it in his left hand.

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Herkules" and depicts a male wearing a lion's skin who is kneeling on his right knee. He is holding aloft a club in his right hand and is holding a branch with three serpents labeled "Cerberus u Zureig".

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as "Ercole" in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) depicts "Hercule" as a bearded male kneeling on his left knee, facing to our right. He is wearing a lion's skin, has a club raised in his left hand, and is holding an apple branch in his right hand.

The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678 by English uranographer James Clerk depicts "Hercules" as a nude male with long hair kneeling on his right knee with his back to us holding an apple branch in his right hand and raising a club in his left hand.

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts "Hercules" as a nude male kneeling on his right knee facing away from us, looking over his left shoulder, with a club raised in his right hand.

American uranographer William Croswell (1760 – 1834) depicts "Hercules" on his *Mercator Map of the Starry Heavens* in 1810 as a long-haired male kneeling on his right knee and holding aloft a branch and two serpents in his left hand and a club in his right hand.

The French edition of Flamsteed's work, the *Atlas Céleste,* which was revised in 1778, lists this constellation as "Hercule". He is depicted as a long haired, bearded male kneeling on his right knee, with an animal skin around his loins. He is holding a club aloft in his right hand, and an apple branch with two snakes in the foliage (See Cerberus, above, and Apple Branch, above).

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as "Herkules" and depicts him as holding a club aloft in his right hand and an apple branch with three snakes in his left hand. Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Herkules".

NOTE: Scottish uranographer Alexander Jamieson (1782 – 1850) describes the Gemini twins in his *Celestial Atlas* in 1822 as "Hercules vel Pollux" and "Apollo vel Castor".

"Hercules" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as a bearded male kneeling on his left knee, facing to our right, with a branch in his raised right hand and a club raised in his left hand.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Hercules in his *Celestial Atlas* and in his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822): He is depicted as a long haired and bearded male kneeling on his right knee, brandishing a club aloft in his right hand. Hercules is wearing a lion's skin around his middle and has a bow and quiver draped over his left leg. In his left hand he is holding an apple branch with three snakes in the foliage (See Cerberus, above, and Apple Branch, above).

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts "Hercules" as a male in a tunic kneeling on his right knee as viewed from behind. He has a club raised in his right hand and is holding three snakes in his left hand.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts "Hercules" as a male kneeling on his right knee, wearing a lion's skin.

Hercules is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822. He is depicted kneeling on his right knee, with an animal skin around his loins, with a club raised in this right hand and an apple branch with two snakes in the foliage (See Cerberus, above, and Apple Branch, above). He has a bow and quiver draped over his left leg.

"Hercules" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): He is depicted as a bearded male kneeling on his right knee, holding aloft a club in his right hand and a branch with three serpents entwined in his left hand.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) describes "Hercules" as "a warrior clad in the skin of the Nemean lion, holding a club in his right hand and the dog Cerberus in his left".

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Hercules" as an official constellation "recognized in the catalogue of the British Association".

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as "Hercules".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Hercules" in his *Star Atlas* (1893).

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this constellation as "Hercules".

W. Brennand in his Hindu Astronomy in 1896 writes that "Sagittary was made Hercules, the Conqueror of Giants (Macrobius 1,20)." Brennan attributes this name for this constellation to the 5th century Roman Macrobius Ambrosius Theodosius, who believed that the Egyptians created the signs of the zodiac and that they were later adopted by the Greeks. Sagittary was a common variation of the name of the constellation Sagittarius in the years prior to the publication of Brennand's book.

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as Hercules and does not describe it.

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists “Hercules: The Mighty One”.

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children’s book *Curious George* (1941) redesigned the lines of Hercules in his book *The Stars - A New Way to See Them* (1952). The standard version found on star charts has the “Keystone” quadrilateral in the middle: Epsilon (ε), Pi (π), Eta (η), and Zeta (ζ) Herculis. From each of these stars, lines run out representing arms and legs. In Rey’s version:

- The “Keystone” becomes the “head” of Hercules,
- His “body” is the bent quadrilateral of the stars Epsilon (ε), Mu (μ), Omicron (ο), Xi (ξ), and Pi (π) Herculis,
- One “arm” starts at Pi (π) Herculis and runs to an “elbow” at Theta (θ) Herculis and a hand at Iota (ι) Herculis, which is holding a club formed by the stars Iota (ι), Sigma (σ), Phi (φ), and Tau (τ) Herculis,
- One “arm” starts at Epsilon (ε) Herculis and runs through Beta (β) Herculis (Kornephoros) to Gamma (γ) Herculis,
- One “leg” runs from Mu (μ) Herculis through Lambda (λ) Herculis to a “knee” at Delta (δ) Herculis and a “foot” at Alpha (α) 1 and 2 Herculis (Rasalgethi), and
- One “leg” runs from Omicron (ο) Herculis to a “knee” formed by 95 and 102 Herculis, then through 109 and 110 Herculis to a “foot” at 111 Herculis.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Hercules in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* with the Keystone asterism in the middle (see Keystone, below), but the four lines running out from the corners differ from the standard IAU version:

- One line runs from Pi (π) Herculis to Theta (θ) Herculis,
- One line runs from Eta (η) Herculis through Sigma (σ) and Tau (τ) Herculis to Phi (φ) Herculis,
- One line runs from Zeta (ζ) Herculis through Beta (β) Herculis (Kornephoros) to Alpha (α) 1 Herculis (Rasalgethi), and
- One line runs from Epsilon (ε) Herculis through Delta (δ), Lambda (λ), Mu (μ), and Xi (ξ) Herculis to Omicron (ο) Herculis.

Sky and Telescope Magazine, founded in 1941, depicts Hercules in their magazine and publications like this:

- His “head” and “upper body” is a pentagonal shape formed by the stars Zeta (ζ) Herculis, Beta (β) Herculis (Kornephoros), Alpha (α) Herculis (Rasalgethi), Delta (δ) Herculis, and Epsilon (ε) Herculis,
- His “lower body” is the “Keystone” asterism made up of Epsilon (ε), Pi (π), Eta (η), and Zeta (ζ) Herculis,
- One “arm” runs from Kornephoros through Gamma (γ) and Omega (ω) Herculis to 29 Herculis,
- One “arm” runs from Delta (δ) Herculis through Lambda (λ), Mu (μ), and Xi (ξ) Herculis to Omicron (ο) Herculis,
- One “leg” runs from Pi (π) Herculis through Rho (ρ) Herculis to a “knee” at Theta (θ) Herculis and a “foot” at Iota (ι) Herculis,

- One “leg” runs from Eta (η) Herculis through Sigma (σ) Herculis to a “knee” at Tau (τ) Herculis and then through Phi (ϕ) Herculis to a “foot” at Chi (χ) Herculis.

An Italian name for this constellation is “Ercole”.

NOTE: The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) gives “Hercules” as an alternate name for Orion. The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch gives “Hercules” as an alternate name for Ophiuchus.

Hercules Box:

This **telescopic** asterism is in the IAU constellation Hercules and is Leiter 6 on astronomer Frank Leiter’s list of asterisms. It is made up of five 10^{th} – 12^{th} magnitude stars and is only 2 arcseconds in size, so you’ll need higher magnification to see it. Its size is 1.6’ X 0.4’.

Hercules Cluster:

This **telescopic** asterism is the globular cluster Messier 13 (NGC 6205) in the IAU constellation Hercules. This was discovered by English astronomer Edmund Halley in 1714. The 1864 *General Catalogue* lists it as GC 4230, Edmund Halley lists it as Halley 1714, and John Herschel’s catalogue lists it as h 1968. American astronomer Solon Irving Bailey (1854 – 1931) lists it as the Great Cluster in Hercules” as does British schoolmaster Arthur P. Norton in the 14^{th} edition of his *A Star Atlas* (1959). *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) simply calls this a “Hercules Cluster”. *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this as the “Great Cluster”. This is also known as the Propellor, the Great Star Cluster, the Great Globular Cluster, the Great Hercules Cluster, the Spider, and the Mercedes Emblem.

Hercules Lydius:

This Greek asterism is the IAU constellation Ophiuchus as listed in John Hill’s *Urania* in 1754. This is a reference to the Lydian dragon of the river Hermus in Lydia.

Hercules’s Club:

This asterism from the Saguaro Astronomy Club asterism database is made up of stars of the IAU constellation Hercules: Iota (ι), Tau (τ), Nu (ν), and Phi (ϕ) Herculis. Compare this to the obsolete constellation Ramus Pomifer (see Apple Branch, above).

Herd:

This Sardinian asterism “sa mandra” is the IAU constellation Auriga (Putzolu 2019). It is related to the Sardinian asterism “Fence for Sheep” (see above).

Herd of Boars:

This Saxon and Anglo-Saxon asterism “Ebergedrangel” is the Pleiades cluster in the IAU constellation Taurus. R. H. Allen calls this “Boar Throng” in his *Star Names* in 1899 and writes that this may be either the Hyades cluster or Orion.

Herd of Goats:

This Bedouin asterism “Qatie min Almaeizis” (قطيع من الماعز) is the IAU constellation Auriga.

Herd of Horses:

This Kazakh asterism is the Pleiades cluster in the IAU constellation Taurus (Jaambayeva 2019).

Herdsman:

This Latin asterism "Bubulcus" ("herdsman", "cattle driver", or "bullwhacker") is the IAU constellation Boötes is the IAU constellation Boötes as described by 2nd century Roman poet Juvenal. It also appears as "Bubulus" ("bovine").

- This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as the "Herdsman" and "Bear Keeper".
- English linguist John Minsheu (1560 – 1627) listed this constellation as "Bubulcus coelestis" ("celestial cattle driver").
- English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) lists this constellation with the label "Bubulcus".
- Johann Bayer's *Uranometria* (1603) lists "Bubulus" and "Bubulcus" as alternate names for Boötes.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Bubulcus" as an alternate name for Boötes.
- The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch lists "Bubulcus" as a name for Boötes.
- This constellation is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as both "Bootes" and Bubulcus".
- Robert Hues lists "Heardsman" in his *A Learned Treatise of Globes* in 1659.
- French astronomer Jérôme Lalande (1732 – 1807) lists this constellation as "Bubulcus".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Bubulus" and also "Icarus" and attributing the latter to Roman general Germanicus (15 B.C.E. – 19 C.E.).
- R. H. Allen notes in his *Star Names* in 1899 that "Bubulcus" was sometimes also used for Taurus.

This French asterism "Bouvier" is the IAU constellation Boötes. The French edition of Flamsteed's work, the *Atlas Céleste,* which was revised in 1778, lists "le Bouvier": He is depicted as a male in a kilt-like garment with a club in his right hand and the leashes of two greyhounds in his left hand. The 1776 edition depicts him as a male in tall boots, a thigh length tunic, with a switch in his right hand and the leashes of two greyhounds in his left hand.

This German asterism "Boote" is the IAU constellation Boötes. The name is transliterated from the original Greek name "Βοώτης" or "Voótis" (see Boötes, above).

This Romanian asterism "Păstor" or "Văcarul" is the IAU constellation Boötes (Ottescu 2009, Lite, Lodina, and Ignat 2018).

This Latin asterism "Crotos" is the IAU constellation Sagittarius as listed by 1st century Roman writer Lucius Junius Columella. 1st century Roman author Gaius Julius Hyginus called it "Croton".

- Johann Bayer's *Uranometria* (1603) lists "Croton" and "Crotus" as names for this constellation.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists both "Croton" and "Crotus" as alternate names for Sagittarius.

- "Crotos" and "Croton" are listed in R. H. Allen's *Star Names* in 1899.

Herdsman and Dog:

This Nuer asterism is the stars of the belt and sword of Orion: The star Delta (δ) Orionis (Mintaka) is the herdsman, Epsilon (ε) Orionis (Alnilam) is his cow and Zeta (ζ) Orionis (Alnitak) is his dog, while the sword of Orion is a hyena following them.

Herdsman of the Jauzah:

This Arabic asterism "Rāʿi al Jauzah" is the IAU constellation Orion as listed in R. H. Allen's *Star Names* in 1899. Allen relates it to the asterism Camels (see above).

Herdsman's Crook:

This Greek star "Κᾶλᾶυροψ" or "Káláyrops", later latinized to "Alkalurops" is Mu (μ) Boötis in the IAU constellation Boötes:

- The name first appeared in the translations of the 5th century grammarian Hesychius of Alexandria.
- This appears in the 15th century *Alfonsine Tables* as "Incalurus", "Inkalunis", or "Icalurus", which may be a misreading or mistranslation of "et es inalurus" ("and you are hot").
- The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists the name "Icalurus" for this star.
- The 1515 edition of the *Almagest* lists it as "Incalurus".
- Johann Bayer's *Uranometria* (1603) lists this star as "Venabulum", "Incalurum", and "Alkalurops."
- This is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as "Inkalarus".
- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) listed it as "Colorrhobus".
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Alkalurops".
- American uranographer William Croswell (1760 – 1834) lists this star as "Alkalurops" on his *Mercator Map of the Starry Heavens* in 1810.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists this star as "Alkalurops" in his *Celestial Atlas* in 1822.
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "inkalúrus" and "Al kalurops,… a shepherd's crook… or herdsman's staff".
- This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Alkalurops": It is depicted as a spear on these cards.
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as "Alkaturops (sic)".
- In his *Star Names* in 1899, R. H. Allen writes that Ptolemy (c.100 – c.170) used the term "Κολλορόβος" or "Kollorónos" for this star as "probably a word of his own coining to designate the position of the star in the club".
- The 1st edition (1910) and the 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) list "Alkalurops" for this star.
- The IAU approved the name "Alkalurops" for Mu (μ) 1 Boötis Aa.

This Latin asterism "Ρόπαλον" or "Rópalon" is Mu (μ) Boötis in the IAU constellation Boötes as described by 1st century Roman author Gaius Julius Hyginus

This French star is Gamma (γ) Boötis in the IAU constellation Boötes in the IAU constellation as listed by French astronomer Camille Flammarion (1842 – 1925) in his *Astronomie Populaire*.

Here After Yoke:

"Alnon Uedon" is a proposed early Celtic name for the IAU constellation Scorpius from the Book of Ballymote through an etymological reconstitution (Boutet 2014).

Herman's Cross:

This **telescopic** asterism, also known as Terebellum, is a small quadrilateral or cross of four faint stars in the IAU constellation Sagittarius made up of the star Omega (ω) Sagittarii plus the stars 59, 60 and 62 Sagittarii.

Hermanubis:

This asterism is the IAU constellation Cancer as listed in an "Ancient Zodiac of Egypt" in *Hindu Astronomy* by W. Brennand in 1896. Brennand has labelled this illustration "from the Barberini Museum", which is probably a reference to the 17th century Palazzo Barberini, which is now the Galleria Nazionale d'Arte Antica. This "Ancient Zodiac of Egypt" also lists the name "Ibis" for this constellation (see Ibis, below). This depicts a seated man with the head of an ibis, which is how the Egyptian god Thoth is typically depicted. Anubis was associated with Canis Major in ancient Egyptian skies. In later Seleucid skies this constellation appears as a crab, "NAGAR", which is not related to Anubis. Brennan attributes this name for this constellation to the 5th century Roman Macrobius Ambrosius Theodosius, who believed that the Egyptians created the signs of the zodiac and that they were later adopted by the Greeks.

Hermidone:

This asterism is a group of stars between the IAU constellations Pisces and Cetus, first described by 1st century Roman architect Vitruvius with the Greek name "Ἑρμεδόνη" ("Ermedóni") and by 5th century Greek lexicographer Hescychius of Alexandria as the "Stream of Faint Stars":

- The 11th century *De signis caeli ("of the signs of heaven"*) mentions "Effusio" ("absoprion") for this asterism.
- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) called it "Hermindone", describing it as "effusio Aquarii" ("absorption of Aquarius").
- John Hill lists it as "Hermedone" in his *Urania* in 1754 and associates it with the entire constellation of Pisces.
- R. H. Allen writes in his *Star Names* in 1899 that French scholar Joseph Justus Scaliger (1540 – 1609) and "Baldus" assign it the Greek name "Ἀρπεδόνη" ("Arpedóni" or "cord") and that this may be the same stars as William Henry Smith's asterism Testudo (see Turtle, below).

Hermippus:

This asterism is the IAU constellation Delphinus. "Hermippus" is listed in Johann Bayer's *Uranometria* (1603) as an alternate name for Delphinus. "Hermippus" is listed by French astronomer Joseph Jérôme Lefrançois de Lalande (1732 – 1807) and Italian astronomer Giovanni Battista Riccioli (1598 – 1671).

John Hill lists “Hermippus” in his *Urania* in 1754. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Hermippus”. Hermippus was a 3rd century Greek philosopher.

Hermit Bird:

This German asterism “Einsiedler Vogel” is made up of stars of the IAU constellation Hydra and is listed in German astronomer Johann Elert Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820). Bode depicts it standing on the tip of the tail of Hydra facing towards the tip of the tail. This includes the stars HIP 61908, 62131, 62500, 62788, 63159 and the double star HIP 61621.

Hero of Tiryns:

This Latin asterism “Heros Tirynthius” is the IAU constellation Hercules as listed in R. H. Allen’s *Star Names* in 1899 and is a reference to the place Hercules was raised.

Hero of the Sky Furrow:

This Babylonian lunar mansion “Dan-nu” is Alpha (α) Virginis (Spica) in the IAU constellation Virgo as listed by R. H. Allen in his *Star Names* in 1899.

Hero Teacher:

This Ojibwe asterism is named for their hero Nanaboujou, the “hero teacher”, and made up of the stars of the IAU constellation Scorpius (Lee et al 2014). Basically, this is the stars of the front end of Scorpius, centered on Alpha (α) Scorpii (Antares), minus the “stinger” (see Fishhook, above). Nanaboujou is a trickster God.

Heron:

This asterism “Den Reygher” is the IAU constellation Grus as described by Dutch navigator Frederick de Houtman in 1592. John Hill lists this name in his *Urania* in 1754.

This Carib asterism “Kumawariyuman” or “Kumawari” is the heron (Ardea herodias). Its present location is unknown (Magaña, and Jara, 1982).

This **telescopic** asterism is Arp 84, a pair of interacting galaxies in the IAU constellation Canes Venatici. Spiral galaxy NGC 5395 (the “heron’s body”) is interacting with the smaller spiral galaxy NGC 5394 (the “heron’s head”). These were discovered by English astronomer William Herschel in May 1787, who listed them as “I 191” and “I 191”. They are GC 3730 and GC 3731 on the *General Catalogue* of 1864.

Hero’s Raft:

1st century Roman poet Marcus Manilius called Ptolemy’s asterism Argo’s Ship (see above) “Ratis Heroum”.

Hero’s Weapon:

This Arabic asterism “Kullāb” is the IAU constellation Perseus:

- Variations include “Cheleub”, “Chelueb”, “Chelùb” in the 1515 edition of the *Almagest,* the *Alfonsine Tables* of the 15th and 16th centuries, and German astronomer Johann Bayer’s *Uranometria* in 1603.

- Johann Bayer's *Uranometria* (1603) lists "Cheleub" and "Chelub" for this constellation. Bayer also lists "Cheleub" as an alternate name for Alpha (α) Persei (Algol).
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Cheleub".
- All the above variations plus "Kellùb" are found in Edward Sherburne's *Sphere of Marcus Manilius* in 1675. Sherburne translates it as "Deceptor".
- John Hill lists "Cheleub" and "Chelub" as names for this constellation in his *Urania* in 1754. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Cheleub" and "Kelb", the latter being attributed to Hugo Grotius (1583 – 1645).
- "Cheleub" is listed in R. H. Allen's *Star Names* in 1899: Allen translates it as "hero's weapon", though he agrees that a common translation of this Arabic word is "dog".
- Robert Burnham lists "Kullab", "Chelub", and "Celeub" in his *Burnham's Celestial Handbook* in 1978.

Herring:

This **telescopic** asterism NGC 4631 (Caldwell 32) is an edge-on barred spiral galaxy in the IAU constellation Canes Venatici. This was discovered by English astronomer William Herschel in 1786 who listed it as "V 42". It is GC 3165 in the *General Catalogue* of 1864. It is also known as the Whale (see above).

Herschel's Galaxy of Cetus:

This **telescopic** asterism "Herscheliánus Céti" is the edge-on spiral galaxy NGC 1055 in the IAU constellation Cetus. It was discovered in 1783 by English astronomer William Herschel who listed it twice: Once as "I 1" and once as "II 6". It became GC 591 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as it was the first item listed by Herschel in his catalogue of bright nebulae (I.1).

Herschel's Hole in the Heavens:

See Ink Spot (below).

Herschel's Jewel Box:

This **telescopic** asterism is the open cluster NGC 4755 (Caldwell 94) in the IAU constellation Crux. It was originally discovered by Nicolas Louis de Lacaille in 1751 but named by English astronomer John Herschel (1792 – 1871), who described it as "a superb piece of fancy jewelry" in his catalogue of 1828 where it is listed as h 3435. It is GC 3275 in the *General Catalogue* of 1864. It is also known simply as the "Jewel Box" (see below).

Herschel's Large Telescope:

See Herschel's Telescope, below.

Herschel's Ray:

This **telescopic** asterism is NGC 2736, a part of the Vela Supernova Remnant in the IAU constellation Vela. This was discovered by English astronomer John Herschel in March 1835 and listed it as h 3145. It is GC 1745 in the *General Catalogue* of 1864. Herschel described it as "an extraordinary long narrow ray

of excessively feeble light" which is how it got this name. It is also known as the Pencil Nebula (see below) and the Streak Nebula (see below).

Herschel's Ring:

This **telescopic** asterism is Messier 51 (NGC 5194), a pair of interacting galaxies in the IAU constellation Canes Venatici. It was discovered by French astronomer Charles Messier in October 1773. The name comes from John Herschel, who observed it in 1830, listed it in his catalogue as h 1623, and described it as "a vB neb 1' in diameter of a resolvable kind with a double ring or rather 1 1.2 ring like an armillary sphere". Irish astronomer Lord Rosse first recorded its spiral structure in 1845

Herschel's Small Telescope:

See Herschel's Telescope, below.

Herschel's Spiral Cluster:

This **telescopic** asterism is the open cluster NGC 7789 in the IAU constellation Cassiopeia. It was discovered in 1783 by English astronomer Caroline Herschel. John Herschel listed it as ""VI 30". John Herschel listed it as h 2284 and later as GC 5031 in his *General Catalogue* of 1864.. It is also known as Caroline's Rose, the White Rose, the Star Mist Cluster, the Ghost Cluster, and the Screaming Skull Cluster.

Herschel's Telescope:

This asterism "Telescopium Herschelii" was created by Hungarian priest and astronomer Abbé Maximilian Hell in 1798 to honor William Herschel's discovery of the planet Uranus and published by German astronomer Johann Bode in 1800. American uranographer Elijah Burritt included it in his atlas in 1833. It is made up of the stars of the IAU constellation Auriga and located close to the IAU constellation Lynx. Originally it included two asterisms, the first commemorating Herschel's 20-foot telescope, and the second his 7-foot telescope:

- "Tubus Herschelii Major" ("Herschel's Large Telescope") was made up of stars of the IAU constellations Gemini, Lynx, and Auriga, with the "scaffold" starting at the brightest star Psi (ψ) 2 Aurigae and running through to Psi (ψ) 9 Aurigae, and a tube including open cluster NGC 2281.
- "Tubus Herschelii Minor" ("Herschel's Small Telescope") was made up of stars in the IAU constellations Orion and Taurus.

German astronomer Johann Ehlert Bode (1747 – 1826) changed the name of Hell's constellation Tubus Herschelii Major to Telescopium Herschelii in 1801 and disregarded Tubus Herschelii Minor. Bode later labelled it "Herschel's Telescop" in his *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820).

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts this asterism as a refractor telescope on a tripod facing to our left. The label is hard to make out, but it appears to say "Herschelii".

Scottish uranographer Alexander Jamieson (1782 – 1850) lists "Telescopium Herschelii" in his *Celestial Atlas* in 1822 and on his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822).

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts “Telescopium Herschelii” as a telescope on a tripod under the constellation Lynx.

Herschel's Wonder Star:

This triple star is Beta (β) Monocerotis in the IAU constellation Monoceros. It is named for English astronomer William Herschel, who recorded it in 1781, noting that it was “one of the most beautiful sights in the heavens”.

Hes:

This Hebrew asterism “Ḥēṣ”or “Ḥēts” is the IAU constellation Sagitta as listed by R. H. Allen in his *Star Names* in 1899.

Hesperides:

This Greek asterism is the Pleiades cluster as listed by R. H. Allen in his *Star Names* in 1899. The Hesperides were the “daughter of the evening”, nymphs of evening and sunset.

Hester’s Crown:

This German asterism is the IAU constellation Corona Borealis and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the “pagan” names of constellations with Biblical and early Christian figures. This appears as “Queen Hester’s Crown” in Edward Sherburne’s Sphere of Marcus Manilius in 1675 and as “Hester’s Crown” in John Hill’s *Urania* in 1754.

Hexagon:

This **telescopic** asterism is Kronberger J2048.9+2312 in the IAU constellation Vulpecula. René Merting describes it on the Faint Fuzzies website: “At 45x, it is already visible as a hexagon with six corners running from east to west; the brightest stars are in the east and form a corner in the north and south. At 103x, the cluster is beautiful to look at; the hexagonal shape is preserved, within which many small stars now run from east to west, some spots remain empty. The western flank is formed by three faint stars. A good two dozen stars are visible in total.” The four principal stars are Gaia DR3 1842110889138852736, 1842106907708810112, 1842110889138852736, and 1842111511913954560.

Hexagonal of Pavo:

This **telescopic** asterism “Sexanguláta Pavónis” is the barred lenticular galaxy NGC 7020 in the IAU constellation Pavo. It was discovered in 1836 by John Herschel who listed it as h 3853 and later as GC 4635 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “the inner ring of this double ringed galaxy has a remarkable hexagonal structure.”

Hexagonal of Virgo:

This **telescopic** asterism “Hexagonális Vírginis” is the intermediate spiral galaxy Messier 61 (NGC 4303) in the IAU constellation Virgo. It was discovered by Italian astronomer Barnaba Oriani in May 1779, six days before French astronomer Charles Messier recorded it. English astronomer William Herschel listed it as “I 139”. It is GC 2878 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One*

Thousand Named Galaxies by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name due to its "characteristic hexagonal shape". It is also known as the "Swelling Spiral" (see below).

Heze:

This Czech star is Zeta (ζ) Virginis in the IAU constellation Virgo and was listed under this name by Czech astronomer Antonín Bečvář in his Atlas Coeli in 1951, which was approved for Zeta (ζ) Virginis A in 2018 by the IAU.

Hézhōng:

This Chinese star "Hézhōng" from the 3 Kingdoms and Ming Dynasty Period is the star Beta (β) Herculis (Kornephoros) in the IAU constellation Hercules and is part of their xing guan Heavenly Market West Wall (see above).

Hidden Galaxy:

This **telescopic** asterism is the intermediate spiral galaxy IC 342 (Caldwell 5) in the IAU constellation Camelopardalis. It was discovered by British astronomer William Frederick Denning in 1892. It has this name as it is difficult to observe, being located behind dusty areas of the galactic equator. It is also known as "Behind a Veil of Stars of Camelopardalis" (see above).

Hidden Nebula

This **telescopic** asterism is the HII region SH 2-124 (LBN 426) in the IAU constellation Cygnus. This name appeared in a post on the *Astrophotography* Facebook page by astrophotographer Patrick A. Cosgrove of *Gosgrove's Cosmos* on 23 August 2025. It is also known as the "Mysterious Nebula".

Hidden of Cassiopeia:

This **telescopic** asterism "Crýptus Cassiopéiae" is the galaxy PGC 100170 (Dwingeloo 1) in the IAU constellation Cassiopeia. It was discovered by Cuno Hoffmeister in 1929 but originally thought to be a variable star. John Schmitt identified it as a radio source in 1968. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). This galaxy is on the galactic equator and is almost obscured by foreground stars. It was first detected by the Dwingeloo radio telescope in the Netherlands in 1994.

Hidden Virtue:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of two stars in the IAU constellation Ursa Minor: HIP 74605 (the determinative star) and RR UMi.

This Chinese xing guan "Yīndé" (阴德) is two stars in the IAU constellation Ursa Minor: HIP 51808 and 51734A.

This Chinese Chenzhuo xing guan "Yīndé" is a line of two stars in the IAU constellation Ursa Minor: HIP 73199 and HIP 74605

Hide Bucket:

This Latin asterism "Hyde Situla" is a Latinization of the Arabic asterism Well Bucket (see above).

Hiding Arms of Fornax:

This **telescopic** asterism "Crypsibráchion Fornácis" is the lenticular galaxy NGC 1380 in the IAU constellation Fornax. It was discovered by James Dunlop in 1826. This became 2559 on John Herschel's list and subsequently GC 739 on his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Hiding Place Dweller of Vela:

This **telescopic** asterism "Latebrícola Velórum" is the barred spiral galaxy NGC 3366 in the IAU constellation Vela. It was discovered in 1836 by John Herschel who listed it as h 3294 and later as GC 2192 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to a foreground star.

High Altar:

This Latin asterism "Altare" is the IAU constellation Ara and is listed under this name in John Hill's *Urania* in 1754.

High Backed Ceremonial Sandal:

This Tzotzil (of Zinacantán) asterism "Chak Shonob" is the Pleiades cluster in the IAU constellation Taurus. Compare this to the Ch'ol and Tzeltal asterism "Sonom" (see Sandal, below).

High Born:

This Māori star "Ariki" is Alpha (α) Carinae (Canopus) in the IAU constellation Carina.

High Judge:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a quadrilateral of stars in the IAU constellation Leo Minor: Omicron (o) Leonis Minoris, 37 Leonis Minoris, 30 Leonis Minoris (the determinative star), and Beta (β) Leonis Minoris.

This Chinese xing guan "Nèipíng" (内平) is a quadrilateral of stars in the IAU constellation Leo Minor: 13, 18, 21, and 22 Leonis Minoris.

This Chinese Chenzhuo xing guan is a "box" of stars in the IAU constellation Leo Minor: Omicron (o) Leo Minoris, 37 Leo Minoris, 30 Leo Minoris, and Beta (β) Leo Minoris.

High Ministers and Nobles:

This Chinese star "Qingdafu" from the 3 Kingdoms and Ming Dynasty Period is Mu (μ) Ursae Majoris in the IAU constellation Ursa Major and is part of their xing guan Three Steps (see below).

High Mountains:

This Hittite asterism, whose complete name is "High mountains, deep valleys, the prairie of the Storm God in the reeds" is the IAU constellation Capricornus as listed in the I KUB 1, KBO III 8 and 14/KUB XXV tablets (Boutet 2014)

High One with the Spear:

This Arabic star is Alpha (α) Boötis in the IAU constellation Boötes and is part of their asterism the "Armed One" (see above).

Higher Crossbar of the Bucket:

This Arabic asterism "'arquwat ad-dalw al-'ulya" (عرقوة الدلو العليا) is two stars in the IAU constellations Andromeda and Pegasus: Alpha (α) Andromedae (Alpheratz) and Beta (β) Pegasi (Scheat). These were part of their rain stars calendar. It is also known as First Spout (see above) and First Two Crossbars of the Bucket (see above).

Highest Post:

This Tahitian star "Anatipu" ("highest post" or "guardian post") is Alpha (α) Ursae Majoris (Dubhe) in the IAU constellation Ursa Major (Edwards 2015).

Highest Ranking Imperial Consort:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty "Furen" is the star Eta (η) Leonis in the IAU constellation Leo and is part of their asterism Xuanyuan (see below).

Highway:

This Korean asterism "Gosogdolo" (고속도로) is a line of stars in the IAU constellation Cassiopeia: One end starts at Iota (ι) Cassiopeiae and runs through Epsilon (ε), Delta (δ), Theta (θ), and Nu (ν) Cassiopeiae, ending at Omicron (o) Cassiopeiae.

Hikianalia:

This Hawaiian star is Alpha (α) Virginis (Spica) in the IAU constellation Virgo.

Hiki-'au-moana:

This Kauai'ian star is Alpha (α) Virginis (Spica) in the IAU constellation Virgo.

Hikule'o:

This Tongan star is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes.

Hilda's Cluster:

This **telescopic** asterism is the open cluster NGC 3766 (Caldwell 97) in the constellation Centaurus. It was discovered by French astronomer Nicolas Louis de Lacaille in 1751-2 who listed it as "III 7" in his catalogue. It is GC 2468 in the *General Catalogue* of 1864. It is also known as the Pearl Cluster, the Eye, "B", and the Rich Man's Jewel Box. South African astronomer Auke Slotegraaf lists it under this name and as the "Rich Man's Jewel Box" in his observations at Mount Ceder in 2008.

Hill:

This Japanese sei shuku or lunar station "Tatara Boshi", sometimes interpreted as "lasso" or "bellows", is a bent line of four stars in the IAU constellation Aries: Alpha (α) Arietis (Hamal), Beta (β) Arietis (Sheratan) and the variable/double stars Gamma (γ) 1 and 2 Arietis.

Hill of Dinan:

This Welsh asterism listed by Victorian folklorist Marie Trevelyan (1852 – 1922) in her *Folk-lore and Folk-stories of Wales* (1909) is currently unidentified.

Hill of Sky:

This Korean asterism “Haneul-ui Eondeog” (하늘의 언덕) is a long, crooked line of stars in the IAU constellations Eridanus and Fornax: It starts at Upsilon (υ) 1, 2, 3, and 4 Eridani and runs through g, f, h, γ, e, Theta (θ) 1, and Iota (ι) Eridani, Phi (ϕ) and Beta (β) Fornacis, HIP 13166, and ends at Alpha (α) Fornacis (Dalim).

Himinbjörg:

This Norse star “Himinbjörg” is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor and was created by Canadian Bjorn Jónsson (1920 – 1995) who was trying to reconstruct traditional Scandinavian skies (Kuperjanov 2006). Himinbjörg was the home of the God Heimdallur (see above). Jónsson depicts Heimdallur as standing on this star.

Hind:

This German star “der Hinde” is 80 Ursae Majoris in the IAU constellation Ursa Major as listed by R. H. Allen in his *Star Names* in 1899.

Hind Leg of the Lion:

This Babylonian star “Shēpu-arkū sha-A” is Beta (α) Virginis (Zavijava) in the IAU constellation Virgo as listed by R. H. Allen in his *Star Names* in 1899.

Hindmost:

This Arabic star “Al Ridf” is Alpha (α) Cygni (Deneb) in the IAU constellation Cygnus:

- This was later latinized to “Aridif” and “Arion”.
- The star list of Abraham Bar Hiyya in 1104 (Goldstein 1985) lists the Arabic name “al-ridf” and the Hebrew name “zenav ha-tarnegolet”.
- Shams al-Dīn Muhammad B. Mu’ayyad al-‘Urdī’s inlaid celestial globe (1288) lists this star as “al-ridf”.
- An anonymous Hebrew star list from 1392 (Goldstein 1985) lists the Arabic name “al-rādf” and the Hebrew name “zenav tarnegolet”.
- The Sloane astrolabe BM SL 54 in the British Museum which dates to 1290 – 1300 lists “Alref” (Dekker 2000).
- The rete of the 14th century Spanish astrolabe NMM AST0570 lists “Alrif” (Dekker 2000).
- “Alredaf” and the abbreviated form “Radf” appear on the 14th century astrolabe #4560 from Christian Spain (King 2002), which is translated as “person riding on a horse behind the main rider”: King notes that this is not known from the textual tradition or from any known medieval astrolabe, the more common forms being “Ridf” and “Redf”.
- A 14th century Christian Spanish astrolabe #4560 lists “radf” (King 2002).
- The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.168v-169r lists this star as “Addigege avior”.
- The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists “Deneb adigege [vel] Arided”.
- It is listed as “Arided” and “Arrioph” by German astronomer Johann Bayer (1572-1625) in his Uranometria (1603).
- Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius lists this star as “Aridef”.

- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Al-ridf" and "Arided".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Arided" and "Deneb Adiga".
- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Arided" and describes it as "the tail piece".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists "Arided" and "Deneb Adige" for this star, but his 14th edition (1959) only lists "Arided" for this star.

Hind's Crimson Star:

This pulsating variable star is R Leporis (HP 23203) in the IAU constellation Lepus. It is named for the British astronomer John Russell Hind, who observed it in 1845. This cool carbon star is one of the reddest stars visible. *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this as the "Crimson Star". The 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) lists "Hind's 'Crimson Star'".

Hind's Variable Nebula:

This **telescopic** asterism is HII region NGC 1555 in the IAU constellation Taurus. It contains the star T Tauri and was discovered in 1852 by British astronomer John Russell Hind. It is listed in the General Catalogue of 1864 as GC 839. *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this as "Hind's Nebula". NOTE: this name is also sometimes given to NGC 1554 (see Struve's Lost Nebula, below).

Hip:

This Latin star "Coxa" is Theta (θ) Leonis in the IAU constellation Leo. It is a mistranslation of the original name of the star "al-kharātān" (see Two Small Ribs, above).

Hip Bone:

This Jū /'hoansi star "//Kum" is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Alcock 2014). It may have at one time been part of their "tshxum" asterism (see Rain Bull, below).

This Jū/Wãsi star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major. It may have at one time been part of their "tshxum" asterism (see Rain Bull, below).

Hippie:

This American asterism is made up of stars of the IAU constellation Cetus and was created by Brad and Kathryn Templeton for *The Vault of Heaven* star map for the 2004 Burning Man event held in Black Rock Desert in Nevada (Kuperjanov 2006). This is the "tail end" of Cetus.

Hippocampus Nebula:

This **telescopic** asterism, the "Hippocampus Nebula" or the "Hippocampi Dark Nebula" is Barnard 150 in the IAU constellation Cepheus. It is also know as the "Sea Horse", the "Dark Sea Horse", or the "Sea Horse in the Red Sea".

Hippocrator:

This Egyptian asterism is one of the paranatellonta of the decans of Aquarius as listed in *the Sphaera Barbarica* described by Teucros (Mosenkis, date n/k) and may be stars of Perseus or Pegasus.

Hippolytus:

This Greek asterism "Hippolytus" is the IAU constellation Auriga. Hippolytus (whose name means "unleasher of horses") was the son of Theseus and the main character in a play by Euripides (480 – 408 B.C.E.).

Hippopotamus:

This ancient Egyptian asterism "Reret" ("rrt"), or "Isis-Djamet" ("ꜣst-ḏꜣmt*")* is found in the Ramesside star charts on the ceiling of three tombs in the Valley of the Kings (New Kingdom, 20th Dynasty) and the ceiling of the Temple of Hathor at Dendera (Krupp 1983, Hoffman 2017). It is made up of the stars of the IAU constellations Draco, Corona Borealis, Boötes, Hercules, and Lyra. The "body" is a very rough quadrilateral with four stars at the corners: Theta (θ) Herculis, Gamma (γ) Draconis, and Gamma (γ) and Xi (ξ) Boötis. The "tail" is the stars of Lyra. Alongside it, as if on its back, is their asterism "Saq" (see Crocodile, above). Reret is probably a representation of the nursing Goddess Taweret, a hippotamus figure with a crocodile tail that stands on two feet. The name Reret means "sow" (the ancient Egyptians saw hippos as part of the pig family) and is related to Tawaret in her form as Ipet. Compare this to the Babylonian asterism Pig (see below). She was known as Lady of Heaven or Mistress of the Horizon.

Other researchers suggest that this asterism was associated with Ursa Minor (Berio 2014): This would have the "bucket" of the Little Dipper as the "head" and an oval of stars as the "body": Beta (β) Ursae Minoris (Kochab), Zeta (ζ) Ursae Minoris, Delta (δ) Ursae Minoris, Alpha (α) Ursae Minoris, HIP 62572A, 4 Ursae Minoris, and 5 Ursae Minoris. Berio suggests that the Egyptian word for hippopotamus, "dỉb" is the probable source for several words meaning "bear" which refer to Ursa Major: Akkadian "dabû", Hebrew "dōbh", Arabic "dub", and Ethiopian "dĕb(b)". The cult of Tawaret spread to the Levant and to Minoan Greece around 1800 B.C.E., so this might have been an influence on the later naming of the constellation Ursa Major. English Admiral Henry William writes "The Egyptians, we are assured, called [Ursa Major] the Hippopotamus" in his *Bedford Catalogue* in 1844, and goes on to quote French philologer Jean-François Champollion: "In tabulis astronomicis indicator figura hippopotami: Horus Apollo" ("In astronomical tables the figure of the hippopotamus is an indicator: Horus Apollo").

Hircus Aequoris:

This Latin asterism is the IAU constellation Capricornus as listed in John Hill's *Urania* in 1754. Hill describes this name as "half a goat and half a fish". Hircus is "goat", but Aequoris is Latin for "level surface".

Hired Man:

This Babylonian asterism from MUL.APIN, "MUL.HUN.GA", "MUL.LU.HUN.GA" (Hunger 1992), "mulLU.HUN.GA" (Bartel van der Waerden 1974, Parpola 1993), "LU.ḪUĜ.GA", "LUHUN.GA", or "LÚ.HUN.GÁ" (Anthony 1996) translates as "hired worker", "hired man", "hireling", or "farm hand", and is made up of stars from the IAU constellations Triangulum and Aries. Alpha (α) Arietis (Hamal) and Beta (β) Arietis (Sheratan) form a line attached to a "loop" of stars: Alpha (α) and Beta (β) Trianguli and c Arietis.

This Seleucid asterism “LU” or “UDU.NIT” (‘ram”) from the tablet SBTU II No 43 (W 22646) from the Seleucid (Hellenistic) period (275 B.C.E. – 116 C.E.) is the IAU constellation Aries (Foxvog 1993).

This Akkadian asterism “Agru” (Hunger 1992, Parpola 1993, Anthony 1996) from the *Astrological Reports to the Kings* tablets or “ag-ri” from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is identical to the Babylonian asterism “MUL.HUN.GA” above.

This Sumerian asterism “mul lúhun-ĝá” from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is identical to the Babylonian asterism “MUL.HUN.GA” above.

This Assyrian asterism “LU.HUN.GA” is identical to the Babylonian asterism “LU.ḪUĜ.GA” above. They associated it with their God Dumuzi (Tammuz).

This Persian asterism “LU.HUNGA” from the list of Zodiacal Signs in VAT 4956 from the Persian (Achaemenid) Period (539 – 331 B.C.E.) is identical to the Babylonian asterism “LU.ḪUĜ.GA” above (Bartel van der Waerden 1974).

NOTE: The Greeks turned this Babylonian “MUL.HUN.GA” (“hired man”), into a ram (Aries) possibly due to a translation error. The character “LU” is a determinative for “people” in Sumerian, but has no use in Babylonian, so they used another character “LU”, meaning “ram”. In Akkadian this is “Agru” which sounds like “o kriou”, which is Greek for “ram”.

Hitched Yoke:

This Babylonian asterism from the MUL.APIN tablets **“**Mubukesda” is a line of stars in the IAU constellation Ursa Minor (Hunger and Pingree 1989). A curve of stars runs between Apil-Emah (“heir of the Emah temple”- the star Alpha (α) Ursae Minoris (Polaris)) and Beta (β) Ursae Minoris (Kochab).

This appears in later Seleucid sky lore.

Hoag’s Object:

This **telescopic** asterism is PGC 54559, a ring galaxy in the IAU constellation Serpens. It was named for American astronomer Arthur Hoag, who discovered it in 1950. It was originally thought to be a planetary nebula. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010) as “Hoágium Serpéntis”.

Hoar Frost Stars:

This KhoiKhoi asterism “≠ao /gamiroti” is the Pleiades cluster in the IAU constellation Taurus (Alcock 2014).

Hockey Stick:

There are two “hockey stick” asterisms:

- One is the stars at the tail end of the IAU constellation Draco, starting with the star Lambda (λ) Draconis and proceeding down the “stick” to Kappa (κ) Draconis, Alpha (α) Draconis (Thuban), and turning into the “blade” at Iota (ι) Draconis. The “blade” is the stars Theta (θ) Draconis and Eta (η) Draconis. The Spindle Galaxy (Messier 102) is near Iota (ι) Draconis and forms the “puck”.

- One is in the IAU constellation Scorpius and is Corder 2938 on the observing list of American astronomer Jeffrey Corder. Size 120' X 35'. This is five stars including 1, 2, and 3 Scorpii, HIP 77859, and the double star HIP 77858.

There are twelve **telescopic** "hockey stick" asterisms:

- One is in the IAU constellation Auriga and is Corder 951 on the observing list of American astronomer Jeffrey Corder. Size 30' X 15'. One end of the "stick" is the optical double HIP 28644 and 28626 and the line runs down through HIP 28429 and HIP 28212 to HIP 27778 where it bends and runs through HIP 27775 to HIP 27791 which form the "blade".
- One is found on the asterism list of American astronomer John Davis and is located in the IAU constellation Scorpius in the HII region NGC 6357.
  - The "handle" is a bent line of 5 5^{th} – 6^{th} magnitude stars starting at HIP 85372, running through HIP 85250, and ending at HIP 85237, and
  - The "blade" is the star HIP 85158.
- One is in the IAU constellation Orion and is Corder 1041 on the observing list of American astronomer Jeffrey Corder. Size 60' X 25'. The "stick" is the line of 6^{th} – 8^{th} magnitude stars including HIP 29665 and 29694. The "blade" is the stars 72 Orionis and HIP 29637.
- One is in the IAU constellation Camelopardalis and is Corder 1325 on the observing list of American astronomer Jeffrey Corder. Size 45' X 20'. This is the stars HIP 35506, 35771, 36100, and 36025.
- One is in the IAU constellation Columba and is Corder 1148 on the observing list of American astronomer Jeffrey Corder. Size 50' X 20'. This is five 8^{th} – 10^{th} magnitude stars including HIP 31815.
- One is in the IAU constellation Antlia and is Corder 1947 on the observing list of American astronomer Jeffrey Corder. Size 40' X 20'. This is four 6^{th} – 8^{th} magnitude stars including HIP 49375, HIP 49311 and the double stars HIP 49411A, and 49336A.
- One is in the IAU constellation Hydra and is Corder 2207 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is four 7^{th} – 8^{th} magnitude stars including HIP 56460 and 56454.
- One is in the IAU constellation Libra and is Corder 2851 on the observing list of American astronomer Jeffrey Corder. Size 45'. This is ten 9^{th} – 10^{th} magnitude stars including HIP 75821, 75721, and 75716.
- One is in the IAU constellation Scorpius and is Corder 3267 on the observing list of American astronomer Jeffrey Corder. Size 60' X 35'. This is five 7^{th} magnitude stars including HIP 85250, 85237, and 85158. Corder describes this as an "'easy chair' or 'hockey stick'".
- One is in the IAU constellation Lyra and is Corder 3760 on the observing list of American astronomer Jeffrey Corder. Size 35' X 20'. This is twelve 7^{th} – 10^{th} magnitude stars including HIP 93741, 93808, and 93841.
- One is in the IAU constellation Microscopium and is Corder 4362 on the observing list of American astronomer Jeffrey Corder. Size 180' X 60'. This is five 5^{th} – 6^{th} magnitude stars including HIP 104925 and 104738 and the double stars Theta (θ) 1 and 2 Microscopii and HIP 104680.
  - One is made up of stars of the IAU constellation Pisces and was posted on *Cloudy Nights* in July 2022 by American astronomer "Napp". It is the stars 29, 27, 24, and 20 Piscium.

Hockey Stick Galaxies:

This **telescopic** asterism is NGC 4656 and 4657 in the IAU constellation Canes Venatici. This was discovered in 1787 by English astronomer William Herschel: He listed them as "I 176" and "I 177". The became GC 3189 and GC 3190 in the *General Catalogue* of 1864. It is also known as the Crowbar Galaxy (see above), the Hook (see below), the Fishhook (see above), the letter "S" (see below) and the Hummingbird (see below). American astronomer Tom Polakis wrote to Tony Flanders in June 1998: "I like to call this galaxy 'The Hockey Stick'". This name was Latinized in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010) as "Pilamálleus Cánum Venaticórum" ("hockey stick of Canes Venatici"). NOTE: It was originally thought that these were two galaxies, hence the name. However, it is now believed that this is one tidally distorted galaxy interacting (in radio wavelengths) with NGC 4631. Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) lists the names "Crowbar Galaxy", "Fish Hook Galaxy", and "Hockey Stick Galaxy".

Hoeing Stars:

This Bantu asterism is the Pleiades cluster in the IAU constellation Taurus.

Hoffmeister's Star:

This **telescopic** star is V442 Cassiopeiae (Sonneberg 9484) in the IAU constellation Cassiopeia. It is named after German astronomer Cuno Hoffmeister.

Hoggar:

This **telescopic** Algerian star is HIP 21109 (HD 28678) in the IAU constellation Taurus (magnitude 8.44). It was given to this star in the IAU NameExoWorlds campaign. It is named after the Hoggar Mountains. It has an exoplanet named Tassili, after the UNESCO World Heritage site in the Sahara Desert.

Hoko-kumara:

This Māori asterism is the Pleiades cluster in the IAU constellation Taurus. Kumara are a form of sweet potato cultivated by the Māori. This asterism is also known as "Matariki" ("chief's eyes", "small face" or "small eyes"), "Tātai o Matariki", "Ao-Kai", or "Huihui o Matariki" ("the assembly of Matariki").

Hokuto:

This Japanese asterism "Hokuto" is the Big Dipper asterism in the IAU constellation Ursa Major (Miyajima 2014) as depicted by Japanese Emperor Go-Yozei (1586 – 1611).

Hola:

This Gond asterism is the IAU constellation Canis Major (Vahia 2014).

Hold Tight:

This Musquakie (Iroquois) asterism is the double stars Zeta (ζ) Ursae Majoris (Mizar) and 80 Ursae Majoris (Alcor) in the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above), which to them represent a small dog by this name. The Musquakie call the Big Dipper the Bear and Three Hunters (see above). Compare this to the Pawnee asterism Two Stretchers, with Medicine Man, Wife, Errand Man, and Dog (see below).

Holding Fast of Perseus:

This **telescopic** asterism "Ténax Pérsei" is the intermediate barred spiral galaxy NGC 1169 in the IAU constellation Perseus. It was discovered in 1786 by William Herschel who listed it as "II 620". It became GC 635 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to the "closely wound spiral arms of the galaxy, creating a compact appearance".

Holding the Reins:

This Latin asterism "Tenens habenas" ("holding the reins") is the IAU constellation Auriga. Variations include "Habenifer". These appear in tables and editions of the *Almagest* down to the 16th century. Compare this to Driver, above. Alternative names for this constellation listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch include "Habenis" and "Habenifer".

Hole in a Cluster:

This **telescopic** asterism is the open cluster NGC 6811 in the IAU constellation Cygnus. It was discovered by English astronomer John Herschel in 1829 who listed it as h 2044. It is GC 4505 in the *General Catalogue* of 1864. It is also known as Nefertiti's Headpiece, the Smoke Ring, or the Reliquary. This open cluster bears this name because it has a dark patch in the middle.

Hole in the Heavens:

This **telescopic** asterism is the Rho (ρ) Ophiuchi Nebula, IC 4604, in the IAU constellation Ophiuchus. It was recorded by English Astronomer William Herschel, who wrote "Hier ist Wahrhaftig ein Loch in Himmel" ("here is truly a hole in Heaven"). It is part of the Rho Ophiuchi Cloud Complex.

Hole in the Sky:

This Ojibwe asterism "Bugona Giizhig" is the Pleiades cluster in the IAU constellation Taurus (Lee et al 2014). It is also known as Madoo'asinik (see Sweating Stones, below).

This Anishinaabe asterism "Behgonay Geesik" is the Pleiades cluster in the IAU constellation Taurus (Lee et al 2014).

This Ininew (Cree) asterism "Pakone Kisik" is the Pleiades cluster in the IAU constellation Taurus (Buck 2016). It is also known as Atchakos Ahkoop (see Star Blanket, below) and "Mahtootisan Assiniuk" (see Sweating Stones, below).

NOTE: This is related to a story line in which birds disappear through a hole in the sky and are rescued by the Fisher (see Fisher, above).

This Evenk star is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Dmitrieva and Romeiko 2009).

Holy Fish:

This Greek asterism "Heiros Ichthys" is the IAU constellation Delphinus as listed in John Hill's *Urania* in 1754.

This Latin asterism "Piscis Sacer" is the IAU constellation Delphinus as listed in John Hill's *Urania* in 1754.

Holy Kettle:

This Korean asterism "Geolughan Jujeonja" (거룩한 주전자) is a bent line of three stars in the IAU constellation Virgo: 59, 70, and Sigma (σ) Virginis.

Holy Men:

This Lenape asterism is the Pleiades cluster in the IAU constellation Taurus (Frank 2021).

Holy Mound:

This Irish asterism is a circle of stars in the IAU constellation Libra named by Irish astronomer Agnes Mary Clerke (1842 – 1907): Alpha (α) Librae (Zubenelgenubi), Mu (μ) Librae, Xi (ξ) Librae, Delta (δ) Librae, Beta (β) Librae (Zubeneschamali), Chi (χ) Librae, Zeta (ζ) Librae, and Nu (ν) Librae. She saw this as the Holy Mound, "Tul Ku", representing the Tower of Babel.

Holy Palace:

This Korean asterism "Seong-gung" (성궁) is a curving line of stars in the IAU constellation Scorpius. This is the stars of the "tail" of Scorpius: Lambda (λ) Scorpii, Kappa (κ) Scorpii, Iota (ι) 1 Scorpii, Theta (θ) Scorpii, Eta (η) Scorpii, Zeta (ζ) 2 Scorpii, Mu (μ) 1 Scorpii, and Epsilon (ε) Scorpii. The area inside the curve is called "Hwanghuleul Wihan Madang" 황후를 위한 마당 (see Yard for Empresses, below).

Homam:

See Auspice of the Aspiring One, above.

Home of the Sun:

This Latin asterism "Domicilium Solis" is the IAU constellation Leo. The Egyptian king Nechepso (688 – 672 B.C.E.) and his philosopher Petosiris taught that at the Creation the sun rose near the star Denebola, which inspired this name. Compare this to "Dominis Solis" (Lords of the Sun, below).

Home Plate:

This **telescopic** asterism is a pentagon of five 6th magnitude stars in the IAU constellation Andromeda 1.2 degrees west southwest of the star 23 Andromedae: Double stars HIP 737, 508, 626, 525 and 714. This is listed in *Asterisms: Small Star Patterns for Telescopes and Binoculars* by Dutch astronomer Demelza Ramakers in 2011.

Homunculus Nebula:

This **telescopic** asterism is the HII region NGC 3372 (Caldwell 92) in the IAU constellation Carina. It was discovered by French astronomer Nicolas Louis de Lacaille in 1752 and listed in his catalogue as "III 6". It is GC 2197 in the *General Catalogue* of 1864. A homunculus (Latin "little person") is a miniature human, popularized in 16th century alchemy and 19th century fiction. This nebula is also known as the Gabriela Mistral Nebula (see above) and the Keyhole Nebula (as it resembles a keyhole) and the Eta Carina Nebula.

Honey Singer Star:

This /Xam star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Alcock 2014).

Honey Whip:

This Vedic star ‘‘Madhukaśā" is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus in the Atharva Veda (Ivanković 2021). This is an aspect of Ushas (see below).

Honeycomb (Covered in Bees):

This **telescopic** asterism is the globular cluster Messier 30 (NGC 7099) in the IAU constellation Capricornus. It was discovered by French astronomer Charles Messier in 1764. It is listed in John Herschel's *General Catalogue* of 1864 as GC 4687. South African astronomer Magda Streicher (1998) described this as "a sort of elongated honeycomb covered in bees." This is also known as the Jellyfish.

Honorable:

This Hindu asterism "Āryikā" ("honorable" or "worthy") is the stars Lambda (λ) Orionis (Meissa), and Phi (ϕ) 1 and 2 Orionis in the IAU constellation Orion as listed in R. H. Allen's *Star Names* in 1899.

Hook:

This asterism is in the IAU constellation Pegasus and is Corder 4938 on the observing list of American astronomer Jeffrey Corder. Size 480' X 150'. This is 63, 64, 67, 72, 78, 79, and Psi (ψ) Pegasi.

There are sixty **telescopic** "hook" asterisms:

- One in the IAU constellation Sagitta, also known as Leiter 4, was discovered by American astronomer Frank Leiter. It is located 40 arcminutes northeast of the star Gamma (γ) Sagittae. The "hook" is attached to the star PPM 110215. Its size is 8' X 4'.
- One is NGC 4656 and 4657 in the IAU constellation Canes Venatici. This was discovered in 1787 by English astronomer William Herschel: He listed them as "I 176" and "I 177". The became GC 3189 and GC 3190 in the *General Catalogue* of 1864. It is also known as the Crowbar Galaxy (see above), the Hockey Stick Galaxies (see below), the Fishhook (see above) and the Hummingbird (see below). NOTE: It was originally thought that these were two galaxies, hence the name. However, it is now believed that this is one tidally distorted galaxy interacting (in radio wavelengths) with NGC 4631.
- One is Sánta 215, listed in 2017 by Hungarian astronomer Sánta Gábor, which is described by Gábor as a "face or hook of a dozen stars 7.6 – 10 magnitude" in the IAU constellation Monoceros.
- One is in the IAU constellation Lepus and is Corder 993 on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 60' X 45'. This includes the star HIP 16306.
- One is in the IAU constellation Cassiopeia and is Corder 555 on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 60'. This includes the stars HIP 28350, 28344, 28434, and 28533.
- One is Corder 2738 in the IAU constellation Draco and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 45' X 25'. The eight stars of magnitude 8.5 to 10 include HIP 72874 and 73009.
- One is Corder 2782 in the IAU constellation Boötes and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 70' X 60'. This includes the stars HIP 73975, 74080, 74130, 74158, and 74265.
- One is Corder 3797 in the IAU constellation Draco and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 25'. This includes the stars HIP 94501 and 94522.
- One is Corder 4049 in the IAU constellation Sagittarius and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 30' X 15'. Includes the stars HIP 98898 and 98961.

- One is Corder 4779 in the IAU constellation Cepheus and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 75' X 50'. Includes the stars HIP 112246, 112721, 113066, 113499, 114194, and 113664.
- One is Corder 4839 in the IAU constellation Cepheus and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 60'. Includes the stars HIP 114792, 114540, 114285, and 114327.
- One is in the IAU constellation Perseus and is Corder 695 on the observing list of American astronomer Jeffrey Corder. Size 55'. This is twelve stars including HIP 20800, 20975, 21023, 20993, 21289 and 21301.
- One is in the IAU constellation Orion and is Corder 808 on the observing list of American astronomer Jeffrey Corder. Size 80' X 60'. This includes HIP 24162, 24130, 23995, 23919, 23955, 23929, 23930, and 23935.
- One is in the IAU constellation Monoceros and is Corder 1202 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is five 8^{th} – 9^{th} magnitude stars.
- One is in the IAU constellation Ursa Major and is Corder 1729 on the observing list of American astronomer Jeffrey Corder. Size 30' X 10'. This is four 7^{th} – 8^{th} magnitude stars including HIP 43863 and 43931.
- One is in the IAU constellation Leo and is Corder 2182 on the observing list of American astronomer Jeffrey Corder. Size 65'. This is nine 5^{th} – 9^{th} magnitude stars including 79 Leonis, HIP 55703, 55907, and 55906.
- One is in the IAU constellation Ursa Major and is Corder 2399 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is six 9^{th} – 10^{th} magnitude stars. This is also known as Ennis 56 (see 7 above).
- One is in the IAU constellation Phoenix and is Corder 88 on the observing list of American astronomer Jeffrey Corder. Size 100' X 45'. This is six stars including HIP 1667, 1795, 2001, 2076, 2240, and 2392.
- One is in the IAU constellation Sculptor and is Corder 173 on the observing list of American astronomer Jeffrey Corder. Size 45' X 35'. This is seven 8^{th} – 9^{th} magnitude stars including HIP 5046 and 4799 and the double star HIP 4974A.
- One is in the IAU constellation Dorado and is Corder 652 on the observing list of American astronomer Jeffrey Corder. Size 30' X 15'. This is five 6^{th} – 9^{th} magnitude stars including HIP 20074 and 20217 and the double star HIP 20109A.
- One is in the IAU constellation Lepus and is Ennis 67 on the observing list of Canadian astronomer Charles Ennis. Size 25' X 5'. This is seven 7^{th} – 10^{th} magnitude stars: Gaia DR3 2942312670918247936, Gaia DR3 2942291642758394752, SAO 151056, Gaia DR3 2942290440167604352, HIP 28601, and SAO 151060. This includes the cascade Corder 1003 from Jeffrey Corder's list.
- One is in the IAU constellation Canis Major and is Ennis 68 on the observing list of Canadian astronomer Charles Ennis. Size 65' X 15'. This is eight 6^{th} – 8^{th} magnitude stars including HIP 29671, 29546, 29756, 29836, the double star HIP 29619 and HD 44010. NOTE: This shares stars with Corder 1044 (see "Y", below).
- One is in the IAU constellation Orion and is Corder 809 on the observing list of American astronomer Jeffrey Corder. Size 80' X 60'. This is twelve 6^{th} – 9^{th} magnitude stars including HIP 24162, 24130, 23995, 23919, 23955, 23929, 23930, and 23935.

- One is in the IAU constellation Columba and is Corder 1060 on the observing list of American astronomer Jeffrey Corder. Size 8'. This includes the 5th magnitude star HIP 29842.
- One is in the IAU constellation Dorado and is Corder 1104 on the observing list of American astronomer Jeffrey Corder. Size 60' X 30'. This is seven 6th – 10th magnitude stars including HIP 31150, 31160, 30973, 30467, and the double star HIP 30515A.
- One is in the IAU constellation Carina and is Corder 1222 on the observing list of American astronomer Jeffrey Corder. Size 60' X 30'. This is six 6th – 8th magnitude stars including HIP 33863, 33577, 33464, 33440, 33473, 33588, and the double star HIP 34105.
- One is in the IAU constellation Vela and is Corder 1674 on the observing list of American astronomer Jeffrey Corder. Size 50'. This is seven 5th – 8th magnitude stars including HIP 42788, 42771, 42679, 42564 and the double stars HIP 42587 and 42653.
- One is in the IAU constellation Pyxis and is Corder 1722 on the observing list of American astronomer Jeffrey Corder. Size 55' X 25'. This is ten 7th – 9th magnitude stars including HIP 43710, 43809, and the double star HIP 43509A.
- One is in the IAU constellation Vela and is Corder 2043 on the observing list of American astronomer Jeffrey Corder. Size 7'. This is five 9th magnitude stars including HIP 51844 and the double star HIP 51815.
- One is in the IAU constellation Antlia and is Corder 2073 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is ten 7th – 9th magnitude stars including HIP 52900 and 52960.
- One is in the IAU constellation Centaurus and is Corder 2389 on the observing list of American astronomer Jeffrey Corder. Size 120' X 75'. This is 6 stars including HIP 62081, 61544, and 61682, and the double stars HIP 61789 and 61498.
- One is in the IAU constellation Centaurus and is Corder 2410 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is nine 10th – 11th magnitude stars.
- One is in the IAU constellation Centaurus and is Corder 2470 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is four 7th – 8th magnitude stars including HIP 64601 and HIP 64572.
- One is in the IAU constellation Libra and is Corder 2694 on the observing list of American astronomer Jeffrey Corder. Size 45'. This is eight 7th – 9th magnitude stars including HIP 71875, 71807, 71745, and 71684.
- One is in the IAU constellation Lupus and is Corder 2784 on the observing list of American astronomer Jeffrey Corder. Size 45' X 25'. This is six 6th – 8th magnitude stars including HIP 74220 and 74302, and the double star HIP 74066
- One is in the IAU constellation Lupus and is Corder 2960 on the observing list of American astronomer Jeffrey Corder. Size 8'. This is eight 9th – 11th magnitude stars.
- One is in the IAU constellation Scorpius and is Corder 3056 on the observing list of American astronomer Jeffrey Corder. Size 50' X 35'. This is twelve 8th – 9th magnitude stars including HIP 80556 and 80683 and the double star HIP 80504A.
- One is in the IAU constellation Ophiuchus and is Corder 3257 on the observing list of American astronomer Jeffrey Corder. Size 50'. This is twelve 7th – 10th magnitude stars including HIP 85053, 85023, and 84958.
- One is in the IAU constellation Sagittarius and is Corder 3506 on the observing list of American astronomer Jeffrey Corder. Size 50' X 30'. This is six 7th – 8th magnitude stars.

- One is in the IAU constellation Draco and is Corder 3526 on the observing list of American astronomer Jeffrey Corder. Size 30'. This is eight 7th -10th magnitude stars including HIP 89779.
- One is in the IAU constellation Sagittarius and is Corder 3719 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is six 7th – 10th magnitude stars including HIP 93227, 93191, 93152, and the double star HIP 93109.
- One is in the IAU constellation Vulpecula and is Corder 3910 on the observing list of American astronomer Jeffrey Corder. Size 35' X 15'. This is six 7th – 8th magnitude stars including the double stars HIP 96623A, 96617, and 96563A.
- One is in the IAU constellation Telescopium and is Corder 4063 on the observing list of American astronomer Jeffrey Corder. Size 45' X 25'. This is ten 8th – 9th magnitude stars including HIP 99222.
- One is in the IAU constellation Capricornus and is Corder 4096 on the observing list of American astronomer Jeffrey Corder. Size 55' X 35'. This is ten 7th – 9th magnitude stars including HIP 99708 and 99800 and the double star HIP 99823.
- One is in the IAU constellation Sagittarius and is Corder 4151 on the observing list of American astronomer Jeffrey Corder. Size 35'. This is six 7th – 9th magnitude stars.
- One is in the IAU constellation Vulpecula and is Corder 4204 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is six 8th – 9th magnitude stars including HIP 101822.
- One is in the IAU constellation Delphinus and is Corder 4274 on the observing list of American astronomer Jeffrey Corder. Size 25' X 15'. This is six 5th – 9th magnitude stars including 16 Delphini.
- One is in the IAU constellation Equuleus and is Corder 4311 on the observing list of American astronomer Jeffrey Corder. Size 50' X 35'. This is seven 6th – 8th magnitude stars including HIP 104041 and the double star HIP 103987.
- One is in the IAU constellation Cygnus and is Corder 4315 on the observing list of American astronomer Jeffrey Corder. Size 35'. This is a curve of 9th magnitude stars.
- One is in the IAU constellation Capricornus and is Corder 4328 on the observing list of American astronomer Jeffrey Corder. Size 90'. This is six 5th – 8th magnitude stars including Chi (χ), 27, and 26 Capricorni and HIP 104204.
- One is in the IAU constellation Equuleus and is Corder 4369 on the observing list of American astronomer Jeffrey Corder. Size 50' X 30'. This is eight 7th – 8th magnitude stars including HIP 105188 and 105093 and the double stars HIP 105202 and HIP 105038.
- One is in the IAU constellation Indus and is Corder 4391 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is six 6th – 10th magnitude stars including HIP 105494, 105422, and 105425.
- One is in the IAU constellation Pavo and is Corder 4402 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is six 8th – 10th magnitude stars including HIP 105664.
- One is in the IAU constellation Cygnus and is Corder 4505 on the observing list of American astronomer Jeffrey Corder. Size 40' X 20'. This is eight 7th – 8th magnitude stars including HIP 107636.
- One is in the IAU constellation Piscis Austrinus and is Corder 4606 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is eight 7th – 10th magnitude stars including HIP 109553.

- One is in the IAU constellation Pegasus and is Corder 4763 on the observing list of American astronomer Jeffrey Corder. Size 90' X 45'. This is fourteen 7th – 9th magnitude stars including HIP 112883, 112801, 112701, 112589, 112633, and 112625.
- One is in the IAU constellation Aquarius and is Corder 4869 on the observing list of American astronomer Jeffrey Corder. Size 125' X 75'. This is eight 4th – 7th magnitude stars including Psi 2 Aquarii, HIP 114600, 114666, 115015 and 115119 and the double stars Psi (ψ) 1, and 3 Aquarii and HIP 114750. John Raymond calls this asterism "Psi".
- One is in the IAU constellation Cepheus and is Corder 4944 on the observing list of American astronomer Jeffrey Corder. Size 60' X 30'. This is six 5th – 9th magnitude stars including HIP 116714, 116858, 116760, and 117039.
- One is made up of stars in the IAU constellation Scutum and is Ennis 86 on the observing list of Canadian astronomer Charles Ennis. This is a hook shaped cascade of stars. Size 140' X 40'. It starts at 5th magnitude star HIP 92202 and runs in a straight line through HIP 92171, 92082, 91960, the double star HIP 91880, and HIP 91751 to the double star HIP 91728, then runs through a curve of six 8th – 9th magnitude stars including HD 172810, HD 172852, HD 172929, HIP 91867 and the double star HIP 91933.
- One is the barred spiral "Hook Galaxy", NGC 5297 in the IAU constellation Canes Venatici. It was discovered in 1787 by William Herschel who listed it as "I 180". It became GC 3652 in the *General Catalogue* of 1864. This name was posted by American astronomer Jimi Lowrey on the *Deep Sky Forum* in July 2023. He named it this as it has "a most unusual hook like appearance in its southern spiral arm. It is also known as the "Sharp Leaf of Canes Venatici".

Hook Echo Galaxy:

This **telescopic** asterism is Messier 99 (NGC 4254), a grand design spiral galaxy in the IAU constellation Coma Berenices. French astronomer Pierre Méchain discovered it in March 1781. It is listed in the General Catalogue of 1864 as GC 2838 and in John Herschel's catalogue as h 1173. Dreyer lists it in the New General Catalogue of 1888 as "3 branched spiral". It is also known as the Saint Catherine's Wheel (see below), the Virgo Cluster Pinwheel (see below) and the Coma Pinwheel (see above).

Hook for Dress:

This Korean asterism "Deuleseu Hukeu" (드레스 후크) is a "hook" of stars in the IAU constellations Cygnus and Cepheus: 63, Xi (ξ), 68, Rho (ρ) and Eta (η) 1 and 2 Cygni and Mu (μ) and Nu (ν) Cephei.

Hooked Galaxy:

This **telescopic** asterism PGC 54817 is a galaxy in the IAU constellation Libra. It is also known as the "Mare of Libra" (see below).

Hooked of Cancer:

This **telescopic** asterism "Hámiger Cáncri" is the intermediate spiral galaxy NGC 2595 in the IAU constellation Cancer. It was discovered in 1787 by William Herschel who listed it as "III 599". It became GC 1661 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name because "The northern arm extends like a hook".

Hoop:

This Havasupai asterism is the IAU constellation Corona Borealis.

Hoop Marker:

This Dakota/Lakota/Nakota star is Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor. It is part of their asterism "Can Gleshka Wakan" (see Sacred Hoop, below).

Hoopskirt:

This **telescopic** asterism is the open cluster IC 2488, discovered by French astronomer Abbé Nicolas Louis de Lacaille in 1752 in the IAU constellation Vela. It ended up on the Index Catalogue after being recorded by American astronomer Solon Irving Bailey (1854 – 1931). It is located 30 arcminutes west of N Velorum, a 3rd magnitude star located near the False Cross asterism (see False Cross above). It is also known as the Strings of Pearl (see below), the Milk Can (see below), and the Chinese Hat (see above).

Hoot Owls:

This Chaldean asterism "musen.mes hu-u-u" is listed in the *Great Star List* (Koch-Westenholz 1995) but the stars have not been identified.

Horn:

This Latin asterism "Cornus" is the IAU constellation Aries as named by Cicero (106 – 43 B.C.E.) and the Roman poet Ovid (b. 43 B.C.E.).

In his *Commedia*, Italian author and philosopher Dante Alighieri (1265 – 1321) refers to the IAU constellation Ursa Minor as a horn ("corno") with the stars Beta (β) Ursae Minoris (Kochab) and Gamma (γ) Ursae Minoris forming the "mouth" ("bocca") of the horn. R. H. Allen lists this as "Cornu" in his *Star Names* in 1899, and that Italian merchant explorer Amerigo Vespuci (1451 – 1521) called it "Elcorno". In his Bedford Catalogue in 1844, English Admiral Henry William Smyth attributes this name to Richard Eden, in his 1572 translation of the *Arte of Navigation* written Spanish navigator Martin Cortés 1532 – 1589).

This Latin star "Cornu" is Sigma (σ) Lyrae in the IAU constellation Lyra.

This Spanish asterism "Bocina" is the IAU constellation Ursa Minor as listed in R. H. Allen's *Star Names* in 1899. Allen describes it as being used by "Spanish shepherds".

This Chinese xiù (lunar mansion) "Jiǎoxiù" (角宿) is a line of two stars in the IAU constellation Virgo: Alpha (α) Virginis (Spica) and Zeta (ζ) Virginis. NOTE: this xing guan crosses the xing guan Flat Road (see above) forming a cross. In the *Han shu*, a history of the early Han dynasty that was finished in 111 C.E. this xiù was associated to matters concerning the Yanzhou territory. This This appeared in the Tang Dynasty (618 – 907 C.E.) as "Jiǎoxiù" (角) and was compared to the Vedic nakshatra Chitra (Kotyk 2017, see Bright One, above). This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan "Jiǎo" is a line of two stars in the IAU constellation Virgo: Alpha (α) Virginis (Spica) and Zeta (ζ) Virginis.

This Elvish (Qenya) star "Til" ("point" or "horn") is a "small star near Sirius" according to early linguistic writing by J. R. R. Tolkien (1892 – 1973). It is probably Beta (β) Canis Majoris (Mirzam) in the IAU constellation Canis Major.

Horn Footed:

This Latin asterism "Cornipedes" is the IAU constellation Sagittarius.

Horn of Plenty:

This Latin star "Cornu Copiae" is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga. Compare this to Food Bearer.

Horn of the Goat Fish:

This Persian (Achaemenid Period 539 – 331 B.C.E.) star "SI MAS" is Beta (β) Capricorni (Dabih) in the IAU constellation Capricornus (Hunger and Sachs 1988).

Horn of the She-Goat:

This Romanian asterism "Cornul Caprei" is the IAU constellation Capricornus (Ottescu 2009). Romanians believed that when lightning appears from the Horn of the She-Goat then rain is sure to follow.

Horn Star:

This star "Si-mal" or "Si-mul" is Alpha (α) Arietis (Hamal) in the IAU constellation Aries as listed in R. H. Allen's *Star Names* in 1899. He lists the culture as "Euphratian".

This Sotho, Jū/Wãsi, Langa Ndebele, Pedi, Lobedu, and Nyae Nyae !Kung and Tswana star "Naka" is Alpha (α) Carinae (Canopus) in the IAU constellation Carina (Holbrook and Baleisis 2007, Slotegraaf 2013). It is part of the asterism Rain Bull (see below). They used it as an indication of weather patterns, and a Northern Sotho saying goes "naka e tšhumilê/ragilê" ("frost is fallen, it is very cold").

This Venda star "Nanga" is Alpha (α) Carinae (Canopus) in the IAU constellation Carina (Slotegraaf 2013).

Horna:

This **telescopic** Finnish star is HAT-P-38 in the IAU constellation Triangulum (magnitude 12.557). It received this name in the IAU NameExoWorlds Campaign. Horna is the underworld in Finnic mythology. This star has an exoplanet named Hilsi which represents sacred localities and later evil spirits in Finnic mythology.

Horned:

This Latin asterism "Corniger" is the IAU constellation Aries. Compare this to Horn, above. NOTE: Johann Bayer's *Uranometria* (1603) lists "Corniger" as an alternate name for Capricornus.

This Persian asterism "Çrob" is the stars Alpha (α) Librae (Zubenelgenubi) and Beta (β) Librae (Zubeneschamali) in the IAU constellation Libra as listed in R. H. Allen's *Star Names* in 1899.

Horned Goat:

This Latin asterism "Hircus Corniger" is the IAU constellation Capricornus as listed by Vergil (70 – 19 B.C.E.).

Horned Serpent:

This Babylonian asterism “Bašmu” was a precursor to the modern IAU constellation Serpens.

Horned Snake:

This Ikoots asterism “Ndiïk” is made up of stars of the IAU constellations Cassiopeia and Perseus.

Horns:

This Japanese sei shuku or lunar station “Su Boshi”, sometimes translated as “angle” or “corner”, is a line of two stars in the IAU constellation Virgo: Alpha (α) Virginis (Spica) and Zeta (ζ) Virginis.

Horns of the Lamb:

This Arabic asterism “qarna al-hamal” (قرنا الحمل) is Alpha (α) Arietis (Hamal) and Beta (β) Arietis (Sheratan) in the IAU constellation Aries. It is also known as the Butting (see above). These are rains stars in the calendars of Qushayr and Qays and are also known as the Sign (see below).

Horns of the Rain Bull:

This Jū/Wãsi, Jū /’hoansi, !O Kung, and Nyae Nyae !Kung asterism “tshxum-!Khusi” is Alpha (α) Carinae (Canopus) in the IAU constellation Carina (which they call “Naka”, the “Horn Star”) and Alpha (α) Aurigae (Capella) in the IAU constellation Auriga (which they call the “Green Leaf Horn”): together they call the stars “the horns of the Tshxum”. These stars are separated by 98 degrees of celestial latitude, although they are near to each other in right ascension, and the Pleiades cluster is ahead of them by and hour and a half, so it is difficult for outsiders to see how they connected these three into an asterism.

Horologium:

None of the stars of this constellation brighter than 4th magnitude and they only show up in 19 asterisms in this handbook.

This IAU constellation (IAU abbreviation Hor) was created by the French astronomer Abbé Nicolas Louis de Lacaille in 1756. He called it “l’Horloge à Pendule & à Seconds”. Later this was changed to the Latin name “Horologium Oscillatorium” (“pendulum clock”) from the Greek “ὡρολόγιον” (“an instrument for telling the hour”). This was later shortened to “Horologium” or “Horloge”. Lacaille’s *Planisphère des Étoiles Ausralea* (1756) depicts “Horloge” as a pendulum clock.

The Italians call it “Orologio”.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts “L’Horloge” as a pendulum clock.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Horologium in his *Celestial Atlas* in 1822.

American uranographer Elijah Burritt’s *Southern Circumpolar Map for each Month in the Year* (1835) depicts “Horologium the Clock” as a pendulum clock.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts “Horologium” as a pendulum clock.

American uranographer Henry Whitall labelled it “Horoscope” on his planisphere in 1871.

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Pendelhur" and depicts it as a pendulum clock.

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Horologium, The Clock" as an official constellation "recognized in the catalogue of the British Association".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Horologium" and describes it as a "Clock".

Standard IAU charts show this constellation as an "L" shaped formation of three stars: Alpha (α) Horologii, Zeta (ζ) Horologii, and Mu (μ) Horologii.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) extend Horologium in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* into a line of five stars: Alpha (α) Horologii, Eta (η) Horologii, Zeta (ζ) Horologii, Mu (μ) Horologii, and Beta (β) Horologii.

Sky and Telescope Magazine, founded in 1941, depicts Horologium in their magazine and publications as a line of six stars: Alpha (α) Horologii, Iota (ι) Horologii, Eta (η) Horologii, Zeta (ζ) Horologii, Mu (μ) Horologii, and Beta (β) Horologii.

Horrible Star:

This star "Sidus Horridum" is the Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes. This name is listed in Johann Bayer's *Uranometria* (1603) and attributed to Pliny.

Horrid and Insane Stars:

This Latin asterism "horrida et insana sidera" ("horrid and insane stars") is the Haedi asterism (see Kids above) as described by 1st century B.C.E. Roman poet Quintus Horatius Flaccus (Horace (65 – 8 B.C.E.)). This asterism was used by navigators and farmers as an indicator star of a season of stormy weather. Compare this to Mad Goat Stars, below.

Horrid Star:

This Latin star "Horridum Sidus" is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes as described by Pliny the Elder (23 – 79 C.E.) in his *Naturalis Historia*. This name was used as it was used by navigators and farmers as an indicator star of a season of stormy weather.

Horse:

This Greek asterism "΄Ιππος" ("΄Ippos") is the IAU constellation Pegasus as mentioned in Aratus' poem *Phaenomena* (270 B.C.E.) and as originally described in Ptolemy's *Almagest* (2nd century), including stars of the IAU constellations Andromeda and Pegasus. This was later latinized to "Equus" and "Equus Ales". "Equus" appears as a name for Pegasus in editions of the 8th century *Revised Aratus Latinus*. Ptolemy's "horse" looked like this:

- The "body" is an extended version of the Great Square of Pegasus (see Great Square, above) with the line between the stars Alpha (α) Pegasi (Markab) and Beta (β) Pegasi (Scheat) extended out to Lambda (λ) Pegasi,
- The base of the "neck" is the star Markab, with a large triangular neck including the stars Sigma (σ) Pegasi, Nu (ν) Pegasi, Theta (θ) Pegasi, and Zeta (ζ) Pegasi,

- The “head” is another triangle of the stars Nu (ν) Pegasi, Theta (θ) Pegasi, and Epsilon (ε) Pegasi,
- The “wing” is a triangle formed by two stars on one side of the “Great Square”, Markab and Gamma (γ) Pegasi, connected to 77 Pegasi,
- One “leg” runs from the star Scheat through Eta (η) Pegasi to a “hoof” at 29 Pegasi, and
- The other “leg” runs from Lambda (λ) Pegasi through 24 Pegasi to a “hoof” at Kappa (κ) Pegasi.

The 9th century Munich 210 and Vienna ÖNB 387 manuscripts of the *De ordine ac positione stellarum in signis* depict Equus as a whole horse with no wings. The Los Angeles, Getty Ludwig XII, 5 manuscript of the *De ordine ac positione stellarum in signis* depicts the front half of the horse.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) labels Pegasus “Equus” and depicts it as the front half of a winged horse facing to our right emerging from a cloud.

“Equus” is given as an alternate name for the IAU constellation Pegasus in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

NOTE: This is listed as a Greek lunar mansion in the *Magical Papyrus 121*, preserved in the British Museum, and dated to the 3rd century C.E. (Mosenkis, date n/k).

This Arabic asterism overlaps the Ptolemaic constellation Pegasus (which Ptolemy also called “the Horse”) and is made up of stars of the IAU constellations Andromeda, Cygnus, Lacerta, and Pegasus. This overlaps legs with the Ptolemaic constellation Pegasus:

- The “nose” of the horse is the stars 1 and 2 Andromedae.
- The rest of the “head” is the stars 6, 11, 13, 15, and 16 Lacertae. The “body” is a line running from 6 Lacertae through HIP 109754, 1 Lacertae, Pi (π) Pegasi, 14 Pegasi, Mu (μ) 1 Cygni, Kappa (κ) Pegasi, Iota (ι) Pegasi, HIP 110992, Eta (η) Pegasi, 10 Lacertae, and 12 Lacertae to 13 Lacertae.
- The “tail” runs from Mu (μ) 1 Cygni through 2 Pegasi and 5 Pegasi to 9 Pegasi.
- The “rear legs” run from 12 Pegasi to HIP 107887. The “front legs” are two lines running from Eta (η) Pegasi: One to Mu (μ) Pegasi, and the other to Beta (β) Pegasi (Scheat).

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi’s son depicts the “Horse” in left and right profiles. In R. H. Allen’s *Star Names* in 1899 he incorrectly describes this as being made up of the stars of IAU constellations Hydra, Leo, and Sextans.

This Romanian asterism “Cal” or “Calul” is the IAU constellation Leo (Ottescu 2009, Lite, Lodina, and Ignat 2018).

This Celtic asterism “Ekwos” or “Ecui Prinnios” is the IAU constellation Cancer (Boutet 2017).

This Gaulish asterism “Equi Prinnios” is the IAU constellation Cancer and appears in the *Coligny Calendar* (Boutet 2001, 2014).

This Basque asterism “Zaldia” is the IAU constellation Leo (Knörr 1999, Frank 2021) and their name for the star Alpha (α) Leonis (Regulus) is “Zaldi-oina” (see Horse Foot, below).

This Babylonian asterism in the MUL.APIN tablets “ANSHE.KUR.RA” (Anthony 1996), “Ssisu” or “sisû” (Anthony 1996) is a diamond of four stars in the IAU constellation Cepheus: Alpha (α) Cephei (Alderamin), Beta (β) Cephei (Alfirk), Gamma (γ) Cephei, and Iota (ι) Cephei. This appears in later Seleucid sky lore. It is listed in the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period as “mul anse.kur.ra” (Koch-Westenholz 1995).

This English asterism “Equus” is the IAU constellation Equuleus. English astronomer Richard Anthony Proctor gave it this name in 1873 as he believed that shortening the name would make more room on astronomical charts. However, it appears as “Equuleus” in Proctor’s *A New Star Atlas* (1887) as an official constellation “recognized in the catalogue of the British Association”.

There are two Lithuanian asterisms associated with a horse:

- One is the asterism “Arklys” (“horse”) and is made up of the stars of the IAU constellations Aquarius and Pisces (Vairkünas 1999).
- One from the Samogitia region is “Kybelka” (“jade”) which is the name of a horse and is the IAU constellation Taurus.

This Latvian asterism “Kumel’š” is made up of the stars of the IAU constellations Aquarius and Pisces (Vairkünas 1999). Vairkünas notes that Goba (1990) associates it with Pegasus.

This Lithuanian asterism “Kumelys” is possibly made up of stars of the IAU constellation Ursa Major according to the Lithuanian Ethnoastronomy site. Compare to the Latvian asterism Horse (“Kumel’š”).

This Byelorussian asterism “Konj” is made up of the stars of the IAU constellations Aquarius and Pisces (Vairkünas 1999).

This Seima-Turbino asterism is the IAU constellation Ursa Major and the star Alpha (α) Draconis (Thuban) in the IAU constellation Draco: At the time of that culture (2300 – 1700 B.C.E.) Draco was the north star. This is depicted in artwork in the Terekty-Auliye settlement (Polyakova 2009).

This Kolam asterism “Gurram” is the IAU constellation Crux (Vahia 2014). The Kolam used the brightness of these stars, each of which represented a different animal, to determine the intensity of the approaching monsoon. The animals included a peacock, a buffalo, a frog, a deer, a horse, and in some regions, a pig.

Robert Hues, in his *A Learned Treatise of Globes* in 1659, writes that the “inhabitants of Azania called [the asterism Argo’s Ship (see below)] a horse, as Ptolomy affirmes”. Hues cites the *Geographike Hyphegesis* of Ptolemy (100 – 170) as the source. Anzania is a name applied to various parts of southeastern tropical Africa.

Horse and Rider:

This English asterism is the stars Zeta (ζ) Ursae Majoris (Mizar) and 80 Ursae Majoris (Alcor) in the IAU constellation Ursa Major. *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), claims the name “Horse and Rider” as an “Arabic” name for these stars. R. H. Allen also lists this name in his *Star Names* in 1899. It appears on modern astronomy club asterism lists as a **telescopic** asterism but as you can see from the many examples from ancient times in this handbook, it has been an unaided eye asterism for centuries.

Horse and Wheels:

This Belarussian asterism “Kon’ i Kaliosy” (“horse and wheels”) or “Kon’ s Vazom” (“Horse and cart”) is the Big Dipper asterism in the IAU constellation Ursa Major (Avilin 2009).

Horse Foot:

This Basque star “Zaldi-oina” is Alpha (α) Leonis (Regulus) in the IAU constellation Leo (Knörr 1999, Frank 2021).

Horse Forehead Star:

This Arabic star is Xi (ξ) Cephei in the IAU constellation Cepheus.

Horse Head:

This is one of the asterisms found on the cave ceiling in Armintxe, Spain, estimated to be between 12,000 and 14,000 years old. It is made up of stars of the IAU constellations Cygnus, Lyra, and Sagitta. The central star is 15 Cygni, from which three lines of stars emerge:

- One spiraling line runs through HIP 96459, 97757, and 28 Cygni, ending at Alpha (α) Sagittae (Sham),
- One runs to Eta (η) Cygni, and
- One runs to Theta (θ) Lyrae.

Horse Head Nebula:

This **telescopic** dark asterism (one of few recognized in the northern hemisphere) is the dark nebula Barnard 33, discovered in 1888 by Scottish American astronomer Williamina Fleming (1857 – 1911) inside the emission nebula IC 434 on photographic plate B2312 taken at the Harvard College observatory. Fleming described it as “a semicircular indentation 5 minutes in diameter 30 minutes south of Zeta [Orionis]”. When the original jacket for this plate was replaced after 1888, someone wrote on it “Historic Plate: Contains the Horsehead”. It is in the IAU constellation Orion. It was first described by American astronomer Edward Emerson Barnard (1857 – 1923) and entered in his catalogue in 1913. *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists the “Horsehead Nebula”.

Horse Month Guiding Star:

The Celtic PRIN or guiding stars in the Sequani Calendar in the ninth month, Equos, is Alpha (α) Piscis Austrini (Fomalhaut) the IAU constellation Piscis Austrinus (Benigni). This is related to the Celtic concept of the horse Goddesses such as Epona or Macha.

Horse of Lir:

“Epos Leruos” is a Gaulish name for the IAU constellation Pegasus (Boutet 2001).

Horse of Llyr:

This Welsh asterism, representing the horse of the sea God Llyr, is the IAU constellation Pegasus as listed by Victorian folklorist Marie Trevelyan (1852 – 1922) in her *Folk-lore and Folk-stories of Wales* (1909).

Horse of Neptune:

This Latin asterism “Equus Neptunius” is Ptolemy’s asterism Argo’s Ship (see above). In his *Star Names* in 1899 R. H. Allen wrote that Ptolemy (100 – 170) asserted that this asterism “was known as a Horse by

the inhabitants of Azania, the modern Ajan, on the northeastern coast of Africa, south of Cape Gardafui".

Horse of the Air:

This asterism "Equus Aerus" is the IAU constellation Pegasus. This name is listed in Johann Bayer's *Uranometria* (1603).

Horse Track:

This Arabic star "Dhilf al-faras" (ظلف الفرس), "Al Ṭhīlf al Faras", or "aṭ-ṭilf al-faras" is Pi (π) 1 Cygni in the IAU constellation Cygnus:

- This was later latinized to "Azelfafage", "Adelfalferes", and "Azelfafge".
- This is listed as "Azelfage" by German astronomer Johann Bayer (1572-1625).
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Azelfafage".
- "Azelfafage" was listed by Scottish uranographer Alexander Jamieson (1782 – 1850) in his *Celestial Atlas* in 1822.
- This is listed as "Azelfafage" in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on Jamieson's *Celestial Atlas*.
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Azelfafage".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists "Azelfafage" for this star, but his 14th edition (1959) does not list this name at all.
- NOTE: some suggest that it is derived from the same source as the star "Tail of the Hen" (see below), which is a name for Alpha (α) Cygni (Deneb).
- The IAU's Working Group on Star Names approved the name Azelfafage for Pi (π) 1 Cygni in 2016.

Horse Yoking:

This Vedic asterism "Asvayújau" is the stars Beta (β) Arietis (Sheratan) and Gamma (γ) Arietis in the IAU constellation Aries appearing in the *Taittiriya Brahmana* (Ivanković 2021). This is an earlier name for their nakshatra Ashvini (see Harnessing Horses, above).

Horseman:

This Kiribati star "Bantongo" or "Nei Bantongo" is Eta (η) Ursae Majoris (Alkaid) in the IAU constellation Ursa Major (Trussel and Groves 1978).

This star "Eques" is Alpha (α) Geminorum (Castor) in the IAU constellation Gemini as listed by 1st century B.C.E. Roman poet Publius Ovidius Naso (Ovid).

There are two Greek asterisms with the name "Ἱππότης" ("Ippótis"):

- One is the IAU constellation Perseus as listed in R. H. Allen's *Star Names* in 1899. Robert Burnham lists this in his Burnham's Celestial Handbook in 1978.
- One is the IAU constellation Sagittarius as listed by R. H. Allen's *Star Names* in 1899.

Horseman Beast:

This Greek asterism "Ἱππότα Φήρ" or "Ippóta Fír" is their asterism Centaur (see above).

Horsemen:

This Greek asterism “Hippolates” is the IAU constellation Auriga as listed in John Hill’s *Urania* in 1754.

Horses:

This Kazakh asterism is the IAU constellations Ursa Major and Ursa Minor, which were seen as two horses circling the celestial pole as if tied to a pole (Polyakova 2009).

This Bashkir asterism is two stars in the IAU constellation Ursa Minor, named Akbuzat and Kharat (Polyakova 2009).

This Belarussian asterism “Koni” is the IAU constellations Ursa Major and Ursa Minor (Avilin 2009).

Horse’s Abdomen:

This Chinese xing guan “Mǎfù” (马腹) is a line of two stars in the IAU constellation Centaurus: Beta (β) Centauri (Hadar) and HIP 65129.

Horses and Foals:

This Arabic asterism is a bent oval of stars in the IAU constellations Ara, Centaurus, Lupus, and Norma: One end is the star Iota (ι) Centaurus and from here the line runs through Zeta (ζ) Centauri, Eta (η) Ara, Beta (β) Ara, Theta (θ) Ara, Alpha (α) Ara, Gamma (γ) 2 Normae, Eta (η) Lupi, Phi (φ) Lupi, c1 Centauri, and Theta (θ) Centauri. John Hill incorrectly lists this as “Horse and Bear” in his *Urania* in 1754.

Horse’s Tail:

This Chinese xing guan “Mǎwěi” (马尾) is a triangle of stars in the IAU constellation Centaurus: Delta (δ), Rho (ρ) and G Centauri.

Horseshoe:

There are ten **telescopic** “horseshoe” asterisms:

- One is in the IAU constellation Cygnus near NGC 7000 (the North America Nebula) and includes HIP 104361 and 104268 and several faint double stars (Sky & Telescope May 1998). René Merting lists it on Robert Zebahl’s *Faint Fuzzies* website as Calvet 1 and describes it as “Webb’s horseshoe”. It is also known as the Egg (see above) which is Leiter 2. Size 30’ X 30’. Nearby is the **telescopic** asterism the Checkmark (see above).
- One is Vastagh 15, listed in 2009 by Hungarian astronomer László Vastagh, which is in the IAU constellation Cassiopeia. Its apparent diameter is 39’. Vastagh describes it as “A horseshoe-shaped [asterism] between NGC7795 and Berkeley 58... The horseshoe shape is outlined by bright stars. Two members stick out of the shape, giving the effect of a nail sticking out of an imaginary horseshoe. The angle is formed by two stars of very different colors (mag. 7.14 HD 224855 & mag. 8.3 HD 224869). The entire repertoire of the star association includes 68 members. A medium-dense set with a high overall brightness. In places with the grouping of faint members. It can be broken down and is connected to its star environment to the west via three straight and bright rows of stars, which meet at the upper arch of the horseshoe shape.”
- One is the “Golden Horseshoe” in the IAU constellation Circinus is fourteen stars in a “U” shape 1.5˚ southeast of Alpha (α) Circinus. One end of the “horseshoe” is the star HIP 72965

and it loops around through HIP 72752, 72494, 72383, 72324, 72224, 72332, 72364, 72403, ending at HIP 72438. Size 60'. Jeffrey Corder lists this as Corder 2722.

- One is Corder 2520 in the IAU constellation Centaurus and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 40'. The seven stars include HIP 66292, 66394A, 66469, and 66527.
- One is in the IAU constellation Vela and is Corder 1988 on the observing list of American astronomer Jeffrey Corder. Size 180' X 120'. This is a curve of 5th – 9th magnitude stars including HIP 51077, 51014, 50903, 50799, 50480, 50196, 50191, 50200, 50162, and 50241.
- One is in the IAU constellation Cygnus and is Corder 3940 on the observing list of American astronomer Jeffrey Corder. Size 40'. Corder calls this the "Lucky Horseshoe" and is twelve 7th – 9th magnitude stars including HIP 97078, 97153, and the double stars 97106 and 97316.
- One is open cluster NGC 2439 in the IAU constellation Puppis, which was discovered by English astronomer John Herschel in 1847. It is GC 1566 in the *General Catalogue* of 1864.American astronomer Steve Coe (1949 – 2018) described it as a "Arc de Triumph [sic]" (see Arc de Triomphe, above) and as a "horseshoe shape". It is also known as the "Bold Arrow Cluster" (see below).
- One, the Horseshoe Nebula, is the HII region Messier 17 (NGC 6618, SH 2-45, RCW 160, LBN 60, Cr 377, Ced 161) in the IAU constellation Sagittarius, discovered in 1745 by Swiss astronomer Philippe Loys de Chéseaux catalogued by French astronomer Charles Messier in 1764, and listed in John Herschel's General Catalogue in 1864 as GC 4403:
    - American astronomer Solon Irving Bailey (1854 – 1931) listed it as "the Horse Shoe, or Omega nebula".
    - It is listed as "the horseshoe" in the third edition of Rev. Thomas William Webb's *Celestial Objects for Common Telescopes* in 1873.
    - John Dreyer lists it in the New General Catalogue of 1888 as "2 hooked" and "shaped".
    - William Denning's *Telescopic Work for Starlight Evenings* (1891) lists it as the "Horseshoe Nebula".
    - German astronomer Hermann Joseph Klein (1844 – 1914) lists this nebula as having a "horseshoe shape" in his *Star Atlas* (1893).
    - American astronomer Edward S. Holden, writes about it in his article *The Horseshoe Nebula in Sagittarius* in Popular Science in January 1876.
    - *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this as the "famous Horseshoe Nebula".
    - It is listed as the "Horseshoe" in R. H. Allen in his *Star Names* in 1899.
    - *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists it as the "Horseshoe".
    - The 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) lists this as the "Horseshoe Nebula".
    - It is also known as the Checkmark Nebula, Omega Nebula, Swan Nebula, "2", and the Lobster Nebula.
- One is open cluster NGC 3293, discovered by Nicolas Louis de Lacaille in 1751 in the IAU constellation Carina. Lacaille described it in his 1755 catalogue as a "small heap of 4 small stars forming a lozenge." It is GC 2144 in the *General Catalogue* of 1864. It is also known as the Spider Spit Cluster (see below), Hubbly Bubbly Pipe (see below), the Little Jewel Box (see below) and the Gem Cluster (see above). South African astronomer Carol Botha described it in 2016 as a "'U' or horseshoe shape".

- One is dark nebula Barnard 87 in the IAU constellation Sagittarius. This was discovered by English astronomer William Herschel in 1785. Australian astronomers Rodgers, Campbell, and Whiteoak (1960) labelled it RCW 1 and described it as a "horseshoe-shaped bright region".

Horus:

This large Egyptian asterism "Anu" represents the God Horus and is made up of stars from the IAU constellations Ursa Major, Cancer, Canes Venatici, Coma Berenices, Leo, and Lynx:

- His "body" is a rough quadrilateral with the four corner stars being Psi (ψ), 10 and 54 Ursae Majoris and 40 Lyncis,
- One "arm" runs from 10 Ursae Majoris through 9 Ursae Majoris to Theta (θ) Ursae Majoris,
- The other "arm" runs from Alpha (α) Lyncis to an "elbow" at Kappa (κ) Leonis and a "hand" at 48 Cancri,
- One "leg" runs from Psi (ψ) Ursae Majoris down to 12 Canes Venaticorum, and
- The other "leg" runs from 54 Ursae Majoris to Beta (β) Comae Berenices.

NOTE: Horus was a falcon-headed Egyptian God of kingship and the sky. Anu is an avatar of Horus, depicted as a falcon-headed god with a long spear harpooning a bull (see Bull's Foreleg, below).

This Egyptian Dendera asterism is made up of stars of the IAU constellations Carina and Columba (Hoffman 2017). This is depicted as a falcon sitting on a canopy at Dendera, the falcon being the stars of Columba and the bottom of the pillar being the star Alpha (α) Carinae (Canopus).

German Jesuit astronomer Athanasius Kircher (1602 – 1680) used the name "Horus" for the Egyptian decan Sasaqet (see below).

English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Horus" as a name for Alpha (α) Aurigae (Capella) in the IAU constellation Auriga.

Hostile:

This Chaldean star "mul [n]a-ka-ru" is listed in the *Great Star List* (Koch-Westenholz 1995) but the stars have not been identified.

Hot Air Balloon:

In 1798 French astronomer Jérôme Lalande created the constellation "Globus Aerostaticus", "Ballon Aerostatique", or "Aetherius" to honor the invention of the hot air balloon by the Montgolfier brothers. It lay between the IAU constellations Piscis Austrinus, Capricornus, and Microscopium. German astronomer Christian Ludwig Ideler (1776 – 1846) as "Luft Ball", and Italian astronomer Angelo Secchi as "Aerostáto". Scottish uranographer Alexander Jamieson (1782 – 1850) lists it as "Le Ballon Aerostaique" in his *Celestial Atlas* in 1822. German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this asterism as "Luft Ballon". Brazilian astronomer Bruno Alessi lists it on his BDCC 7.6 list as "Air Ballon". Jeffrey Corder lists it as Corder 4436 and it is in the SAC database.

Hound:

This Irish asterism is the IAU constellation Canis Major. This asterism is found in Julie Ormonde's *Constellation Stories of Ancient Ireland* (2015). This is probably a reference to the story of Cu-Chulainn. Compare this to Cú Roí, above.

This Lithuanian star “Skaliks” is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major.

Hourglass:

This asterism is the IAU constellation Orion as listed in English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844. Compare this to Clepsydra, above.

There are four **telescopic** “hourglasses”:

- One is an alternate name for HII region Messier 8 (NGC 6533, SH 2-25, RCW 146, LBN 25) in the IAU constellation Sagittarius. This was discovered by Italian astronomer Giovanni Hodierna before 1654. It is listed in John Herschel’s General Catalogue of 1864 as GC 4361. It is also known as the Lagoon Nebula (see below), and Dragon Nebula (see above).
- One is planetary nebula NGC 2346 in the IAU constellation Monoceros. This was discovered in c.1784 by English astronomer William Herschel who listed it as “IV 65” in his catalogue. It is GC 1500 in the *General Catalogue* of 1864. Size 1’ X 0.9’.It is also known as the Butterfly or the Crimson Butterfly (see Butterfly, above).
- One is in the IAU constellation Ursa Minor and is Corder 3084 on the observing list of American astronomer Jeffrey Corder. Size 25’. This is eight 7^{th} – 9^{th} magnitude stars including HIP 81156, 81219, and 81528. This forms part of John Chiravalle’s “Shark” (see below) and John Raymond calls this the “Ursa Minor Pseudo Cluster”.
- One is the open cluster NGC 6530 in the IAU constellation Sagittarius. It was discovered by Italian astronomer Giovanni Battista Hodierna prior to 1654 and later recorded by English astronomer John Flamsteed. John Herschel listed it as h 3724 and later as GC 4365 in his *General Catalogue* of 1864.

House:

This asterism is formed by the brightest stars of the IAU constellation Cepheus: Alpha (α) Cephei (Alderamin), Beta (β) Cephei (Alfirk), Gamma (γ) Cephei, Zeta (ζ) Cephei, and Iota (ι) Cephei. Jeffrey Corder lists this as the “House of Cepheus”, Corder 4570.

This Kiribati asterism “Auti” or “Nei Auti” is the Pleiades cluster in the IAU constellation Taurus (Trussel and Groves 1978).

There are four **telescopic** “house” asterisms:

- One is in the IAU constellation Andromeda and Corder 24 on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 25’ X 15’. The house is a square formed by HIP 525, 737, 714, and 508A. The “peak of the roof” is the pair of stars HIP 625 and 626. Corder describes it as a “group of 10 stars that are magnitudes 6.5 through 8… includes the double star STF3064 at the southern end.”
- One is in the IAU constellation Auriga and is Corder 1134 on the observing list of American astronomer Jeffrey Corder. Size 60’. This is five stars including HIP 31340 and the double stars HIP 31579, 31373A, and 31454A.
- One is in the IAU constellation Virgo and is Corder 2576 on the observing list of American astronomer Jeffrey Corder. Size 20’. This is five 9^{th} – 10^{th} magnitude stars including HIP 68116.
- One is in the IAU constellation Cygnus and is Corder 3863 on the observing list of American astronomer Jeffrey Corder. Size 15’. This is six 8^{th} – 9^{th} magnitude stars including HIP 95725 and 95802. Corder describes this as “house” or “Cepheus” shaped.

House for Musical Instruments:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a set of five roughly parallel wavy lines of stars in the IAU constellations Carina, Centaurus, and Crux:

- Line 1: Mu (μ) 1 Crucis, HIP 62327, HIP 60379, HIP 58642, HIP 57870, A Centauri, and n Centauri (the determinative star
- Line 2: Gamma (γ) Crucis, Beta (β) Crucis (Mimosa), 39 Crucis, 35 Crucis, Delta (δ) Crucis, HIP 58901, 57512, and HIP 55581.
- Line 3: Iota (ι) Crucis, Epsilon (ε) Crucis, HIP 59200, HIP 58921, HIP 57439, Omicron (ο) 1 and 2 Centauri, and x Carinae.
- Line 4: Alpha (α) Crucis (Acrux), Theta (θ) 1 and 2 Crucis, HIP 57175, HIP 56986, HIP 56754, HIP 55831, and y Carinae.
- Line 5: Zeta (ζ) Crucis, Eta (η) Crucis, j Centauri, and Lambda (λ) Centauri.

This Chinese Chenzhuo xing guan consists of four roughly parallel lines of stars in the IAU constellation Carina, Centaurus, Crux, and Vela:

- One line starts at Gamma (γ) Crucis and runs through Delta (δ) Crucis, HIP 56250, HIP 54463, HIP 53154, and HIP 52154 to HIP 51523,
- One line starts with HIP 60781 and runs through HIP 57439, HIP 54751, HIP 53253, and HIP 51849 to HIP 51140,
- One line starts with Epsilon (ε) Crucis and runs through Lambda (λ) Centauri, HIP 54301, HIP 52468, HIP 52102, HIP 51232, HIP 51192, and HIP 50676 to HIP 50555, and
- One line starts with Alpha (α) 1 & 2 Crucis (Acrux) and runs through Zeta (ζ) Crucis, Theta (θ) 1 & 2 Crucis, HIP 57669, Theta (θ) Carinae, HIP 51576, and HIP 50371 to Phi (φ) Velorum.

House of Branches:

This /Xam asterism “≠nabbe ta !nu” is the IAU constellation Corona Australis: They see it as people sitting in a semi-circle around a fire.

House of Cepheus:

This asterism from the Saguaro Astronomy Club asterism database is made up of stars of the IAU constellation Cepheus: Alpha (α) Cephei (Alderamin), Beta (β) Cephei, Gamma (γ) Cephei, Iota (ι) Cephei and Lambda (λ) Cephei form a 5-sided figure resembling a “house” with the peak of the “roof” pointing at Polaris.

House of Queen:

This Korean lunar mansion “Zeo” is a quadrilateral of stars in the IAU constellation Libra: the double star Alpha (α) Librae (Zubenelgenubi), Beta (β) Librae (Zubeneschamali), Gamma (γ) Librae and Iota (ι) 1 Librae.

House of Saturn:

This astrological asterism is the IAU constellations Aquarius and Capricorn and is listed in R. H. Allen’s *Star Names* in 1899.

House of Tutakaiolo:

This Tongan (Pukapuka Island) asterism “Te Wale-o-Tutakaiolo” is the IAU constellation Auriga.

House Swallow:

This asterism is the IAU constellation Apus as listed in English astronomer J. Ellard Gore's English edition of *Astronomie Populaire,* written by French astronomer Camille Flammarion (1842 – 1925).

House with a Courtyard:

This Romanian asterism "Casa cu Ograda" is the IAU constellation Corona Borealis (Ottescu 2009). Alpha (α) Coronae Borealis (Alphecca) represents the "house".

Howling Dog:

This Latin asterism "Canis Ululans" is the IAU constellation Lupus as listed by Italian astronomer Giovanni Battista Riccioli (1598 – 1671).

Howling Dogs:

There are two Arabic asterisms with the name "al-'awa'" (العواء), "Al-Uwwa" or "'Al-ʿAwwāʾ" (ٱلْعَوَّاء):

- One is the Arabic and Bedouin manzil in the IAU constellation Virgo and is the stars Beta (β) Virginis (Zavijava), Eta (η) Virginis (Zaniah), Gamma (γ) Virginis (Porrima), Delta (δ) Virginis and Epsilon (ε) Virginis (Vindemiatrix). It is part of the Arabic asterism Lion (see below). In the calendars of Qushayr and Qays the morning setting of the Howling Dogs indicates the spring rainy season:
    - Dorn (1829) lists this as "the Barker".
    - *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this as "the retreat of the howling dog".
    - This was later latinized to "Al Awwa" or "Alhava" by John Chilmead in his *A Learned Treatise of Globes* in 1889.
    - W. Brennand lists this as "Al-Auwa" in his *Hindu Astronomy* in 1896.
    - R. H. Allen lists this as "Barker" and "Barking Dog" in his *Star Names* in 1899 and this led Allen to refer to this asterism as the "kennel corner".
- One is the Arabic asterism with the latinized name "Aleawa'" which is a name for the IAU constellation Boötes. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "'Auwá" and "Al 'auwà" and translates this as "canis latrans" ("barking dog").

NOTE: The meaning of the ancient Arabic "al-ʿAwwā'" is uncertain. It resembles a medial Arabic letter kaf (ﻜـ), the final form of the Arabic letter alif (ﺎ) or an English capital L, which has led to some translating this as "the turn" or "the bend" (see Bend, above).

This Yemeni manzil "'Awwā'" is Beta (β) Virginis (Zavijava), Eta (η) Virginis, Gamma (γ) Virginis, Delta (δ) Virginis and Epsilon (ε) Virginis in the IAU constellation Virgo (Varisco 1995). This appears in the *Kitāb al-Tabşira Fī'ilm al-Nujūm* of 13th century Rasulid ruler al-Malik al-Ashraf 'Umar ibn Yūsuf (d 1296).

Hrusa:

This Bohemian star "Hrusa" is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus as listed in R. H. Allen's *Star Names* in 1899. Allen does not provide a translation.

Hu Gadarn:

This Welsh asterism is named for a mythological figure who is a ploughman. The IAU constellation Boötes becomes the ploughman Hu Gadarn, the Big Dipper in the IAU constellation Ursa Major (see Big Dipper, above) the plough, and the IAU constellations Auriga and Taurus his oxen pulling his plough.

Huaman:

This Inca star is Zeta (ζ) Orionis (Alnitak) in the IAU constellation Orion (Gamarra & Gamarra 2009).

Hubble's Galaxy of Fornax:

This **telescopic** asterism "Hubbélia Fornácis" is the lenticular galaxy NGC 1201 in the IAU constellation Fornax. It was discovered in 1785 by English astronomer William Herschel who listed it as "I 109". It became GC 645 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name to honor astronomer Edwin Hubble.

Hubble's Variable Nebula:

This **telescopic** asterism Hubble's Nebula or Hubble's Variable Nebula is reflection nebula NGC 2261 (Caldwell 46, LBN 920, Ced 83) in the IAU constellation Monoceros. This was discovered in 1783 by English astronomer William Herschel who listed it as "VI 2". It became GC 1437 in the *General Catalogue* of 1864. It was imaged by American astronomer Edwin Hubble in 1949 at Palomar Observatory's Hale Telescope first light. Size 2' X 1'. *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this as "Hubble's Nebula".

Hubbly Bubbly Pipe:

This **telescopic** asterism is open cluster NGC 3293, discovered by Nicolas Louis de Lacaille in 1751 in the IAU constellation Carina. Lacaille described it in his 1755 catalogue as a "small heap of 4 small stars forming a lozenge." It is GC 2144 in the *General Catalogue* of 1864. It is also known as the Spider Spit Cluster(see below), the Little Jewel Box (see below), and the Gem Cluster (see above). South African astronomer Carol Botha described it in 2012 as reminding her "of the hubby-bubbly Hookah pipes so popular in SA bars". It has also been described as a "U" or "Horseshoe".

Huchra's Lens:

This **telescopic** asterism PGC 69457 is a galaxy in the IAU constellation Pegasus. It is called this because it is the lensing galaxy of the Einstein Cross (Quasar 2237+30). It is named after American astronomer John Huchra (1948 – 2010), who was a key member of the team that discovered it. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010) as "Crúx Einsteiniána Pegási" ("Einstein's Cross of Pegasus").

Humans:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is made up of stars in the IAU constellations Cygnus and Pegasus. Four lines radiate out of the star 14 Pegasi, forming a figure with arms and legs:

- One to 15 Pegasi,
- One to 16 Pegasi,
- One to Kappa (κ) Pegasi (the determinative star), and
- One to Mu (μ) 1 and 2 Cygni.

This Chinese xing guan Rén (人) is a quadrilateral in the IAU constellation Pegasus: 1, 2, 9, and 12 Pegasi.

This Chinese Chenzhuo xing guan "Rén" is four lines of stars radiating out of a central star in the IAU constellations Cygnus and Pegasus: The central star is 14 Pegasi. From this star four lines run out:

- One to 15 Pegasi,
- One to 16 Pegasi,
- One to 10 Pegasi, and
- One to Mu (μ) 1 Cygni.

This Korean asterism "Ingan" (인간) is identical to the Chinese xing guan Rén above.

Hummingbird:

This Bribri star "Batsů" is the red dwarf star LHS 3844 in the IAU constellation Indus. It received this name in the IAU's NameExoWorlds competition in 2022. Batsů are messengers of their creator Sibȍ. It has an exoplanet LHS 3844b, "Kua'kua", which means "butterfly".

This **telescopic** asterism is NGC 4656 and 4657 in the IAU constellation Canes Venatici. This was discovered in 1787 by English astronomer William Herschel: He listed them as "I 176" and "I 177". The became GC 3189 and GC 3190 in the *General Catalogue* of 1864. It is also known as the Crowbar Galaxy (see above), the Hook (see above), the Fishhook (see above) and the Hockey Stick (see above).

Hummingbird of Leo Minor:

This **telescopic** asterism "Cólibri Leónis Minóris" is the peculiar spiral galaxy NGC 3395 (Arp 270) in the IAU constellation Leo Minor. It was discovered by English astronomer William Herschel in 1785 who listed it as "I 81" in his catalogue. It is GC 2178 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as it "looks like a hummingbird sucking nectar from a flower (NGC 3396)".

Humped:

This Dutch asterism "Gibbus" is the IAU constellation Cetus as listed by Dutch astronomer Hugo Grotius (1583 – 1645).

Humu:

This Hawaiian star is Alpha (α) Aquilae (Altair) in the IAU constellation Aquila. This is one of the stars of the Navigator's Triangle (see below).

Humu-ma:

This Hawaiian asterism is three stars in the IAU constellation Aquila: Alpha (α) Aquilae (Altair), Beta (β) Aquilae (Alshain) and Gamma (γ) Aquilae (Tarazed). In Polynesian mythology Humu is a famous ho'okele ("navigator/steersman") and this asterism represents Humu and his two sons.

Hunahpú:

This Honduran star is HIP 55174 (HD 98219) in the IAU constellation Crater and was given to this star in the IAU NameExoWorlds campaign. It is named for one of the Maya Hero Twins who became the Sun in

K'iche' Mayan mythology. It has an exoplanet named Ixbalanqué, who was one of the twin Gods who became the Moon.

Hundred Cures:

This Vedic asterism is in the IAU constellation Aquarius. At the center is a triangle of stars: Alpha (α) Aquarii (Sadalmelik), Gamma (γ) Aquarii, and Theta (θ) Aquarii. From two of the corners, star lines emerge:

- From Gamma (γ) Aquarii a line runs through Zeta (ζ) 1, Eta (η), Lambda (λ), and Tau (τ) Aquarii, ending at Delta (δ) Aquarii, and
- From Alpha (α) Aquarii (Sadalmelik) a line runs to Beta (β) Aquarii (Sadalsuud) and then three lines run off from here:
    - One line goes to Iota (ι) Aquarii,
    - One line goes to Nu (ν) Aquarii, and
    - One line goes to Epsilon (ε) Aquarii.

In 2019 Leitz writes that the *Brhat Samhita* claims 100 stars for this asterism, while some earlier texts claim only the star Satabhisak (see Comprising a Hundred Physicians, above).

Hundred Handed:

This Greek asterism "Hekatonkheires" is made up of the stars of the IAU constellations Sagittarius and/or Ophiuchus (Mosenkis, date n/k). The Hundred Handed were monsters exiled to Tartarus by Uranus. This is related to their asterisms Cyclopes (see above) and Campe (see above).

Hundredth of Coma Berenices:

This **telescopic** asterism "Centésimus Cómae Bereníces" is the grand design spiral galaxy Messier 100 (NGC 4321) in the IAU constellation Coma Berenices. It was discovered by French astronomer Pierre Méchain in 1781 and English astronomer William Herschel described it in the *Philosophical Transactions* in 1814. It is listed in the General Catalogue of 1864 as GC 2890 and in John Herschel's catalogue as h 1211. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as it was the hundredth object listed in Messier's catalogue. It is also known as the "Blow Dryer" (see above).

Hungarian Coat of Arms:

This asterism "Hungar" was made up of the stars of the IAU constellation Columba by German astronomer Erhard Weigel (1625 – 99) who produced his *Astrocopium Orbi Europaeo Sacrum* chart in 1661, 1681 and 1688 in which he tried to replace existing constellations a new system based upon the heraldry of the nation states and principalities of seventeenth century Europe, as well as of its principal hierarchies and social classes. This is depicted as a double cross with crossed keys above it.

Hunor:

This **telescopic** Hungarian star is HAT-P-2 in the IAU constellation Hercules (magnitude 8.4). This name was given to this star in the IAU NameExoWorlds campaign. It was named after a legendary Hungarian ancestor. It has an exoplanet named Magor: Magor was the brother of Hunor.

Hunter:

This Latin asterism “Venator” is the IAU constellation Orion. “Venator” is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

This Teduray asterism “Seretar” is the IAU constellation Orion (Santos et al 2019).

This Lokono star “Yokhârhin” is Alpha (α) Centauri (Rigil Kentaurus) in the IAU constellation Centaurus (Rybka 2018). Yokhârhin is hunting Hithikoya (see Spirit of the Black Curassow, below) and his torchbearer is Alêti (see Torch, below).

This Bukidnon asterism “Magbangal” is the belt of Orion in the IAU constellation Orion and “Moroporo” (the rest of Orion) is his hunting ground (see Hunting Ground, below).

This Kankana-ey asterism “Binabbis” is the belt of Orion in the IAU constellation Orion.

This Palawan and Tagalog asterism “Binawagan Magsasawad” is the belt and sword of Orion (Santos et al 2019) and “Moroporo” (the rest of Orion) is his hunting ground (see Hunting Ground, below). Binawagan Magsasawad hunts Sangat at Bjak (the Hyades) which ate the Moroporo (Pleiades). The Ibaloi call this “Bodays”.

This Filipino asterism “Moroporo” or “Molopolo” is the Pleiades cluster in the IAU constellation Taurus (Santos et al 2019).

This Maranao asterism “Mbangal” is the belt of Orion in the IAU constellation Orion.

This Khinaang asterism “Farrais” is the belt of Orion in the IAU constellation Orion.

This Fontok asterism “Farrais” is the belt of Orion in the IAU constellation Orion.

This Ilokano asterism “Gaganayan” is the belt of Orion in the IAU constellation Orion.

This Igorot asterism “Gaganayan” is the belt of Orion in the IAU constellation Orion.

This Chukchi and Koryak asterism (Berezkin 2005) is the IAU constellation Orion (Berezkin 2005) and Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus is his arrow (see Arrow above). He is pursuing a reindeer represented by Cassiopeia (see Reindeer, below). He is described as a hunchback, as his jealous wife hit him as he was giving too much attention to the Pleiades women. Compare this to the Sami asterism Favdna (see above).

This Yakut and Nganasan asterism (Berezkin 2005) is the IAU constellation Orion and Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus is his arrow (see Arrow above). He is pursuing a reindeer represented by the Pleiades cluster (see Reindeer, below). Compare this to the Sami asterism Favdna (see above). There is another Nganasan version where the Pleiades are the hunters (see Hunters, below).

This Pitjantjatjara asterism “Nirunya” or “Njiru” is the IAU constellation Orion. This hunter is chasing “Kunkarunkara” (see Group of Women, above) which is the Pleiades cluster.

This Seri asterism “Hapj” is the belt of Orion in the IAU constellation Orion. The three stars are:

- Hap (“mule deer”)- Zeta (ζ) Orionis (Alnitak),
- Haamoha (“pronghorn”)- Epsilon (ε) Orionis (Alnilam), and
- Mojet (“bighorn sheep”)- Delta (δ) Orionis (Mintaka).

This Desana asterism is the IAU constellation Orion.

This Sesotho star “Moliana” is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga.

In KhoiKhoi sky lore (in eastern Namibia) the star Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus represents the hunter Archernar whose wives are the Pleiades cluster in the IAU constellation Taurus. When Archernar shot his arrow (Orion's sword), at three zebras (the belt of Orion -see Three Zebras, below) it fell short. Archernar didn't recover his arrow as a lion (Alpha (α) Orionis (Betelgeuse)) was watching (Alcock, 2014). Compare this to Husband of the Daughters of the Sky God (see below).

This Teleut star is Alpha (α) Canis Majoris in the IAU constellation Canis Major (Kuperjanov 2006). He is hunting Three Deer (see below). His arrow (the star Rigel) has fallen short but another has hit a deer represented by Betelgeuse (see Deer, above).

This Evenk asterism "Mangi", "Mani", "Chanchi", or "Chahintylan", is the stars of the "handle" of the Big Dipper asterism in the IAU constellation Ursa Major (Dmitrieva and Romeiko 2009). He is hunting the elk "Helgen" (see Elk, above).

This Belarussian asterism "Palojnik" is the IAU constellation Ursa Major (Avilin 2009).

This Southern Paiute asterism is the IAU constellation Orion (Gillard 2021). The first appearance of this asterism marked the beginning of winter.

This Tangut asterism is the IAU constellation Orion (Berezkin 2005). His back was broken by Gachari (see above).

Hunter and Dog:

This Songye asterism "Aspibwe na Mbwa na Nyama" is the belt of Orion (Slotegraaf 2013).

The ancient Celtic God Cernunnos is sometimes associated to the IAU constellation Orion, as is the Brythonic deity Herne the Hunter and the Welsh god Mabon, deity of the winter son, who is the only one who can handle the hunting dog Drudwyn.

This Tibetan asterism is Delta (δ) Ursae Minoris and 24 Ursae Minoris in the IAU constellation Ursa Minor (Johnson-Groh 2013).

Hunter and Torch:

This Lokono or Arawak asterism (Rybka 2018) is the Pointer Stars (see Pointers below). Alpha (α) Centauri (Rigil Kentaurus) is "Yokhârhin" (see Hunter, above), and Beta (β) Centauri (Hadar) is "Alêti" (see Torch, below).

This Carib asterism is made up of stars of the IAU constellation Centaurus and Crux. The southern cross asterism represents a Paui bird resting in a tree and the stars Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Mimosa) are the torch (Magaña, and Jara, 1982).

Hunter, Dog, and Buck:

This !Xõ asterism is the belt of Orion in the IAU constellation Orion.

Hunter of the Bear:

This Latin asterism "Venator Ursae" is the IAU constellation Boötes and a variation of the Greek asterisms Guardian of the Bear (see above) and Bear Watcher (see above). English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Venator" for this constellation.

Hunter of the Seven Sisters:

This Ngalea asterism “Nyeeruna Nyiruna” (“hunter of the seven thorny devil sisters”) is the IAU constellation Orion. He is chasing the Mingarri sisters (see Seven Young Sisters, below). The belt of Orion is Nyeeruna’s string belt, and the sword of Orion is its whitened tassel.

NOTE: the Mingarri or Mingari is a totem animal, the Thorny Lizard (Moloch horridus).

This Kokatha asterism “Nyeeruna” is the IAU constellation Orion. Nyeeruna is chasing the Yugarilya (see Thorny Devil Lizard, below).

This Pila Nguru asterism “Njuru” is identical to the Kokatha asterism “Nyeeruna”, above.

This Pitjantjatjara and Yankunytjatjara asterism “Nirunja” is identical to the Kokatha asterism “Nyeeruna” above.

Hunters:

The Oroch, Evenk, and Udege in eastern Siberia see the three stars of the handle of the Big Dipper asterism in the IAU constellation Ursa Major as hunters (Berezkin 2005): Epsilon (ε) Ursae Majoris (Alioth), Zeta (ζ) Ursae Majoris (Mizar) and Eta (η) Ursae Majoris (Alkaid). They see the star 80 Ursae Majoris (Alcor) as the hunter’s dog (see Dog, above) and the bucket of the Big Dipper as the elk “Helgen” (see Elk, above). Some versions of the story have the three stars representing the hero-hunter “Mangi” (see Hunter, above). Berezkin writes that the four stars of the Dipper are sometimes seen as a storehouse which an animal is approaching with the three stars of the handle hunters following it.

The Khanty, Selkup, Ket, and Khalasha of Siberia see the three stars of the handle of the Big Dipper asterism in the IAU constellation Ursa Major as hunters (Berezkin 2005): Epsilon (ε) Ursae Majoris (Alioth), Zeta (ζ) Ursae Majoris (Mizar) and Eta (η) Ursae Majoris (Alkaid). They see the star 80 Ursae Majoris (Alcor) as the hunter’s cooking pot (see Pot, below) and the bucket of the Big Dipper as either a bear (see Bear, above) or an elk (see Elk, above).

This Evenk asterism is the Pleiades cluster in the IAU constellation Taurus. They are pursuing a mountain sheep and the Pleiades cluster is their net. Compare this to the Chukchi and Yakut asterism Hunter (see above).

This Nganasan asterism is the Pleiades cluster in the IAU constellation Taurus. They are pursuing a reindeer and the Pleiades cluster is their net. There is another Nganasan version where the hunters are the constellation Orion and the Pleiades cluster is the reindeer (see Hunter, above).

This Chemehuevi, Numu, Yavapai, Maricopa, Kiliwa, and Aaniiih asterism is the IAU constellation Orion (Berezkin 2005). The stars Alpha (α) Orionis (Betelgeuse) and Beta (β) Orionis (Rigel) are the hunters, the sword of Orion their arrow, and the belt of Orion the sheep.

This Dakelh asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Berezkin 2005). They are pursuing a Cariboo which is represented by the Pleiades (see Cariboo, above).

This Salish, St’at’imc, Nlaka'pamux, Secwépemc, Hul’qumi’num, Snohomish, Schitsu'umsh and Chinookan asterism is the stars of the Big Dipper asterism in the IAU constellation Ursa Major (Berezkin 2005). The three stars of the “handle” are the hunters, and the four stars of the “dipper” are the animal being pursued.

This Salish, Chinookan, Lenape, Iroquois, and Meshkwahkihaki asterism is the stars of the Big Dipper asterism in the IAU constellation Ursa Major (Berezkin 2005). The three stars of the “handle” are the hunters, and the four stars of the “dipper” are the animal being pursued and the star Alcor is their hunting dog (see Dog, below).

There are three Wichi asterisms by this name (Mariani et al 2017) which refer to brothers hunting rhea in the sky:

- One is the Pleiades cluster in the IAU constellation Taurus. They were trapped in the sky when an elder they offended burned the tree which they climbed into the sky.
- One is the stars Zeta (ζ) 1 and 2 Scorpii in the IAU constellation Scorpius, which is also known as the Grandchildren (see above).
- One is the Coal Sack Nebula.

This Iñupiat asterism is the Pleiades cluster and the star Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus (Berezkin 2005). The Pleiades is the hunters pursuing a polar bear, Aldebaran.

This Kinlinermiut asterism is the belt of Orion in the IAU constellation Orion (Berezkin 2005). The hunters are pursuing a bear.

This Siona and Secoya asterism is the Pleiades cluster in the IAU constellation Taurus (Berezkin 2005).

Hunters and Dogs:

The stars of this Inuvialuit asterism are unidentified at present (Berezkin 2005).

Hunters and Dogs Encircling a Bear:

This Netsilik, Iglulingmiut, and Inughuit asterism is the Pleiades cluster in the IAU constellation Taurus (Berezkin 2005).

This Labrador Inuit asterism is the IAU constellation Orion (Berezkin 2005).

This Nunatsiarmiut asterism is the IAU constellation Orion (Berezkin 2005). The star Alpha (α) Orionis (Betelgeuse) represents a bear, the belt of Orion the hunters, and the sword of Orion their dog sledge.

Hunters Pursuing Mountain Sheep:

This Evens asterism is the Pleiades cluster in the IAU constellation Taurus (Berezkin 2005).

Hunter's Right Arm:

This Kokatha and Ngalea star "Nyeeruna's Right Arm" (see Hunter of the Seven Sisters, above) is Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion.

Hunting Dog:

This Northern Sotho star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major. They tell of seven virgins (the Pleiades) fleeing from this hunting dog. An alternate version has the hunting dog chasing three pigs (see Three Pigs, below).

Hunting Dogs:

This German asterism "Jagdhunde" is the IAU constellation Canes Venatici (see Canes Venatici, above).

This French asterism "Chiens de Chasse" is the IAU constellation Canes Venatici.

This French asterism "Canes Venatica" is the IAU constellation Ursa Major as listed by French astronomer Joseph Jérôme Lefrançois de Lalande (1732 – 1807) and R. H. Allen in his *Star Names* in 1899. It is probably a corruption of the asterism Cynosura (see Dog's Tail, above).

Hunting Eagle:

This Turkish asterism “Taushaugjil” is the IAU constellation Aquila.

Hunting Ground:

This Bukidnon asterism “Moroporo” is the constellation Orion and “Magbangal”, the belt of Orion, is the Hunter (see above).

This Palawan asterism “Moroporo” is the constellation Orion and “Binawagan Magsasawad”, the belt of Orion, is the Hunter (see above).

Hunting Spear:

This star “Venabulum” is the Mu (μ) Boötis in the IAU constellation Boötes. This name is listed in Johann Bayer’s *Uranometria* (1603).

Huntress:

This Greek and Minoan asterism is the IAU constellation Orion. Lithuanian archaeologist Marija Gimbutas (1996) linked it to the Greek huntress Goddess Artemis and the Minoan A-ti-me-te. She is accompanied by dogs represented by Canis Major and Canis Minor.

Hurricane of Ursa Major:

This **telescopic** asterism “Procélla Úrsae Majóris” is the barred spiral galaxy NGC 3953 in the IAU constellation Ursa Major. William Herschel listed it as “V 45”. John Herschel listed it as h 1013 and later as GC 2606 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as “it brings to mind a giant hurricane”.

Huruhata's Object:

This is an eclipsing binary star in the IAU constellation Canis Minor. It is named after Masaaki Huruhata (1912 – 1988).

Huruhata's Variable Star:

This **telescopic** variable star is the WZ Sagittae type dwarf nova EG Cancri in the IAU constellation Cancer. It is named after Masaaki Huruhata (1912 – 1988).

Husband of the Daughters of the Sky God:

This Nama asterism includes the Pleiades cluster in the IAU constellation Taurus, Alpha (α) Tauri (Aldebaran) in the Hyades cluster in the IAU constellation Taurus, and the IAU constellation Orion. The star Aldebaran represents the husband of the daughters of the sky god (the Pleiades). When the husband shot his arrow (Orion’s sword) at three zebras (the belt of Orion) it fell short. He didn’t recover his arrow as a lion (Alpha (α) Orionis (Betelgeuse)) was watching in ambush.

In Jū/Wãsi sky lore the star Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus represents the husband of the daughters of their Sky God Gao ǂN!a. The daughters are the Pleiades cluster in the IAU constellation Taurus. When Gao ǂN!a shot his arrow (Orion’s sword) at three zebras (the belt of Orion) it fell short. He didn’t recover his arrow as a lion (Alpha (α) Orionis (Betelgeuse)) was watching in ambush.

Husbands:

This //Gana asterism is the stars Alpha (α) Carinae (Canopus) in the IAU constellation Carina and Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major, whose brother is Alpha (α) Eridani (Achernar) in the IAU constellation Eridanus (Slotegraaf 2013, Alcock 2014). These two are married to the Pleiades cluster (see Wives, below).

Hut:

To the Kamilaroi/Euahlayi the V shape of the Hyades cluster in the IAU constellation Taurus is the "gunya" or "hut" of Old Dthillar (see below) or the "Werrinah", "Wurunna" or "Wurrunnah" (see Wise Man, below).

Another Euahlayi asterism is "Mia Mia", which is the sword and belt of Orion.

This Sardinian asterism is the Hyades cluster in the IAU constellation Taurus. The Sardinians call the star Alpha (α) Tauri (Aldebaran) "the Bunch's Driver" (See above), a reference to the nearby Pleiades, which they call "the Bunch" (see above).

This Romanian asterism "Coliba" or "Cociorva" is the IAU constellation Corona Borealis (Ottescu 2009).

Hvergelmir:

This Norse asterism "Hvergelmir" (Old Norse "bubbling boiling spring") is the stars making up the "tail" of the IAU constellation Scorpius and was created by Canadian Bjorn Jónsson (1920 – 1995) who was trying to reconstruct traditional Scandinavian skies (Kuperjanov 2006). Hvergelmir is the source of many rivers in Norse mythology.

Hyades:

This open cluster, Caldwell 41, Collinder 50, Melotte 25, is the nearest open cluster to Earth, and its stars are recognized in 148 sky cultures of the world. Its principal stars are Alpha (α) Tauri (Aldebaran-14th brightest star), Theta (θ) 1 Tauri (Hyadum III), Gamma (γ) Tauri (Hyadum I or Prima Hyadum), Delta (δ) 1 Tauri (Hyadum II), Delta (δ) 3 Tauri, and Epsilon (ε) Tauri (Ain or Oculus Boreus). NOTE: Aldebaran is actually a foreground star and not part of the cluster.

The Hyades appear in Homer's *Iliad and Odyssey* (8th century B.C.E.) and in Hesiod's poem *Works and Days* (late 8th century B.C.E.) and in the works of the Roman poet Ovid (born 43 B.C.E.). In Greek mythology, the Hyades were the five daughters of Atlas and Aethra and half-sisters to the Pleiades. When their brother Hyas died, in their grief they were transformed into stars. The number of stars varies from as little as two (Hipparchus (190 – 120 B.C.E.) and Ptolemy (c.100 – c.170) listed Alpha (α) Tauri (Aldebaran) and Gamma (γ) Tauri as "Υάδων" ("Yádon")) to as many as seven. Ptolemy's name later became "Υάδες" ("Yádes"), which became the Latin name "Hyades". The Greeks often described it as a letter Gamma (γ) or Lambda (λ) as it resembled both letters, and the Romans saw their letter "V". The Greeks and Romans used them to mark their rainy season.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Hyade".

"Hyades" and "Hyadum" are listed for this asterism in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

Giovanni Battista Hodierna catalogued this cluster in 1654, and it appeared in subsequent star catalogues.

Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) lists the Hyades.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) lists this cluster as the "Hyades".

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) lists this asterism as "Les Hyades", as does the 1778 edition.

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this asterism as "die Hyaden" in the text and as "Hyades" on the charts.

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts the Hyades but does not label them.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists the Hyades.

American uranographer William Croswell (1760 – 1834) lists the "Hyades" on his *Mercator Map of the Starry Heavens* in 1810.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists the Hyades it in his *Celestial Atlas* and his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822).

The Hyades are listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on Jamieson's *Celestial Atlas*.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this asterism as the "Hyades"

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists the "Hyades" cluster.

American astronomer Winslow Upton's *Star Atlas* (1896) lists this cluster as the "Hyades" and translates it as "From Greek- to rain".

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists the "Hyades".

The 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) lists the name "Hyades" for this cluster.

In Southeast Asia the spring trap is identified with the IAU constellation Orion. One of the most common things that they capture with this trap are wild varieties of pig, which have a triangular jaw which resembles the triangular Hyades cluster. So, it is not surprising to see peoples of this part of the world identifying the Hyades cluster with a pig's jaw, and you'll see many examples in this handbook.

Hydra:

Hydra's brightest star is Alpha (α) Hydrae (Alphard) which is 47th on the list of the 90 brightest stars and its stars appear in 306 of the asterisms in this handbook.

This IAU constellation (IAU abbreviation Hya), female water snake, was first mentioned in Aratus' poem *Phaenomena* (270 B.C.E.) as "Ὑδρη" ("Ýdri"). Eratosthenes (d.194 B.C.E.), Hipparchus (190 – 120 B.C.E.), and 1st century B.C.E. Greek astronomer Geminus called it "῾Υδρος" ("Ýdros"). Hipparchus also called it "Δράκων" ("Drákon"). Eratosthenes also labelled it "Κόραξ" ("Kórax"- "raven" or "crow"). Roman general Germanicus (15 B.C.E. – 19 C.E.) called it "Hydros". 1st century B.C.E. Roman poet Ovid described Hydra in his *Fasti* as "Anguis, Avis, Crater, sidera juncta micant" ("Snake, Bird, Crater, joined stars"), indicating that this constellation was originally conceived as four parts. Hesiod referred to it as the "Lernean Hydra" as it was the offspring of Typhon and Echidna in Greek myth. Variations include "Ὑδρα" ("Ýdra"), "Hidra", "Idra", "Ydra" and the "Stellatio Ydre" that appears in the 2nd century in Ptolemy's *Almagest*. Hydra was one of Ptolemy's 48 original constellations. It was influenced by the earlier Babylonian asterism "serpent" constellation MUL.DINGIR.MUŠ. The male water snake is Hydrus (see below).

The Mainz Globe from the eastern end of the Roman empire (c. 150 – 220 C.E.) depicts Hydra with Crater on its back and Corvus standing on its back near the end of the tail, facing forwards.

This constellation appears as "Ydra" in editions of the 8th century *Revised Aratus Latinus*, which merge the stars of Hydra, Crater, and Corvus:

- The Dresden DC 183, Paris BN 12957, and Prague IX. C. 6 editions depict a snake moving to the left with Crater in the middle of his back and Corvus standing by his tail,
- In the Paris BN n.a. 1614 manuscript Hydra is moving right with Corvus facing backwards on its tail.
- In the Munich 560 edition Hydra is shown without Corvus or Crater.

Hydra appears in the Leiden *Aratea* (816) as a snake slithering to our right with Crater and Corvus on its back.

Up to the 18th century astronomers listed Hydra as "Hydra", "Hydra et Crater" ("Hydra and Crater"), "Hydra et Corvus" ("Hydra and Corvus"), and "Continuatio Hydrae" ("continuation of Hydra"). Many of the names also used for Draco were used for Hydra, including "Asiua", "Asuia", "Asvia", "Alsugahh" and "Coluber".

The 9th century Berlin 130, Madrid 3307, Monza F.9/176, Vat lat 645, Paris BN, 12117, Los Angeles, Getty Ludwig XII, 5 Paris BN lat 8663,and Vat Reg lat 309 manuscripts of the *De ordine ac positione stellarum in signis* depict Hydra with Crater and Corvus on his back: Corvus is looking towards Hydra's tail. However, Corvus and Crater are also shown individually elsewhere in these texts. The Munich 210 and Vienna ÖNB 387 manuscripts of the *De ordine ac positione stellarum in signis* do not depict Crater and Corvus on his back.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi's son depicts Hydra in left and right profile on one page. The serpent has one coil. The stars of Crater and Corvus are marked, but not illustrated on his page: They are illustrated elsewhere in the book.

The Oxford Laud 644, Padua 27, Laon 422, Rouen 26, and Venice VIII 22 manuscripts of the 11th century *De signis caeli ("of the signs of heaven*") depict Hydra, Corvus, and Crater (called Urna) as a single constellation: Hydra is slithering to the left with Corvus on his back, facing the tip of Hydra's tail. The Klosterneuberg 685, Paris BN 5239, Paris BN 5543, Vat lat 643, and Zwettl 296 manuscripts of *De*

signis caeli depict Corvus pecking at the back of Hydrus, facing toward its head. The Rouen 26 manuscript of *De signis caeli* depicts Hydra with a cock's comb. The Durham Hunter 100 manuscript of *De signis caeli* depicts Hydra without Crater on his back and with Corvus facing the front.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Hydra as a long serpent slithering to our left with Crater and Corvus on its back.

Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) lists Hydra.

A Hebrew translation of the Almagest from Catalonia (c1361), Philadelphia (USA), University of Pennsylvania Libraries, Lawrence Schoenberg Collection, ms. ljs057 (old Ms.Sassoon 823), ff.56v, 57r, depicts Hydra as a long serpent with ears and two coils. Crater and Corvus are on Hydra's back.

The Paris manuscript of al-Sufi's Book of Fixed Stars (Bibliothèque nationale de France, Ms. Arabe 5036), from Ulugh Beg's library (c 1430 – 1440) depicts Hydra as a long serpent with one coil.

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Hydra as a serpent with one coil. The stars of Crater and Corvus are illustrated but not depicted as a cup and raven.

The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.170v-171r depicts "Ydra" as a serpent with two coils. Crater and Corvus are on its back.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.72v-73r depicts Hydra as a dragon headed serpent with two coils that has Crater and Corvus on its back. It is not labelled.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Hydra as a long, thin dragon serpent with wings and front legs. It is not labelled. Crater and Corvus are on its back.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Hydra as a winding serpent slithering to our left with Crater and Corvus on its back.

The *Germanicus Aratea* (Siciliensis, c. 1469) and the *Germanicus Aratea* with scholia Strozziana (c. 1475) depict Hydra as a serpent slithering to our left. On its back is Crater and Corvus.

Hydra appears on the *Imagines constellationum Australium* chart of Romanian theologian Johannes Honter (1498 – 1549) as a dragon headed snake slithering to our right with Crater and Corvus on its back.

De Astronomica ("the astronomy"), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This depicts "Hydra" as a serpent climbing into a tree with Crater and Corvus on its back.

The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts "Hydra" as a serpent with teeth.

The early 16th century Real Academia de Historia, manuscript D-97, f.102v – 103r depicts Hydra as a snake slithering to our right. Its head is blurred on his chart. It has one coil and has Crater and Corvus on its back. It is not labelled.

The “Nuremburg Maps”, a pair of celestial hemispheres made in 1503 by Conrad Heinfogel depicts “Hydra” as a water snake with two coils.

The *Southern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius depicts Hydra as a dragon headed snake with Crater and Corvus on its back.

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts “Hydra” as a serpent with three coils slithering to our left with Crater and Corvus on its back.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts “Hydra” as a snake with one coil slithering to our left with Crater and Corvus on its back.

The *Horoscopion generale* (1533) of Petrus Apianus (1495 – 1552) depicts Hydra as a serpent slithering to our right with Corvus (but NOT Crater) on its back.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and labels this constellation with the abbreviated title “Lep” and depicts in the same manner as Dürer et al.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts “Hydra” as a dragon-headed serpent with two coils slithering to our left with Crater and Corvus on its back.

Dele Stelle Fisse (“Of the Fixed Stars”) by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as “De l’Hidra”. The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

“Hydra” appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus.

The Southern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Hydra as a dragon-headed serpent with three coils slithering to our left with Crater and Corvus on its back.

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists “Hydra” in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicts “Hydra” as a serpent with feathery ears swimming to our left. Crater and Corvus are not shown in the illustration: They appear separately in the text.

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts “Hydra” as a snake with two coils and with Crater and Corvus on its back.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts this constellation as a long snake with Crater and Corvus on its back.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts “Hydra” as a serpent with one coil slithering to our left with Crater and Corvus on its back.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts "Hydra" as a long serpent with two coils heading to our left with Crater and Corvus on its back.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) depicts "Hydra" as a serpent crawling to our right with Crater and Corvus on its back.

Italian astronomer Giovanni Battista Riccioli (1598 – 1671) listed it as "Idrus", "Idrus Aquaticus", and "Serpens Aquaticus".

"Hydra" is depicted on the *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) as a serpent slithering to our left with Crater and Corvus on its back.

Hydra is listed in Danish astronomer Tycho Brahe's *Astronomiae Instauratae Progymnasmata* (1602).

German astronomer and uranographer Johann Bayer (1572-1625) depicts this constellation in his Uranometria in 1603 as a serpent having four coils.

German uranographer Johann Bayer (1572 – 1625) depicts Hydra in his *Uranometria* in 1603. Bayer lists these names for this constellation: "Hydra, Hydrus Aquaticus, Asina, Coluber, Anguis, Sublimatus, Magnanimus, Furiosus, Fortis, Asuia".

"Hydra" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and depicted as a serpent slithering to our right with Crater and Corvus on its back. Bartsch also lists the alternate name "Serpens Aquaticus".

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the name "Hydra" for this constellation.

"Hydra" is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a serpent slithering to our right with Crater and Corvus on its back.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts "Hydra" as a serpent slithering to our left with one coil and with Crater and Corvus on its back.

Robert Hues (1659) and John Chilmead (1899) listed "Alshugahh" and "Asuia": Hues translated this as "Strong or Furious".

This constellation is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "Hydra Aquaticus Alfagalh". It is depicted as a serpent with Crater and Corvus on his back.

Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) depicts Hydra as a snake with Crater and Corvus on its back.

English uranographer John Seller's *A coelestiall planisphere* (1678) depicts "Hydra" as a serpent with Crater and Corvus on its back.

Hydra is listed by English astronomer Edmond Halley in his *Catalogus Stellarum Australium* in 1679 and depicted on his southern sky chart of 1678 as a dragon headed serpent with one coil with Crater and Corvus on its back.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts "Hydra" as a serpent swimming to our left with one coil and with Crater and Corvus on its back.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this "l;Hdyre", "Hydrus (sic)" and "῾Υδρος"

Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) depicts Hydra as a snake with Crater and Corvus on its back.

Hydra is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729: It is depicted as a dragon headed serpent with one coil and with Corvus and Crater on its back.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts "Hydra" as a dragon headed snake slithering to our right with Crater and Corvus on its back.

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) depicts Hydra as a serpent with one coil with Crater and Corvus on its back.

French astronomer Joseph Jérôme Lefrançois de Lalande (1732 – 1807) listed it as "Asina" ("she ass").

French astronomer Abbé Nicolas Louis de Lacaille's *Planisphère des Étoiles Ausralea* (1756) depicts "L'Hydre" as a water snake.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) depicts "l'Hydre" as a snake with two coils with Corvus and Crater on its back.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "l'Hydre femelle" as a snake with two coils with Crater and Corvus on its back.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "l'Hydre" as a dragon headed snake with one coil with Crater and Corvus on its back.

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Die grosse Wasserschlange" in the text and "Wasserschlange" on the charts, depicting it as a snake with a forked tongue whose body has one coil.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as "Idra" in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts "Hydra" as a serpent with Crater on its back.

Hydra is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801) as "Slang" ("snake"): It is depicted as a snake slithering to our right with Crater and Corvus on its back.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as "Wasser Schlange".

American uranographer William Croswell (1760 – 1834) depicts “Hydra the Water Snake” on his *Mercator Map of the Starry Heavens* in 1810 as a snake.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Hydra it in his *Celestial Atlas* in 1822: it is depicted as a dragon headed serpent. NOTE: On one chart depicting the rear end of Hydra, Jamieson labels this “Hydra Continua” (“continuous Hydra”).

English Admiral Henry William Smyth writes in his *Bedford Catalogue* in 1844 that Bayer also used the name “Asina”.

“Hydra” is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as a snake with Crater and Corvus on its back slithering to our right.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts “Hydra” as a three headed serpent with five coils slithering to our left.

Hydra is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852: The author is unknown, but it is based on Jamieson’s *Celestial Atlas*.

“Hydra” is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It is depicted as a snake slithering to our right with Crater and Corvus on its back.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this constellation as “Hydra”.

English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists “Hydra, The Sea Serpent” as an official constellation “recognized in the catalogue of the British Association”.

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as “Hydra, the Water-Serpent”.

German astronomer Hermann Joseph Klein (1844 – 1914) lists “Hydra” in his *Star Atlas* (1893) and describes it as “The Hydra”.

American astronomer Winslow Upton’s *Star Atlas* (1896) lists this constellation as “Hydra” and describes it as a “Snake”.

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists “Hydra”.

The Facts of File Dictionary of Astronomy, 2nd edition, 1985, by Valerie Illingworth, ed., lists “Hydra (Sea Serpent or Monster”.

Hydra is depicted on standard IAU charts as a long cascade of stars. This starts at Hydra’s “head”, which is a pentagon of the stars Rho (ρ), Epsilon (ε), Delta (δ), Sigma (σ), and Eta (η) Hydrae. From Rho (ρ) Hydrae a long cascade of stars runs through Zeta (ζ) Hydrae, Theta (θ) Hydrae, Tau (τ) 1 and 2 Hydrae, Alpha (α) Hydrae (Alphard), Upsilon (υ) 1 and 2 Hydrae, Lambda (λ) Hydrae, Mu (μ) Hydrae, Nu (ν) Hydrae, Xi (ξ) Hydrae, Beta (β) Hydrae, and Psi (ψ) Hydrae, ending at Gamma (γ) Hydrae.

Sky and Telescope Magazine, founded in 1941, depicts Hydra in their magazine and publications in the same manner as standard IAU charts except that they tack on Pi (π) and 58 Hydrae to one end of the long winding line of stars.

The French call it "Hydre" and the Italians "Idra".

Medieval astronomers were interested in the "houses" in which the Sun rose or set as they indicated the month of the year. During the Middle Ages, the Sun rose and set in Hydra (at the tip of the tail) at the time of the Winter Solstice.

Hydra's Heart:

This Danish star "Cor Hydrae" is Alpha (α) Hydrae (Alphard) in the IAU constellation Hydra as listed by Danish astronomer Tycho Brahe (1546 – 1601):

- This star is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as "Cor Hydrae".
- Gores for a celestial globe Bibliothèque Nationale de France, Département Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius lists this star as "Cor Hydra".
- This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "Cor Hydrae" on some charts and as "Cor Hydrae Alpharad" on others.
- English astronomer Edmund Halley's chart of 1678 lists "Cor Hydrae".
- Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) labels this star "Alphard Cor Hydrae".
- The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer lists this star as "Cor Hydrae".
- American uranographer William Croswell (1760 – 1834) uses the name "Cor Hydrae" for this star on his *Mercator Map of the Starry Heavens* in 1810.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists "Cor Hydrae" for this star in his *Celestial Atlas* in 1822.
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich list this star as "Cor Hydrae".
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as "Cor Hydrae".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Cor Hydrae" and "Alphard".
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as "Hydra's Heart" but incorrectly assumes this to be a translation of "Alphard".
- The 1st edition (1910) and the 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) list "Cor Hydrae" for this star.

Hydra's Neck:

This Latin asterism "Collum Hydrae" is Alpha (α) Hydrae (Alphard) in the IAU constellation Hydra and was influenced by the Arabic asterism Neck of the Snake (see below).

Hydridurus:

This asterism “Hydridurus” or “Idrudurus” is the IAU constellation Aquarius.

- Johann Bayer’s *Uranometria* (1603) lists “Hydridurus” as a name for Aquarius.
- John Hill in his *Urania* in 1754 lists “Hydridurus” and attributes it to Appian of Alexandria
- R. H. Allen in his *Star Names* of 1899 attributes “Hydridurus” to Appian of Alexandria and writes that “Idrudurus” appears in the 1515 translation of the *Almagest*.

Hydrophobia:

This German asterism “Υδροφοβία” or “Ydrofovía” is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major as listed by German astronomer Johann Bayer (1572-1625) and was related to the idea that summer heat caused madness.

Hydrus:

None of the stars of this constellation are brighter than 3rd magnitude and only show up in 16 asterisms in this handbook.

This IAU constellation (IAU abbreviation Hyi) “male water snake” was one of twelve constellations identified by the Flemish astronomer Petrus Plancius (1552 - 1622) based on the observations of Dutch navigator and uranographer Pieter Dirkszoon Keyser (1540 – 1596) and Dutch navigator Frederick de Houtman (1571 – 1627). De Houtman called it “De Waterslang” (“water snake”) and Petrus Plancius “Waterslange”. It is depicted on gores of the globe of Petrus Plancius published in 1598 by Jodocus Hondius as a serpent labelled “Waterslange” with the subtitle “Hydrus”.

Dutch historian Paulus Merula (1558 – 1607) called this constellation “Waterslanghe” and “Hydrus Polaris”.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) lists this as “Wasserslanghe” and “Hydrus”.

The 1551 edition of the *Almagest* lists it as “Hydrus” (“male water snake”).

Flemish cartographer Jodocus Hondius (1563 – 1612) called this constellation “Waterslange” and “Hydrus”.

Dutch uranographer Willem Blaeu (1571 – 1638) called this constellation “Hydrus”.

German astronomer Johann Bayer (1572 – 1625) depicts “Hydrus” in his *Uranometria* of 1603 as a serpent with two coils: Tucana and Pavo are standing on its back.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts only the front half of “Hydrus”.

“Hydrus” is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch. Bartsch also gives the local name “Wasser Schlange”.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the name “Hydrus” for this constellation.

"Hydrus" is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a serpent with two coils.

Gores for a celestial globe Bibliothèque Nationale de France, Département Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts "Hydrus" as a long thin serpent with Tucana standing on its back.

Robert Hues lists it as the "water serpent" in his *A Learned Treatise of Globes* in 1659.

The 1688 celestial globe of Italian priest and uranographer Vincenzo Maria Coronelli (1650-1718) includes this constellation (Stevenson 1921).

Hydrus is listed by English astronomer Edmond Halley in his *Catalogus Stellarum Australium* in 1679.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts "Hydrus" as a snake.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli depicts Hydrus as a snake with Tucana standing on its back.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, depicts Hydrus as a water snake.

Hydrus is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts "Hydrus" as a snake.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts "Hydrus" as a snake.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Hydrus as a snake with two coils.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) labels this constellation "L'Hydre", which is the same name he gives to Hydra, and depicts it as a snake with two coils, which is basically the same as Hydra as well.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts "Hydra" as a snake.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "l'Hydre" as a water snake on the southern hemisphere chart and as "l'Hydre Male" on a later closeup chart.

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "WAsserschlange" and depicts it as a snake.

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts "Hydrus" as a snake.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts “Hydrus” as a snake.

Hydrus is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801) as “Waterslang” (“water snake”) and is depicted as a snake.

American uranographer William Croswell (1760 – 1834) depicts Hydrus on his *Mercator Map of the Starry Heavens* in 1810 as a snake.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Hydrus in his *Celestial Atlas* in 1822.

American uranographer Elijah Burritt’s *Southern Circumpolar Map for each Month in the Year* (1835) depicts “Hydrus the Water Snake” as a snake.

“Hydrus” is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875): He indicates the borders of this constellation on the chart but offers no illustration of it.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts “Hydrus” as a snake.

English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists “Hydrus, The Water Snake” as an official constellation “recognized in the catalogue of the British Association”.

American astronomer Winslow Upton’s *Star Atlas* (1896) lists this constellation as “Hydrus” and describes it as a “Watersnake”, incorrectly attributing it to Bayer.

The standard IAU charts show Hydrus as a bending line of stars starting at Alpha (α) Hydri and running through Delta (δ), Epsilon (ε), and Gamma (γ) Hydri to Beta (β) Hydri.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Hydrus in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* as a triangle of the stars Alpha (α), Beta (β), and Gamma (γ) Hydri.

Sky and Telescope Magazine, founded in 1941, depicts Hydrus in their magazine and publications as a bent triangle of the stars Alpha (α) Hydri, Beta (β) Hydri, Gamma (γ) Hydri, and Delta (δ) Hydri.

The French call Hydrus “l’Hydre Mâle” and the Germans “der Kleine Wasserschlange”.

Hyena:

There are three Arabic asterisms with this name:

- One is the star “’aḍ-Ḍibaāʿ”, “’aḍ-Ḍibāʿ”, or “Adh-Dhibaa’e”, (الضّباع), which is the star Zeta (ζ) Draconis in the IAU constellation Draco. It is part of their asterism Two Hyenas (see below):
    - This was later latinized to “Aldhibhah”.
    - English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Al dhibá” and “Al dhib”.
- One is the star “Al Dhini” or “adh-Dhikh” (الذّيخ) which is the star Iota (ι) Draconis in the IAU constellation Draco:
    - This was later latinized to “Edasich”, “Eldsich”, or “Ed Asich”.

    - This appears on a globe made by Mohammed ben Helal in 1275 in Mosul (Dorn 1829), based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283).
    - This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "ed Asich": The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822.
    - The IAU approved the name Edasich for Iota (ι) Draconis. This has an exoplanet named Hypatia after the Greek astronomer and philosopher.
- One is made up of stars of the IAU constellation Boötes. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists this as Beta (β) Boötis (Nekkar), Gamma (γ) Boötis, Delta (δ) Boötis, and Mu (μ) Boötis. This forms part of the Arabic asterism Hyenas and their Youngsters (see below).

Hyenas and Their Youngsters:

This Arabic asterism is a bent loop of stars of the IAU constellations Boötes, Corona Borealis, and Hercules: Starting at Zeta (ζ) Herculis it runs around through Eta (η) Herculis, Sigma (σ) Herculis, Tau (τ) Herculis, Theta (θ) Boötis, Kappa (κ) 1 and 2 Boötis, Lambda (λ) Boötis, Gamma (γ) Boötis, Omega (ω) Boötis, 45 Boötis, Eta (η) Coronae Borealis, HIP 76617, and Xi (ξ) Coronae Borealis. Compare this to Whelps of the Hyenas, below.

Hyena's Claws:

This Arabic star "al-'aẓfār al-dhi'b" (الأظفار الذئب), later latinized to "Adfar Aldib", is Omega (ω) Draconis in the IAU constellation Draco. It is part of their asterism Mother Camels (see below). This is a spectroscopic binary star, so the two stars have the names Adfar Aldib and Adfar Aldib I (though these names have not been approved by the IAU).

Hypentherian:

This "Coptic" asterism is the IAU constellation Aquarius as listed in John Hill's *Urania* in 1754.

Hyperborean of Cepheus:

This **telescopic** asterism "Hyperbóreus Céphei" is the intermediate spiral galaxy NGC 2276 (Arp 25) in the IAU constellation Cepheus. This was discovered by Friedrich August Theodor Winnecke in 1876. This became GC 5364 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They named it for the Hyperboreans, who Pliny the Elder described as being in the extreme north.

Hypocyrrus:

This star is Alpha (α) Tauri in the IAU constellation Taurus as listed in John Hill's *Urania* in 1754. He does not identify the source.

Hyrieus:

This Greek asterism "Hyreides" is the IAU constellation Orion. In Greek mythology Hyrieus was son of the sea God Poseidon and the nymph Alycone. Hyrieus built the city of Hyria in Boeotia and as he was childless, was gifted the son Orion in a bull hide by Poseidon, Zeus, and Hermes. This is why the constellation Orion is often depicted as a man holding up a skin or hide.

- German astronomer Johann Bayer (1572-1625) listed it as “Hyriades” in his Uranometria (1603).
- John Hill lists it as “Hyrides” or “Hyriades” in his *Urania* in 1754.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Hyreides of the old astrologers”.

I-Hobe lika Nowa:

This Xhosa asterism (eastern cape, 1903) is the constellation Columba Noachi, which is now the IAU constellation Columba.

I-Nja encinane:

This Xhosa asterism (eastern cape, 1903) is the IAU constellation Canis Minor (Alcock 2014).

I-Nja ‘nkulu:

This Xhosa asterism (eastern cape, 1903) is the IAU constellation Canis Major (Alcock 2014).

I-Ntlanzi zase zantsi:

This Xhosa asterism (eastern cape, 1903) is the IAU constellation Piscis Austrinus (Alcock 2014).

I-Sikepe sika Ago:

This Xhosa asterism (eastern cape, 1903) is the ancient asterism Argo’s Ship (Alcock 2014).

I-Sitebe:

This Xhosa asterism (eastern cape, 1903) is the IAU constellation Ara (Alcock 2014).

I-Sitsaba sase zantsi:

This Xhosa asterism (eastern cape, 1903) is the IAU constellation Corona Australis (Alcock 2014).

I-Sitya:

This Xhosa asterism (eastern cape, 1903) is the IAU constellation Crater (Alcock 2014).

I Will Return to You:

This German asterism “Rediabeami” is the IAU constellation Scorpius as listed in the charts of the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

Iaiapom:

This Netwar and Nahwal star is Alpha (α) Aquilae (Altair) in the IAU constellation Aquila (Ramík 2019).

Iasides:

This Greek asterism “Ιασίδαο” (“Iasídao”) is the IAU constellation Cepheus as listed by Aratus (315 – 240 B.C.E). The Iasides were the sons of Iaso, the Greek Goddess of recuperation from illness, whose sisters were Aceso, Aglaea, Hygieia, and Panacea. Johann Bayer’s *Uranometria* (1603) lists “Iasides” as an alternate name for Cepheus.

This Latin asterism “Iasides” is the IAU constellation Cepheus as described by the Roman general Germanicus (15 B.C.E. – 19 C.E.).

Ibis:

This asterism is the IAU constellation Cancer as listed in an "Ancient Zodiac of Egypt" in *Hindu Astronomy* by W. Brennand in 1896. Brennand has labelled this illustration "from the Barberini Museum", which is probably a reference to the 17th century Palazzo Barberini, which is now the Galleria Nazionale d'Arte Antica. This "Ancient Zodiac of Egypt" also lists the name "Hermanubis" for this constellation (see Hermanubis, above). This depicts a seated man with the head of an ibis, which is how the Egyptian god Thoth is typically depicted. The stars of Cancer show up in the ancient Egyptian asterism Stars of Water (see below), and in later Seleucid skies as a crab, "NAGAR", neither of which is related to an Ibis or Anubis. Brennan attributes this name for this constellation to the 5th century Roman Macrobius Ambrosius Theodosius, who believed that the Egyptians created the signs of the zodiac and that they were later adopted by the Greeks.

An ibis appears next to the Greek asterism Water Carrier (see below) on the *Daressy Zodiac* of the Roman Imperial Period.

Ibex:

This Arabic asterism "Bādan" is the IAU constellation Capricornus as listed in R. H. Allen's *Star Names* in 1899.

This German asterism "Steinbock" is the IAU constellation Capricornus. Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Der Steinbock". "Steinbock" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and in the *Nördliche Sternhimmel* sky map of O. S. Reuters based on the work of German astronomer Johann Elert Bode (1747 – 1826). See Capricornus, above.

Icarius:

This Greek asterism "Icarius" is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major. This relates to the myth of Icarius' dog Maera, who was turned into this star. Compare this to Erigonaeus, above.

This Greek asterism is the IAU constellation Boötes. In Greek mythology Icarius of Athens was carried into the sky to become Boötes and his daughter Erigone became Virgo.

Icarus:

This asterism is the IAU constellation Ursa Major as listed in the *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638)

This asterism is the IAU constellation Boötes as listed by Johann Bayer's *Uranometria* (1603).

This **telescopic** star is MACS J1149 Lensed Star 1 in the IAU constellation Leo. It was discovered in 2018 by the Hubble Space Telescope. It was once on record as the most distant star, but it is now in 7th place and is approximately 14 billion light years away.

Icarus Star:

There are two Latin asterisms with the name "Icarium Astrum":

- One is the star Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major as listed by 1st century poet Roman poet Publius Papinus Statius.

- One is the IAU constellation Canis Minor as listed by Roman scholar Gaius Julius Hyginus (d. 17 C.E.).

Icarus' Ox:

This Latin asterism "Icarii Boves" is their asterism "Septem Triones" (see Seven Oxen, below) and was given to this asterism by the 1st century B.C.E. Roman poet Sextus Propertius.

Ice Axe:

There are two **telescopic** "ice axe" asterisms:

- One is in the IAU constellation Cassiopeia and is Corder 40 on the observing list of American astronomer Jeffrey Corder. A line of stars including HIP 894, 859, 838 and 855 form the "axe head" while the "shaft" runs from HIP 838 through a line of four 7th – 9th magnitude stars to HIP 1178 with the bottom of the shaft being Pearce's Star (see below), a double rotating variable star (HIP 1415). Size 70' X 30'.
- One is in the IAU constellation Hydra and is Ennis 73 on the observing list of Canadian astronomer Charles Ennis. Size 180' X 85'. The "axe" is a narrow triangle formed by four stars: Tau (τ) 2 Hydrae being the point of the "pick", the double star HIP 46504A being the top of the handle, and the stars HIP 46288 and 46273 the "blade" end. The handle runs from HIP 46504A through HIP 46529, Tau (τ) 1 Hydrae, and HIP 46522 ending at HIP 46543. This includes stars of Corder 1835 and 1836 on Jeffrey Corder's observing list.

Ice Blue:

This Middle Earth star "Helluin" was Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major as listed in the works of J. R. R. Tolkien (1892 – 1973).

Ice Cream Cone:

There are two **telescopic** "Ice Cream Cone" asterisms:

- One is NGC 6885 (Caldwell 37) in the IAU constellation Vulpecula. This was discovered by English astronomer William Herschel in 1785 and listed as "VIII 20". It is GC 4559 in the *General Catalogue* of 1864. It was given this name by American astronomer Wayne Schmidt, who describes it as an upside-down ice cream cone 18 arcminutes tall.
- One is the globular cluster NGC 5139 (Caldwell 80) in the IAU constellation Centaurus. It is also known as "Omega Centauri" (see below) and the "Star in the Cloud on the Horse's Back" (see below), which was how it was described by Ptolemy (c.100 – c.170). . It is listed in the *General Catalogue* of 1864 as GC 3531 and in John Herschel's catalogue as h 3504. Astronomer Rui Henriques described it thus in his observations in 1997: "Stars in field form a cone pointing to the north east- overall appearance of an ice cream cone". It is also known as the Snowball (see below).

Ichthion:

This asterism is the IAU constellation Pisces as listed in an "Ancient Zodiac of Egypt" in *Hindu Astronomy* by W. Brennand in 1896. Brennand has labelled this illustration "from the Barberini Museum", which is probably a reference to the 17th century Palazzo Barberini, which is now the Galleria Nazionale d'Arte Antica. This depicts a mermaid with a male figure in the palm of her left hand and a bent stick in her

right hand and also gives the name “Dagon” (see Dagon, above). Brennan attributes this name for this constellation to the 5th century Roman Macrobius Ambrosius Theodosius, who believed that the Egyptians created the signs of the zodiac and that they were later adopted by the Greeks. The stars of the constellation Pisces did not appear in any ancient Egyptian asterism and its stars appeared in the Seleucid asterisms “Tails” (see below) and “Swallow” (see below). There was an ancient Egyptian decan “Ker-khept-sert” in the IAU constellation Aquarius, which appears in the Testament of Solomon as “Ichthion”. Dagon was an ancient Syrian God of prosperity, and appears in Syrian skies (see Dagon, below).

Icy Maidens:

This Adnyamathanha asterism “Makara” is the Pleiades cluster in the IAU constellation Taurus (Kieneswenger 2016).

Igloo:

This **telescopic** asterism is the open cluster NGC 225 in the IAU constellation Cassiopeia. This was discovered by English astronomer William Herschel in 1788. It is listed as GC 120 in the *General Catalogue* of 1864. American astronomer Wayne Schmidt gave it this name. It is also known as the Sailboat (see below), “W” (see below), and the Broken Heart (see above).

Ignitabulum:

This Latin asterism “Ignitabulum” is the IAU constellation Ara.

- Johann Bayer’s *Uranometria* (1603) lists “Ignatabulum”.
- “Ignatabulum” is listed in John Hill’s *Urania* in 1754. Hill attributes this to “old Latin writers”.
- Other Latin names for hearth also applied to this constellation include “Focus” (see above) and “Hearth” (See above).

Iguana:

This Carib asterism “Wayamakuyuman” or “Wayamaku” represents the iguana (Iguana turbercuata) which lays eggs in the sand in August. Its present location is unknown (Magaña, and Jara, 1982).

Iklil:

See Crown of the Forehead, above.

Ilabrat:

This Chaldean asterism “mul i-li-ab-[rat] is listed in the *Great Star List* (Koch-Westenholz 1995) but the stars have not been identified.

Illyrian:

This Albanian star is HIP 47087 (HD 82886) in the IAU constellation Leo Minor and was given this name in the IAU NameExoWorlds campaign. It is named for the Illyrians, the people the Albanians are descended from. It has an exoplanet named Arber, which is a Medieval name for the inhabitants of Albania.

I’m Wearing:

This Arabic star “Meboula”(مبلي) is Epsilon (ε) Geminorum in the IAU constellation Gemini.

Imai:

This Mursi star “Imai” is Delta (δ) Crucis in the IAU constellation Crux. This name refers to a type of grass that grows along the banks of the Omo River. They used the star as part of their calendar to determine the flooding season. The IAU approved the name Mursi for Delta (δ) Crucis in 2018. The other three stars that they used in this system were Sholbi (see below), Thaadoi (see below), and Waar (see below).

Imbal’ubusuku:

This Xhosa star “Imbal’ubusuku” is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Holbrook and Baleisis 2007).

Imhotep:

This Egyptian Dendera asterism is made up of stars of the IAU constellations Hercules, Lyra, Ophiuchus, and Serpens (Hoffman 2017) and is in the area of the sky where the Babylonian/Seleucid asterism Zababa (see below) was located. It is depicted at Dendera as a seated purple figure holding a staff. Imhotep was a historical physician who became deified. This is a large triangular asterism with Alpha (α) Lyrae (Vega) at the apex with one side running down through Alpha (α) Ophiuchi (Rasalhague) to Zeta (ζ) Ophiuchi, and the other running down through Beta (β) Herculis (Kornephoros) to Alpha (α) Serpentis (Unukalhai). From Zeta (ζ) Ophiuchi a line runs out through Eta (η) Ophiuchi to Xi (ξ) Serpentis. From Alpha (α) Serpentis (Unukalhai) a line runs out through Delta (δ) Serpentis to Beta (β) Serpentis (Nasak Shamiya).

Imitator of Horologium:

This **telescopic** asterism “Mimélus Horológii” is the spiral galaxy IC 1949 in the IAU constellation Horologium. It was discovered by American astronomer DeLisle Stewart in 1899. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it “sems to be imitated… by the identical looking ESO200-32 [which] is approximately of equal size but is situated at double distance.”

Immovable:

This Vedic star “Dhruva” (“immovable” or “fixed”) from the *Puranas* is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Vahia 2014, Leitz 2019). Dhruva was the son of king Uttānapāda and his wife Suniti (or Sunrita). Between 4000 and 1900 B.C.E. this would probably have been Alpha (α) Draconis (Thuban) as listed in older Vedic texts.

Immovable of Ursa Major:

This **telescopic** asterism “Immóbilis Úrsae Majóris” is the peculiar dwarf galaxy NGC 2976 in the IAU constellation Ursa Major. It was discovered in 1801 by William Herschel who listed it as “I 285”. It became GC 1905 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as “the redshift of this galaxy is almost zero”.

Imperfect of Coma Berenices:

This **telescopic** asterism "Áteles Cómae Bereníces" is the intermediate spiral galaxy NGC 4189 in the IAU constellation Coma Berenices. It was discovered in 1784 by William Herschel who listed it as II 106". It became GC 2783 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). They called it this because "the spiral arms of this galaxy are fragmented, and the overall structure is rather asymmetric".

Imperial City:

This Chinese xing guan represents the Daming Palace in Chang'an, the capital city of China during the Tang Dynasty (618 – 907). It includes stars of the IAU constellations Boötes, Ursa Major and Leo. One "wall" is the line of stars starting at Alpha (α) Ursae Majoris (Dubhe) and running through Delta (δ) Ursae Majoris (Megrez), Epsilon (ε) Ursae Majoris (Alioth), Zeta (ζ) Ursae Majoris (Mizar), Eta (η) Ursae Majoris (Alkaid) and ending at Alpha (α) Boötis (Arcturus). It then runs back through a bending line to Alpha (α) Leonis (Regulus), then back up through Beta (β) Ursae Majoris (Merak) to Dubhe.

Imperial Concubine:

There are three Chinese xing guans from the Three Kingdoms to the Ming Dynasty with the name "Pin" in the IAU constellation Scorpius and all are part of their asterism Tail (see below):

- One is the star Theta (θ) Scorpii.
- One is the star Iota (ι) 2 Scorpii.
- One is the star Kappa (κ) Scorpii.

Imperial Consort:

There are four Chinese xing guans from the Three Kingdoms to the Ming Dynasty with the name "Fei" in the IAU constellation Scorpius and the first three are part of their asterism Tail (see below):

- One is the star Mu (μ) 1 Scorpii.
- One is the stars Zeta (ζ) 1 and 2 Scorpii.
- One is the star Eta (η) Scorpii.
- One the star Gamma (γ) 1 Leonis in the IAU constellation Leo and is part of their asterism Xuanyuan (see below).

Imperial Guards:

This Chinese xing guan Qíguān (骑官) is a twisting line of stars in the IAU constellations Lupus and Centaurus: Starting at Gamma (γ) Lupi, it winds through Delta (δ) Lupi, Kappa (κ) Centauri, Beta (β), Gamma (γ), Epsilon (ε), Mu (μ), Eta (η), and Omicron (ο) Lupi, ending at Alpha (α) Lupi.

This Chinese xing guan from the 3 Kingdoms and Ming Dynasty is nine lines of stars in the IAU constellations Centaurus and Lupus:

- One is f, i, and HZ Lupi,
- One is c1 Centauri and HIP 72959 and 73559,
- One is b Centauri and HIP 72432 and 72800,
- One is Phi (φ) 1 and 2 Lupi and HIP 75647,
- One is k, Delta (δ) and Gamma (γ) Lupi,
- One is Kappa (κ) Centauri, Beta (β) Lupi, and Omicron (ο) Lupi,
- One is Omega (ω), g, and d Lupi,
- One is Epsilon (ε), Lambda (λ), and n Lupi, and
- One is Nu (ν) 1 Lupi, Mu (μ) Lupi, and HIP 75828.

This complex Chinese Chenzhuo xing guan is made up of stars in the IAU constellations Centaurus, Lupus, and Norma: There is a central ragged oval of stars having multiple branches coming off:

- The central "oval" starts at Delta (δ) Lupi and runs through HIP 75501, Phi (φ) 1 & 2 Lupi, HIP 73624, 73049, 72010, 72432, 72800, and 71865, and Kappa (κ) Centauri.
- From Kappa (κ) Centauri a bending line runs through Beta (β) and Omicron (ο) Lupi to Gamma (γ) Lupi. From Gamma (γ) Lupi three lines emerge:
    - One to Kappa (κ) Lupi,
    - One to HIP 73111A, and
    - One through Pi (π) Lupi to Zeta (ζ) Lupi.
- From Delta (δ) Lupi a line runs to Omega (ω) Lupi. From Omega (ω) Lupi:
    - One line runs through HIP 76939 to Psi (ψ) 1 & 2 Lupi, and
    - One line runs to HIP 76829, where it splits in two:
        - One line running to Delta (δ) Normae, and
        - One line running to HIP 75828.
- From HIP 73624 two lines run out:
    - One to HIP 73937, and
    - One through 1 Lupi to 2 Lupi.

This Chinese star "Ke Kwan" is Kappa (κ) Centauri in the IAU constellation Centaurus.

This Chinese star "KeKouan" is Beta (β) Lupi in the IAU constellation Lupus. The IAU is considering the name "Kekouan" for this star.

Imperial Military Flag:

This Chinese xing guan "Jiǔyóu" (九斿) is a line of stars in the IAU constellations Eridanus and Lepus: It starts at 49 Eridani and runs through Mu (μ), Omega (ω), 63, 60, and 58 Eridani to 54 Eridani, where it bends and runs to an end at 1 Leporis.

This Chinese Chenzhuo xing guan "Jiǔyóu" is a winding line of stars in the IAU constellations Eridanus and Lepus: HIP 21743, HIP 23362, HIP 22860, HIP 22881, HIP 23060, 64 Eridani, 63 Eridani, 56 Eridani, and 46 Eridani.

Imperial Passageway:

This Chinese xing guan Niǎndào (辇道) is a line of stars in the IAU constellations Cygnus and Lyra: 13, Eta (η), and Theta (θ) Lyrae, and 4 and 17 Cygni. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan "Niǎndào" is a line of five stars in the IAU constellations Cygnus and Lyra: 13 Lyrae, Eta (η) Lyrae, Theta (θ) Lyrae, 4 Cygni, and 8 Cygni.

Imperial Pomp:

See Leopold's Orb.

Imperishable Star:

This Egyptian star from the *Pyramid Texts* is Alpha (α) Ursae Majoris (Dubhe) in the IAU constellation Ursa Major (Abdel-Hadi and Yehia, 2009).

Imperishable Stars:

This Egyptian asterism is the northern circumpolar stars (Krupp 1983). They are called this because they never set.

Impetuous of Fornax:

This **telescopic** asterism "Férox Fornácis" is the barred spiral galaxy NGC 1385 in the IAU constellation Fornax. It was discovered by William Herschel in 1784. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Impetuous of Sextans:

This **telescopic** asterism "Véhemens Sextántis" is the interacting galaxy NGC 3166 in the IAU constellation Sextans, which is interacting with NGC 3169. This was discovered by English astronomer William Herschel in 1787 who listed it as "I 163" in his catalogue. It is GC 2008 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). These two galaxies are also known as the "Galactic Couple" (see above).

Imprint of a Foot:

This **telescopic** asterism PGC 44491 is a galaxy in the IAU constellation Virgo.

In the Manzil Awwa:

This Arabic star "min al-ʿawwā'" (من العواء), which means "in the manzil 'awwa" is the star Delta (δ) Virginis in the IAU constellation Virgo:

- This was later latinized to "Minelauva", "Minelava", or "Auva".
- The IAU approved the name Minelauva for Delta (δ) Virginis. The manzil being referred to here is Howling Dogs (see above).

In the Middle of Grus:

This **telescopic** asterism "Medióximus Grúis" is the spiral galaxy NGC 7582 in the IAU constellation Grus. This was discovered in 1836 by John Herschel who listed it as h 3978 and later as GC 4927 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "this galaxy is located in the middle of the Grus Quartet."

Inachides:

This Greek asterism "Inachides" is the IAU constellation Perseus and relates to the great grandfather of Perseus, the first king of Argos:

- Johann Bayer's *Uranometria* (1603) lists "Inachides" for this constellation.

- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Inachides" as an alternate name for Perseus.
- "Inachides" is listed in R. H. Allen's *Star Names* in 1899

Inactive:

This Gaulish asterism "Anaganti Prinnios" is the IAU constellation Aquarius and appears in the *Coligny Calendar* (Boutet 2001, 2014). Boutet notes that "Anaganti" ("inactive") is a pun with "Anacantios" ("calamitous").

Incalculable:

This Chaldean star "mul la sid.mes" is listed in the *Great Star List* (Koch-Westenholz 1995) but the stars have not been identified.

Incense Altar:

This Greek asterism "Ara Thymiamatis" is the IAU constellation Ara. Edward Sherburne lists this in his *Sphere of Marcus Manilius* in 1675.

Incense Burner:

This Greek asterism "Θυτήριον" or "thytírion" is the IAU constellation Ara as named by Aratus (315 – 240 B.C.E).

Incense Pan:

This Greek asterism "Batillus" is the IAU constellation Ara. Johann Bayer's *Uranometria* (1603) lists "Batillus" for this constellation.

Inchworm:

There are two **telescopic** "inchworm" asterisms:

- One is the open cluster NGC 6910 in the IAU constellation Cygnus. This open cluster was discovered by William Herschel in 1786 who listed it as "VIII 56". His son John Herschel listed it as h 2077 in 1828. It is GC 4575 in the *General Catalogue* of 1864. It is also known as the Rocking Horse Cluster. It is located a half degree east-northeast of Gamma (γ) Cygni (Sadr) and may be related to the nebula IC 1318 (the Gamma Cygni Nebula). At low magnification it looks like a crescent between two brighter stars. NOTE: IC 1318 was first recorded by American astronomer Edward Emerson Barnard (1857 – 1923) and Dreyer's *Index Catalogue of Nebulae* (1888 – 1894) describes it as "γ Cygni, surrounded by L patches of F neby".
- One is in the IAU constellation Lynx. One end is the star UX Lyncis and then runs through a line of four stars between magnitude 7.8 and 9.3 and then loops through HIP 44700, 44728, and 44707, runs straight through two more magnitude 9 stars and ends at HIP 44794.

Inclined of Perseus:

This **telescopic** asterism "Inclináta Pérsei" is the intermediate barred spiral galaxies NGC 1186 and 1174 in the IAU constellation Perseus. NGC 1186 was discovered in 1786 by William Herschel and listed as "IV 43": It became GC 639 in the *General Catalogue* of 1864. NGC 1174 was discovered by American astronomer Lewis Swift in 1885. This name appears in *The Catalogue of One Thousand Named Galaxies*

by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as they were inclined at 70° to the line of sight.

Inconspicuous of Cetus:

This **telescopic** asterism "Inconspícuus Céti" is the unbarred spiral galaxy NGC 173 in the IAU constellation Cetus. This is III 871 in William Herschel's catalogue and GC 84 in the General Catalogue of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as they describe it as "rather inconspicuous".

Incomplete House Stars:

This Bugis asterism "Bintoéng Bola Képpang" is the IAU constellation Crux.

Increase:

This Kiribati asterism "Kama Iti" ("increase" or "multiplier") is made up of some of the stars of the IAU constellation Draco (Trussel and Groves 1978).

Incredible Shrinking Nebula:

This **telescopic** asterism is the planetary nebula NGC 6804 in the IAU constellation Aquila. This was discovered by English astronomer William Herschel in 1791 who listed it as "VI 38". It is GC 4499 in the *General Catalogue* of 1864. It is also known as the Snowball Nebula and Lipstick Marks on a Mirror.

Incubus of Pavo:

This **telescopic** asterism "Íncubus Pavónis" is the interacting barred spiral galaxy NGC 6770 in the IAU constellation Pavo. It was discovered in 1836 by John Herschel who listed it as h 3784 and later as GC 4477 in his *General Catalogue* of 1864. This galaxy is interacting with NGC 6769. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). It is one of the "eyes" of the Devil's Mask (see above).

Indian Bird:

This asterism "Apus Indica" is the IAU constellation Antlia as listed in an abridged edition (1720) of German astronomer Johann Bayer's *Uranometria,* which was originally published in 1603. John Hill lists this as "Avis Indica" in his *Urania* in 1754 . Hill gives the additional name "Avis Paradisiaca" (see Heavenly Bird, above). Scottish uranographer Alexander Jamieson (1782 – 1850) lists "Apus Indica" in his *Celestial Atlas* in 1822.

Indian Crab:

This Latin asterism "Crabro Indicus" is the IAU constellation Musca as listed by Edward Sherburne in his *Sphere of Marcus Manilius* in 1675

Indian Hornet:

This asterism "Crabro Indicus" is listed in John Hill's *Urania* in 1754. Hill lists it as "the constellation Apis, the Bee, or, as others call it, the Fly, Musca". Of course, the IAU constellations Apus and Musca are two different constellations side by side in the southern sky. Edward Sherburne lists "Crabro Indicus" as Apus in his *Sphere of Marcus Manilius* in 1675.

Indian Magpie:

This German asterism "Pica Indica" is the IAU constellation Tucana. German poet and author Philippus Caesius (Philipp von Zesen, 1619 – 1689) gave it this name and it is clearly a reference to the star catalogue of Dutch navigator Frederick de Houtman (1571 – 1627) where de Houtman referred to it as an "Indian magpie" (see Tucana below). Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) lists "Pica Indica" and depicts it as a bird with a long bill. Edward Sherburne also lists "Pica Brasilica seu Indica" ("Brazilian or Indian Magpie") in his *Sphere of Marcus Manilius* in 1675.

Indian Triangle:

See Indus, below.

Indifferent of Pisces:

This **telescopic** asterism "Léntus Píscium" is the barred spiral galaxy NGC 7541 in the IAU constellation Pisces. This was discovered in 1785 by William Herschel who listed it as "II 430". It became GC 4909 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "NGC 7541 forms a physical pair with NGC 7537 [II 429, GC 4906], although neither of them shows any sign of distortion. It looks as if they are indifferent to each other."

Indistinct Branches of Camelopardalis:

This **telescopic** asterism "Acritobráchius Camelopardális" is the spiral galaxy IC 356 (Arp 213) in the IAU constellation Camelopardalis. This was observed by British astronomer William Frederick Denning (1848 – 1931) and American astronomer Edward Emerson Barnard (1857 – 1923). This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the spiral arms of this galaxy are rather vague and indistinct".

Indubanna:

This Babylonian asterism "MUL.IN.DUB.AN.NA" (Hunger 1992) from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) is part of the IAU constellation Sagittarius. Its meaning is uncertain.

This Akkadian asterism "Indubanna" (Hunger 1992) from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) is part of the IAU constellation Sagittarius. Its meaning is uncertain.

Indus:

None of the stars of this constellation are brighter than 3rd magnitude and only show up in 31 asterisms in this handbook.

This IAU constellation (IAU abbreviation Ind), "the Indian", was one of twelve constellations identified by the Flemish astronomer Petrus Plancius (1495 – 1552) based on the observations of Dutch navigator and uranographer Pieter Dirkszoon Keyser (1540 – 1596) and Dutch navigator Frederick de Houtman (1571 – 1627): De Houtman listed it as "De Indianen". Plancius' celestial globe (late 1597) published by Amsterdam cartographer Jodocus Hondius the Elder depicts Indus.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) depicts Indus as a male striding to our right brandishing a spear in his right hand and having three more spears tucked under his left arm.

Flemish cartographer Jodocus Hondius (1563 – 1612) included it on his globes (1598 – 1603) as "Indiaen" and "Indus" and depicts it as a male in a loin cloth brandishing a spear in his right hand and holding three more spears in his left hand at his side.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts "Indus" as a male in a loin cloth holding up an arrow in his right hand and holding three more arrows in his left hand.

German uranographer Johann Bayer (1572 – 1625) listed it as "Indus" in his *Uranometria* of 1603. He depicts it as a man turned slightly to our right holding a spear aloft in his left hand and carrying three more spears in his right hand.

"Indus" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the name "Indus" for this constellation.

German astronomer and uranographer Johann Bayer (1572-1625) depicts Indus in his *Uranometria* in 1603 as a male holding aloft a spear in his left hand and carrying three more at his waist in his right hand.

"Indus" is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a male in a skirt holding up an arrow in his left hand with three more arrows tucked under his right arm.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts "Indus" as a nude male partially turned to our left. He has a spear raised in his right hand and three more spears tucked under his left arm.

Robert Hues listed Indus as "the naked Indian" in his *A Learned Treatise of Globes* in 1659.

Indus is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 which depicts a dark-skinned male brandishing a spear in his right hand and carrying arrows in his left.

Edward Sherburne lists Indus in his Sphere of Marcus Manilius in 1675 but also gives the name "Sagittifer" ("carrying arrows"), which is most often associated with Sagittarius (see below).

Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) depicts Indus as a black male holding an arrow in his right hand and cradling three more arrows in his left arm.

English astronomer Edmund Halley's chart of 1678 depicts Indus as a male brandishing an arrow in his left hand with three more arrows bundled under his right arm.

The 1688 celestial globe of Italian priest and uranographer Vincenzo Maria Coronelli (1650-1718) includes this constellation (Stevenson 1921).

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts "Indus" as a female in a grass skirt holding up an arrow

in her right hand and cradling another arrow in her left arm on one chart and cradling three arrows on two other chart pages. Hevelius' *Firmamentum Sobiescianum sive Uranographia* (1690) depicts "Indus" as a female in a grass skirt holding up an arrow in her left hand and cradling three more arrows in her right arm. Hevelius shows it as a triangle of the stars Alpha (α), Beta (β), and Theta (θ) Indi.

French astronomer Joseph Jérôme Lefrançois de Lalande (1732 – 1807) lists this constellation as "Triangle Indien" ("Indian Triangle") due to the outline of its chief stars.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this "L'Indien", "Indus" and "Ινδός" and depicts. He is holding up an arrow in his right hand.

Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) depicts "Indus" as a male with a feathered headdress with a spear in his left hand and three arrows under his right arm.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, depicts Indus as a nude male holding aloft and arrow in his left hand and cradling three more arrows under his left arm.

Indus is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729: It is depicted as a naked male holding an arrow in his left hand and cradling three more arrows with his right arm.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts "Indus" as a male in a grass skirt facing to our right holding an arrow in his left hand and cradling three more arrows with his right arm.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts "Indus" as a male with a feathered headdress with an arrow in his left hand and cradling three more arrows with his left arm.

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) depicts Indus as a male holding aloft an arrow in his right hand and cradling three more arrows in his left arm.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Indus as a nude male viewed from behind. He has an arrow raised in his right hand and has three more arrows tucked under his left arm.

French astronomer Abbé Nicolas Louis de Lacaille's *Planisphère des Étoiles Ausralea* (1756) depicts "L'Indien" as a male facing away from us holding aloft an arrow in his right hand with three more arrows in his left hand.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) depicts "l'Indien" as a male holding aloft an arrow in his left hand with three more arrows cradled under his right arm.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts "Indus" as a male in a grass skirt holding aloft an arrow in his right hand and cradling three more arrows with his left arm.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "l'Indien" as a male facing us with an arrow raised in his left

hand and three more arrows cradled in his right arm. In a later closeup chart he is depicted with a grass skirt holding aloft and arrow in his RIGHT hand and holding three more arrows in his LEFT hand.

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts Indus as a male wearing a loin cloth brandishing a spear in his right hand and holding three more spears in his left hand.

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Indianer" and depicts it as a nude male holding aloft an arrow in his left hand and cradling three more arrows in his right arm.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts "Indus" as a male in a grass skirt holding aloft an arrow in his right hand and cradling a bundle of arrows with his left arm.

Indus is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801) as "Indiaan" and is depicted as a male facing slightly to our right holding up an arrow in his left hand and cradling three more arrows under his right arm.

American uranographer William Croswell (1760 – 1834) depicts "Indus the Indian" on his *Mercator Map of the Starry Heavens* in 1810 as a male in a grass skirt holding an arrow up in his right hand and wearing a quiver of arrows on his left hip.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists "Indus" in his *Celestial Atlas* in 1822: It is depicted as a male holding an arrow with a quiver over his shoulder.

"Indus" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875): He indicates the borders of this constellation on the chart but offers no illustration of it.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depict "Indus" as a male in a grass skirt and triple ponytail brandishing an arrow over his head with his right hand and having his left hand behind him.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this constellation on the charts simply as "Indian".

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Indus, the Indian" as an official constellation "recognized in the catalogue of the British Association".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Indus" and describes it as the "Indian", incorrectly attributing it to Bayer.

Italian astronomers "Indiano" and French astronomers "Indien".

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) redesigned the lines of Indus in his book *The Stars - A New Way to See Them* (1952). The standard IAU chart shows Indus as the triangle of stars Alpha (α) Indi (Persian), Eta (η) Indi, Beta (β) Indi, and Theta (θ) Indi. Rey makes a triangle of the stars Epsilon (ε) Indi, Delta (δ) Indi, and Beta (β) Indi, with a line running from this last star to Alpha (α) Indi. *Sky and Telescope Magazine*, founded in 1941, depicts Lacerta in their magazine and publications in the same manner as Reyersbach.

Sky and Telescope Magazine, founded in 1941, depicts Indus in their magazine and publications as a bent triangle of the stars Delta (δ) Indi, Theta (θ) Indi, Alpha (α) Indi, Eta (η) Indi, and Beta (β) Indi.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Indus in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* as a "T" shaped constellation of Delta (δ), Theta (θ), Alpha (α), and Beta (β) Indi.

Indus Triplet:

This telescopic asterism is found in the IAU constellation Indus and was discovered by John Herschel in 1834. It consists of:

- The lenticular galaxy NGC 7041,
- The lenticular galaxy NGC 7049, and
- The elliptical galaxy NGC 7029.

Ingá Fruit Egret:

This Barasana asterism "Mene Yehe" is part of the IAU constellation Cassiopeia (Hugh-Jones 2006).

Ingaba:

This Wardaman star is one of the stars of the Pleiades cluster in the IAU constellation Taurus (Cairns 1999) representing a brother and is part of their asterism "Murabibi" (see Teenagers and Little Ones, below).

Ingenious:

This asterism is the IAU constellation Hercules:

- 1st century Roman architect Vitruvius called it "Ingeniculatus" ("ingenuated"),
- 4th century Roman astrologer Julius Firmicus Maternus called it "Ingeniculus" ("ingenious"),
- 1st century Roman poet Marcus Manilius called it "Ingenicla Imago" ("ingenious image") and "Ignota Facies" ("you will face the unknown").
- The *De ordine ac positione stellarum in signis* ("*On the order and position of the stars in the signs*") in the Salzburg compilation (810 – 818) of Abbot Arno of Salzburg (785 – 821) lists "Qui et In geniculo dictur" ("Who is also called In geniculus") as does Kauffmann's translation of the *De ordine ac positione stellarum in signis* in 1888.
- The *Aratus Latinus* lists "Ingeniculo… quod in genu laborat" ("Ingenius… that's working on his knee").
- Ingeniculus" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
- French astronomer Ismaël Boulliau (Ismaël Bullialdus, 1605 – 1694) listed "Ingeniclus" ("Ingenous").

Ingongoli:

This Xhosa star "Ingongoli" is Alpha (α) Virginis (Spica) in the IAU constellation Virgo (Holbrook and Baleisis 2007).

Ingswagen:

This asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Bender 2020). This may be related to traditions of a Danish king Ing (Davidson 1993) or the Swedish god Ingvi, representing fruitfulness and life force, both related to the Gods Freyr and Freyja who ride in a cart drawn by cows.

Ingula:

This asterism is the IAU constellation Hercules as listed in the *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638).

Injured of Camelopardalis:

This **telescopic** asterism "Saúcius Camelopardális" is the barred spiral galaxy NGC 2146 in the IAU constellation Camelopardalis. It was discovered by Friedrich August Theodor Winnecke in 1876. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). It is also known as the "Dusty Hand" (see above).

Ink Spot Nebula:

This **telescopic** asterism is dark nebula is Barnard 86 in the IAU constellation Ophiuchus. This is also known as Herschel's Hole in the Heavens and the Gecko (see above). Astronomer Edward Barnard recorded it in 1884 as "a drop of ink" in the German professional astronomy periodical *Astronomical Nachtrichten.*

Inner Five Lords:

This Chinese Chenzhuo xing guan is a line of five stars in the IAU constellation Coma Berenices: Beta (β) Comae Berenices, 35 Comae Berenices, 24 Comae Berenices, 11 Comae Berenices, and 6 Comae Berenices.

Inner Kitchen:

This Chinese xing guan Nèichú (内厨) is a line of two stars in the IAU constellation Draco: 7 and 8 Draconis. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan "Nèichú" is a line of two stars of the IAU constellation Ursa Major: HIP 52338 and 50685.

Inner Pestle:

This Chinese Chenzhuo xing guan is a line of three stars in the IAU constellations Lacerta and Pegasus: Pi (π) Pegasi, HIP 109654, and 1 Lacertae.

This Korean asterism "Naebu Yubong" (내부 유봉) is a line of two stars in the IAU constellations Lacerta and Pegasus: 1 Lacertae and Eta (η) Pegasi. Nearby is the Korean asterism "Mortar" (see below).

Inner Screen:

This Chinese xing guan Nèipíng (内屏) is a quadrilateral of stars in the IAU constellation Virgo: Xi (ξ), Nu (ν), n, and Omicron (o) Virginis. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Nèipíng” is four stars in the IAU constellation Virgo: Omicron (ο) Virginis, Pi (π) Virginis, Nu (ν) Virginis, and Xi (ξ) Virginis.

Inner Seats of Nine Senior Officers:

This Chinese Chenzhuo xing guan is a line of three stars in the IAU constellation Coma Berenices: 27, 32, and 36 Comae Berenices.

Inner Seats of the Five Emperors:

This Chinese Chenzhuo xing guan is made up of stars of the IAU constellation Cepheus and Draco: The central star is Kappa (κ) Cephei, from which four lines run out:

- One runs to 73 Draconis,
- One runs to 59 Draconis,
- One runs to HIP 95167, and
- One runs to 77 Draconis.

Inner Seats of Three Excellencies:

This Chinese Chenzhuo xing guan is a triangle of stars in the IAU constellation Virgo: Rho (ρ) Virginis, 33 Virginis, and 32 Virginis.

Inner Stairway:

This Korean asterism “Naebu Gyedan” (내부 계단) is a zig-zagging line that resembles a very regularly spaced set of stairs in the IAU constellation Ursa Major:

- The “top step” is the stars HIP 47594 and 24 Ursae Majoris,
- The “middle step” is the stars Sigma 2 and Rho (ρ) Ursae Majoris, and
- The “bottom step” is the stars 2 and 4 Ursae Majoris.

Inner Steps:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is two interlocking triangles of stars in the IAU constellations Camelopardalis and Ursa Major:

- The first triangle is the stars 4 Ursae Majoris (the determinative star), 55 Camelopardalis, and HIP 36211,
- The second triangle is the stars Rho (ρ) Ursae Majoris, 51 Camelopardalis, and HIP 36528.

This Chinese xing guan “Nèijiē” (内阶) is two interlocking triangles of stars in the IAU constellation Ursa Major:

- The first triangle is the stars Omicron (ο), 16, and 6 Ursae Majoris, and
- The second triangle is the stars 23, 5, and 17 23 Ursae Majoris.

This Chinese Chenzhuo xing guan “Nèijiē” (内阶) is a zig-zagging line of stars in the IAU constellation Ursa Major: HIP 47594, 24 Ursae Majoris, Sigma (σ) 1 & 2 Ursae Majoris, Rho (ρ) Ursae Majoris, Pi (π) 1 & 2 Ursae Majoris, and 2 Ursae Majoris.

Innes’ Star:

This **telescopic** star is HIP 55042 (HD 304043) in the IAU constellation Carina (magnitude 11.52). This is an M3.5 red dwarf star discovered by Scottish astronomer Robert T.A. Innes in 1920 in observations made from the Union Observatory in South Africa. Innes is the astronomer who discovered Proxima Centauri.

Innocent Maiden:

This Arabic asterism "Al ʿAdhrāʾ al Naṭhīfah" is the IAU constellation Virgo:

- Persian astronomer Abu Ma'shar (Albumasar- 787 – 886) listed it as "Adrenedesa".
- Johann Bayer's *Uranometria* (1603) lists "Eladari" and "Adrenedesa" as names for Virgo.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Eladari".
- Robert Hues listed it as "Eladari" in his *A Learned Treatise of Globes* in 1659.
- Edward Sherburne in his *Sphere of Marcus Manilius* in 1675 lists "Adra" and "Adrenedepha" as names for Virgo.
- John Hill listed it as "Adra" in his *Urania* in 1754 and listed the alternative name "Adrenedepha".
- Variations include "Eleadari" and "Adrendesa".

Innocents Slain by Herod:

This German asterism "Sainted Innocent Children" or "Innocents Slain by Herod" is the IAU constellation Draco and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures. This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "S. S. Innocentes al Draco". It appears in Edward Sherburne's Sphere of Marcus Manilius in 1675 as "Innocents" and later appears in John Hill's *Urania* in 1754 as "Innocents Slain by Herod".

iNoqoyi:

This Zulu star "iNoqoyi" is Alpha (α) Virginis (Spica) in the IAU constellation Virgo (Holbrook and Baleisis 2007).

Inqiull:

This Peruvian star is HIP 84787 (HD 156411) in the IAU constellation Ara and was given this name in the IAU NameExoWorlds campaign. It is named for a character in Abraham Valdelomar's *Way to the Sun*. It has an exoplanet named Sumajmajta: Sumaj Majta was one half of the couple in this love story.

Inside of Antlia:

This **telescopic** asterism "Introvérsus Ántliae" is the spiral galaxy NGC 3175 in the IAU constellation Antlia. It was discovered in 1835 by John Herschel who listed it as h 3236 and later as GC 2046 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to "inner activity as well as… the introverted appearance".

Insistence:

This Latin asterism “Institia” is the IAU constellation Virgo as listed on the *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638)

Intact of Leo:

This **telescopic** asterism “Intáctus Leónis” is the intermediate spiral galaxy NGC 3041 in the IAU constellation Leo. It was discovered in 1784 by William Herschel who listed it as “II 98”. It became GC 1956 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as “this perfect, unperturbed spiral galaxy is intact.”

Integral Sign:

This **telescopic** asterism PGC 20348 (UGC 3697) is a low-mass spiral galaxy in the IAU constellation Camelopardalis. It was discovered by astronomer Geoffrey Burbidge in the Palomar Observatory Sky Survey. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010) as “Integrális Camelopardális” (“Integral Sign of Camelopardalis”). This name was posted on the *Deep Sky Forum* in January 2013 by American astronomer Jimi Lowrey.

Intercrus:

See Between the Legs (above).

Intergalactic Wanderer:

This **telescopic** asterism is globular cluster, the “Intergalactic Wanderer” or “Intergalactic Tramp” is NGC 2419 (Caldwell 25) in the IAU constellation Lynx. Size 6’ X 6’. It was discovered by English astronomer William Herschel in 1788, who listed it as “I 218” in his catalogue. It is GC 1548 in the General Catalogue of 1864. English astronomer William Parsons, 3rd Earl of Rosse first identified it as a globular cluster in the mid-1800s and believed it to not be in orbit around the Milky Way, which explains this name.

Interior Seats of the Five Emperors:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a cross of stars in the IAU constellation Cepheus: The central (and determinative) star is HIP 112519 and from this star four lines run out:

- One to HIP 113116,
- One to HIP 108456A,
- One to HIP 110724, and
- One to V Cephei.

This Chinese xing guan “WŭdìnèiZuò” (五帝内座） is a cross of stars in the IAU constellation Cassiopeia. The central star is HIP 14417A. The four stars around it forming the cross are 47 Cassiopeiae and HIP 15547, 19461A, and 13055.

Interposed of Coma Berenices:

This **telescopic** asterism “Rubélla Cómae Bereníces” is the barred lenticular galaxy NGC 4477 in the IAU constellation Coma Berenices. It was discovered by Heinrich d’Arrest in 1865. William Herschel listed it as “II 116”. It became GC 3029 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it

this because “two broad diffuse arms extend from the disk of this galaxy, giving it the appearance of being put between brackets”. It is part of Markarian’s Chain (see above).

Interpreters of Nine Dialects:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is an oval of stars in the IAU constellation Eridanus: It starts at the determinative star Omicron (o) 2 Eridani and runs through 39 Eridani, DU Eridani, HIP 21239A, HIP 21297, 47 Eridani, 46 Eridani, Xi (ξ) Eridani, and HIP 19996.

This Chinese xing guan “Jiǔzhōushūkǒu” (九州殊口) is a curve of stars in the IAU constellation Eridanus: 39, Omicron (o) 1, Xi (ξ), Nu (η), 56, and 55 Eridani.

This Chinese Chenzhuo xing guan “Jiǔzhōushūkǒu” is a bent oval of stars in the IAU constellation Eridanus: 53 Eridani, HIP 20922, HIP 20892, 54 Eridani, HIP 22028, 58 Eridani, 60 Eridani, HIP 22439, and HIP 21644.

Inthronata:

This asterism is the IAU constellation Cassiopeia as listed in R. H. Allen’s *Star Names* in 1899. Allen attributes this name to English orientalist Thomas Hyde (1636 – 1703).

Intricate of Canes Venatici:

This **telescopic** asterism “Intricátus Cánum Venaticórum” is the spiral galaxy NGC 5033 in the IAU constellation Canes Venatici. This was discovered by English astronomer William Herschel in 1785 who listed it as “I 97”. It is GC 3459 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). It is also known as the “Waterbug” (see below).

Inuit Nebula:

This **telescopic** asterism is the planetary nebula NGC 2392 (Caldwell 39) in the IAU constellation Gemini. It was discovered by English astronomer William Herschel in 1787 who listed it as “IV 45” in his catalogue. It is listed as GC 1532 in the *General Catalogue* of 1864. Size 0.9’ X 0.9’. This name was posted on the *Deep Sky Forum* by American astronomer Howard Banich in February 2019. NOTE: Western astronomers previously also called this the Eskimo Nebula, but as the term Eskimo is offensive to the Inuit, I’m not listing it here under that name. Some people are now calling it the Parka Nebula or the Clown Face Nebula.

Invakā:

This Hindu asterism “Invakā” or “Invalā” is the stars Lambda (λ) Orionis (Meissa), and Phi (ϕ) 1 and 2 Orionis in the IAU constellation Orion as listed in R. H. Allen’s *Star Names* in 1899. Allen writes that the meaning of this name is “doubtful”.

Investigator:

This Japanese sei shuku or lunar mansion “Kagasuki Boshi” is the belt of Orion plus the star Beta (β) Orionis (Rigel).

Io the Wanderer:

This Greek asterism is the IAU constellation Taurus. This refers to the myth of Io being seduced by the God Zeus and then turned into a cow to hide her from his wife Hera, who sent her wandering the world without rest.

- "Io" is listed as a name for this constellation in Johann Bayer's *Uranometria* (1603).
- R. H. Allen's *Star Names* in 1899 lists "Io the Wanderer".

Iota's Ghost:

This **telescopic** asterism is NGC 5102, a lenticular galaxy in the IAU constellation Centaurus. It was discovered by English astronomer John Herschel in 1835 who listed it as h 3492. It is GC 3504 in the *General Catalogue* of 1864. It is called this as it is located next to the star Iota (ι) Centauri. It is also known as "Close to Iota" see above. This is O'Meara 70 in Stephen James O'Meara's *Hidden Treasures Catalogue* (2007).

Irat Zuqaqipi:

This Akkadian asterism from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) is part of the IAU constellation Scorpius.

Irena:

This **telescopic** Slovenian star is WASP 38 in the IAU constellation Hercules (magnitude 7.998). It was given this name in the IAU NameExoWorlds campaign. It is named for a character in Fran Saleški Finžgar's novel *Under the Free Sun.* It has an exoplanet named Iztok, which is the name of a freedom fighter in this novel.

Irene:

This Greek asterism "Εἰρήνη" ("Eiríni") is the IAU constellation Virgo as listed in R. H. Allen's *Star Names* in 1899. In Greek mythology Irene was the sister of Astraea (see above).

Iris Nebula:

This **telescopic** asterism is the open cluster and reflection nebula NGC 7023 (Caldwell 4, vdB 139, LBN 487, Cr 429, Ced 187) in the IAU constellation Cepheus. This was discovered by English astronomer William Herschel in 1794 who listed it as "IV 74". It is GC 4634 in the *General Catalogue* of 1864. Size 18' X 18'.

Irmin's Wagon:

This Saxon asterism "Irmines Wagen" is the Big Dipper Asterism in the IAU constellation Ursa Major as listed in R. H. Allen's *Star Names* in 1899 and by John D. Bengtson (2016). Allen notes that German philologist Jakob Grimm (1785 – 1863) listed it as "Herwagon", and that German astronomer Johann Bayer (1572-1625) listed this as "Horwagon" and German poet Philip von Zesen (1619 – 1689) listed it as "Hurwagon". In 2020 Herman Bender listed the Anglo-Saxon "Irmeneswagen" and wrote that this name was also associated with Boötes, as Irmin was a hero associated with that constellation. The center of Irmin worship was Lower Saxony.

Iron Pole:

This Kazakh star “Timir Qazyq” or “Temir Kazyk” is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor. The horses Aqbozat and Kökbozat are tethered to it and walk in a perpetual circle.

Iron Star:

This **telescopic** variable star is HIP 86777 (HD 161114) in the IAU constellation Ophiuchus. It was discovered in 1908 by Scottish astronomer Williamina Fleming at the Harvard College Observatory.

Irti-su:

This Babylonian ziqpu “mul sa GAB” from cuneiform text AO 6478 (Schaumberger 1952) is Alpha (α) Leonis (Regulus), Gamma (γ) Leonis, Eta (η) Leonis, and Zeta (ζ) Leonis in the IAU constellation Leo.

Isha:

This “Hebrew” asterism is the IAU constellation Andromeda as listed by John Hill in his *Urania* in 1754. Hill claims that the complete name is “Isha Sha-Jahajala Baal” and translates this as “woman wanting a husband”.

Ishtar:

This Akkadian, Babylonian, and Assyrian asterism is the IAU constellation Virgo as listed in R. H. Allen’s *Star Names* in 1899. This is named for their Goddess Ishtar, known as the Queen of Heaven, who is a Goddess of love and war. The Greeks named her “Ἀστήρ” (“Astír”) and later Aphrodite (see above).

Isias:

This “Coptic” asterism is the IAU constellation Scorpius and is listed in John Hill’s *Urania* in 1754.

Isis:

This Egyptian Dendera asterism is made up of stars of the IAU constellations Carina and Vela (Hoffman 2017). The Goddess Isis is the wife of the God Osiris in Egyptian mythology. Isis is depicted at Dendera as seated with a human figure standing on one of her hands. The central star is Mu (μ) Velorum, from which three lines of stars run out:

- One to Theta (θ) Carinae,
- One to i Velorum, and
- One to q Velorum.

This Egyptian star from the *Pyramid Texts* and as depicted in the Ramesseum (c. 3285 B.C.E.), the mortuary temple of Rameses II at Thebes, is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Krupp 2001). It also appears in the 19th dynasty Cairo Calendar (Hardy 2003). Compare this to Sopdet (below). During the reign of the Roman Antoninus Pius (138 – 161 C.E), a drachma was minted in Alexandria depicting Isis riding a dog (Holberg 2007).

This German asterism is the IAU constellation Taurus. This name is listed in Johann Bayer’s *Uranometria* (1603).

This Dutch star is Mu (μ) Canis Majoris in the IAU constellation Canis Major. It was given this name by diplomat, lawyer, theologian, poet, and playwright Hugo Grotius (Huig de Groot, 1583 – 1645). It has also been used for the star Gamma (γ) Canis Majoris.

German Jesuit astronomer Athanasius Kircher (1602 – 1680) used the name "Isis" for the Egyptian decan "Themat-hert" (see below).

This asterism is the IAU constellation Virgo:

- Johann Bayer's *Uranometria* (1603) lists "Auieno Isis" as an alternate name for Virgo.
- as listed in an "Ancient Zodiac of Egypt" in *Hindu Astronomy* by W. Brennand in 1896. Brennand has labelled this illustration "from the Barberini Museum", which is probably a reference to the 17th century Palazzo Barberini, which is now the Galleria Nazionale d'Arte Antica. This depicts a woman bearing stalks of grain. In ancient Egyptian skies some of the stars of Virgo were included in their asterism Selkis (see below). Isis is a name for the Egyptian decan "Themat-hert" (see below) in the IAU constellation Virgo assigned by German Jesuit astronomer Athanasius Kircher (1602 – 1680). Brennan attributes this name for this constellation to the 5th century Roman Macrobius Ambrosius Theodosius, who believed that the Egyptians created the signs of the zodiac and that they were later adopted by the Greeks. Brennan writes that the Egyptian Goddess Isis was "converted into Ceres". Ceres was an aspect of the Greek goddess Demeter and originated in Greek culture, not Egyptian.
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Ceres, or Isis".

Island of Auriga:

This **telescopic** asterism is in the IAU constellation Auriga and is Corder 827 on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Corder attributes it to John Raymond. Size 75' X 40'. This runs along one side of IC 405 (see Flaming Star Nebula, above). Corder describes it as an "elongated collection of 3 wide double stars." It includes the stars 16, 17, 18, and 19 Aurigae, and the double variable star AE Aurigae.

Ismael:

This German asterism is the IAU constellation Sagittarius as listed by German poet Philipp von Zesen (1619 – 1689). Edward Sherburne lists this in his Sphere of Marcus Manilius in 1675.

Isoceles Triangle:

This American asterism "Isoceles Triangle" is made up of the stars of Hercules: Alpha (α) Herculis (Rasalgethi), Beta (β) Herculis (Kornephoros), and Delta (δ) Herculis. *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) describes "Ras Algethi (α Herculis)… [forming] an isoceles triangle with β and δ".

It Blinks Its Eyes:

This T'atsaol'ine and Wiidiideh star "wendaà at'ı" is Beta (β) Orionis (Rigel) in the IAU constellation Orion (Cannon 2021).

It Goes Down After the Sun:

This Sahtúotine star “sak’éeda” is Alpha (α) Aquilae (Altair) in the IAU constellation Aquila (Cannon 2021) during its evening appearance in autumn.

It is Naming the Morning:

This Gwich’in asterism “Vành Oozhrii” is Delta (δ) Boötis, Epsilon (ε) Boötis, and Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes (Cannon 2021). They also call this “They Rose Far Up” (see below) and “They Rose Straight Up” (see below) and “Vats’at K’èegogaajil”.

It Leads Light into Day:

This Koyukon asterism “Yokkolaaye” is Alpha (α) Aquilae (Altair) and Gamma (γ) Aquilae in the IAU constellation Aquila (Cannon 2021).

It Makes Light:

This Sahtúotine star “bek’éahka” or “bek’énaehka” (“it makes light” or “It makes whiteness again after it”) is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes (Cannon 2021).

It Never Moves:

This Inuit star “Nuuttuittuq” is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (MacDonald 1998). Some versions include the stars Beta (β) Ursae Minoris (Kochab) and Gamma (γ) Ursae Majoris (Pherkad).

It Went Under:

This Lakota star “Ihuku Kigle” is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes.

Itapitiontara:

This Uanana asterism “Itapitiontara” is the Pleiades cluster in the IAU constellation Taurus. It is part of their Mehsenkeró initiations(De Freita Mourão 2009).

Its Own Count:

See Bright Star above.

It’s Tail Measurer:

This T’atsaol’ine and Wiidiideh asterism “wetseè dzà” is the Pleiades cluster in the IAU constellation Taurus (Cannon 2021). It is related to their asterism “Yida” (see Traveler, below).

Ittha:

This Vedic asterism “Ittha” is the IAU constellation Pisces as listed by the Indian astrologer and polymath Varāhamihira (c. 505 – c. 587) and in R. H. Allen’s *Star Names* in 1899. Allen lists an earlier name as “Jitu”.

I’ve Fallen and Need Help:

This asterism is the IAU constellation Taurus as renamed by the Unitarian Universalist Hysterical Society in 2024 on their Facebook page.

Ivy Wreath:

This German asterism is the IAU constellation Coma Berenices as shown on the Dresden globe.

Ixion:

This asterism "Ixion" is the IAU constellation Hercules. Johann Bayer's *Uranometria* (1603) lists "Ixion". The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch lists "Ixion". R. H. Allen lists "Ixion" as an alternate name for Hercules in his *Star Names* in 1899. Ixion was an outlaw in Greek mythology who was punished by being bound to a burning solar wheel.

Ixion's Wheel:

This Greek asterism "Τροχός Ἰξιόνος" ("Trochós Ixiónos") is the IAU constellation Corona Australis as listed in R. H. Allen's Star Names in 1899.

This Latin asterism "Rota Ixionis" or "Rota" is the IAU constellation Corona Australis:

- In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicts "Corona Austrina, quae et Rota Ixionis" as a jeweled crown.
- Johann Bayer's *Uranometria* (1603) lists "Rota Ixionis".
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Rota Ixionis".
- The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch lists "Globulus Ixionis" and "Rota Ixionis" as names for Corona Australis.
- Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) labels this "Rota Ixionis al Corona Austral" and depicts it as a laurel wreath. Rota Ixionis appears in Edward Sherburne's *Sphere of Marcus Manilius* in 1675 and in John Hill's *Urania* in 1754 and R. H. Allen's *Star Names* in 1899. Ixion was an outlaw in Greek mythology who was punished by being bound to a burning solar wheel.

Izar:

See Girdle, above.

izinkanyezi eziyisiphambano ezulwini:

Zulu asterism "izinkanyezi eziyisiphambano ezulwini" is the IAU constellation Crux.

J:

There are two **telescopic** "J" asterisms:

- One is in the IAU constellation Phoenix and is Corder 284 on the observing list of American astronomer Jeffrey Corder. Size 80' X 25'. This is five 6^{th} – 8^{th} magnitude stars including HIP 8563, 8322, 8253, 8287, 8320, and the double star HIP 8398.
- One is in the IAU constellation Indus and is Corder 4287 on the observing list of American astronomer Jeffrey Corder. Size 35'. This is five 7^{th} – 8^{th} magnitude stars including HIP 103607, 103424, and the double star HIP 103438A.

Jaap:

This Micronesian star is Alpha (α) Virginis (Spica) in the IAU constellation Virgo.

Jabaga:

This Wardaman star is 23 Tauri in the Pleiades cluster in the IAU constellation Taurus (Cairns and Harney 2003).

Jabakka:

This Wardaman star is one of the stars of the Pleiades cluster in the IAU constellation Taurus (Cairns 1999) representing an eldest child and is part of their asterism "Murabibi" (see Teenagers and Little Ones, below).

Jabbah:

See Forehead of the Scorpion, above.

Jaburú Crane:

The stars of this Tupi Guarani asterism are unidentified at this time (Lima and De M. Figueirôa, 2007).

Jack on the Middle Horse:

This English asterism is the stars Zeta (ζ) Ursae Majoris (Mizar) and 80 Ursae Majoris (Alcor) in the IAU constellation Ursa Major as listed by R. H. Allen in his *Star Names* in 1899. "Jack" is Alcor, and his "horse" is Mizar.

Jackal Star:

The Egyptian word for the jackal "sꜣb" is almost identical to their word for star "sbꜣ". The *Pyramid Texts* of Unas refer to a "jackal star" which could be Zeta (ζ) Draconis (Aldhibah) "hyena" or nearby Eta (η) Draconis (Athebyne- part of their asterism Two Hyenas, see below). or even Alpha (α) Draconis (Thuban), which was once the north polar star and was known to Arab astronomers as Al-dhi'b (الذئب) or "Wolf" (see below).

Jacky Lizard:

This Boorong asterism "Unurgunite" or "Nganurganity" is in the IAU constellation Canis Majoris as listed by Stanbridge (1857), Morieson (1999), and Hamacher and Frew (2010). This is a male Jacky Lizard or Jacky Dragon (Amphibolurus muricatus). The tip of the "tail" is the star Delta (δ) Canis Majoris, and a curve of stars goes around to the "head" at the star Sigma (σ) Canis Majoris. Unurgunite fights the Moon (Mityan) for trying to seduce one of his wives (see Wives of Unurgunite, below). The IAU approved the name Unurgunite for the star Sigma (σ) Canis Majoris in 2016.

This Wotjobaluk star "Urnugunite" is Delta (δ) Canis Majoris in the IAU constellation Canis Major (Hamacher 2011).

Jacob:

This German asterism is the IAU constellation Lupus and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures. This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "S. Iacobus major". "Jacob" later appears as a name for this constellation in John Hill's *Urania* in 1754. German poet Philipp von Zesen (1619 – 1689) also lists it

under this name. Edward Sherburne lists it as "Jacob the Patriarch" in his *Sphere of Marcus Manilius* in 1675 and attributes it to German poet, jurist, and translator Georg Philipp Harsdörffer (1607 – 1658).

Jacob and Esau:

This German asterism is the IAU constellation Gemini as listed by German astronomer Wilhelm Schickard (1592 – 1635). "Jacob" and "Esau" are given as alternate names for the twins of Gemini in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch. Edward Sherburne lists this in his *Sphere of Marcus Manilius* in 1675 and John Hill lists this asterism in his *Urania* in 1754.

Jacob's Staff:

This Italian asterism "Baculus Jacobi" is the belt of Orion in the IAU constellation Orion as listed by Italian astronomer Giovanni Battista Riccioli (1598 – 1671). Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Jacobsstab". R. H. Allen's *Star Names* (1899) lists the name "Jacob's Staff" for this constellation.

This English asterism is the belt of Orion in the IAU constellation Orion:

- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this as "Jacob's Rod".
- R. H. Allen's *Star Names* in 1899 calls this "Jacob's Staff".

This German asterism "Jakob Stab" is the belt of Orion in the IAU constellation Orion as listed in R. H. Allen's *Star Names* in 1899.

This Finnish Asterism "Jaakobin Sauva" is the Belt of Orion asterism in the IAU constellation Orion.

Jacob's Wagon:

This German asterism is the Little Dipper asterism in the IAU constellation Ursa Minor and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures. It later appears in John Hill's *Urania* in 1754. Edward Sherburne lists it as "Wagon of Iacob" in his *Sphere of Marcus Manilius* in 1675.

Jacunda Fish:

The Jacundá is a species of pike (Crenicichla) in the Amazon basin (Chrenichicla sp. – muha buhua).

This Tukano asterism "Mhua", "Jacundá", or "Peixe" ("fish") is made up of stars of the IAU constellation Aquarius (Cardoso 2007, Cardoso 2016):

- A triangle of stars forms the "body": the double star Psi (ψ) 1 and 2 Aquarii and 92 Aquarii,
- From 92 Aquarii, a line runs out to Phi (ϕ) Aquarii, and
- From Psi (ψ) 2 Aquarii a short line runs out to the star Psi (ψ) 3 Aquarii.

NOTE: Cardoso (2015) writes that some Tukano see this as stars of Aquarius and Pisces.

This Barasana star "Muha Buhua" ("Jacundá fish") is Beta (β) Orionis (Rigel) in the IAU constellation Orion (Hugh-Jones 2006).

This Tupi asterism “Jacundá” is a small group of stars close to their asterism “Camarão” (see Prawn, below) and as the “prawn” is made up of stars in the IAU constellations Crux and Lupus, this could be stars of Centaurus, Norma, Circinus, Musca, or Carina (De Freita Mourão 2009).

Jade Ornament on Ladies’ Wear:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of three stars in the IAU constellation Piscis Austrinus: Starting with the determinative star 6 Piscis Austrini, it runs through 5 Piscis Austrini to HIP 105476.

This Chinese xing guan “Líyú” (离瑜) is a two-star line in the IAU constellations Microscopium and Piscis Austrinus: Epsilon (ε) Microscopii and 5 Piscis Austrini.

This Chinese Chenzhuo xing guan “Líyú” is a bent line of three stars in the IAU constellation Piscis Austrinus: 5 and 6 Piscis Austrini and HIP 105476.

Jade Sighting Tube:

This Chinese star “Yuheng” from the Three Kingdoms to the Ming Dynasty is Epsilon (ε) Ursae Majoris in the IAU constellation Ursa Major. This star appears on Han Dynasty diviner’s boards as the center of the cosmos (Didier 2009).

This Chinese Chenzhuo xing guan “Yuheng” is the star Epsilon (ε) Ursae Majoris in the IAU constellation Ursa Major. It is part of their xing guan Northern Dipper.

Jade Well:

This Chinese xing guan “Yùjǐng” (玉井) is a square of four stars in the IAU constellations Orion and Eridanus: Tau (τ) Orionis and Beta (β) Eridani (Cursa- the determinative star), Psi (ψ) Eridani and Lambda (λ) Eridani. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Yùjǐng” is a square of stars in the IAU constellations Eridanus and Orion: Tau (τ) Orionis, Beta (β) Eridani (Cursa), Psi (ψ) Eridani, and Lambda (λ) Eridani.

This Korean asterism “Og-eul Jal” (옥을 잘) is identical to the Chinese xing guan Jade Well above.

Jaguar:

This Mayan asterism “Balaam” is a triangle of stars in the IAU constellations Piscis Austrinus and Sagittarius: 60 Sagittarii, Iota (ι) Piscis Austrini, and HIP 98761.

This Haliti-Paresi asterism is dark spots in the Milky Way (Urton 2016). The Jaguar is pursuing a deer.

This Conibo asterism is dark spots in the Milky Way (Urton 2016). The Jaguar is pursuing a deer.

This Northern Andean asterism “Estalina Quinatoa”, “Wilca”, or “Otorongo”, is an irregular shape basically consisting of the stars of the IAU constellation Monoceros centered on NGC 2244, the Rosette Nebula (Quinatoa 2018).

This Tukano asterism “Onça” is the dark nebulae around the IAU constellation Centaurus, which they see as a jaguar catching an anteater (Urton 2016).

This Ticuna asterism “Ai” is made up of stars of the IAU constellation Scorpius. The “right paw” is Alpha (α) Scorpii (Antares), Sigma (σ) Scorpii and Tau (τ) Scorpii. The left paw is Lambda (λ) Scorpii (Shaula), Iota (ι), and Theta (θ) Sco. Jaguar fights with the Anteater Tchatü (see Anteater, above).

This Kogi asterism “Nebbi” is the IAU constellation Canis Major.

This Quechua and Moche star is Epsilon (ε) Orionis (Alnilam), the central star of the belt of Orion in the IAU constellation Orion.

This Kobeua asterism is made up of stars of the IAU constellations Cetus and Eridanus:

- Its “head” is the stars Lambda (λ), Mu (μ), Xi (ξ), Nu (ν), Gamma (γ), and Alpha (α) Ceti (Menkar),
- Its “body” is the stars Omicron (ο), Zeta (ζ), and Chi (χ) Ceti,
- Its “legs” is the stars Eta (η) Eridanus, Tau (τ) Ceti, and Upsilon (υ) Ceti, and
- Its “tail” is the stars Theta (θ), Eta (η), and Beta (β) Ceti (Diphda).

This Barasana (Vaupés region) asterism is stars in the IAU constellation Cetus (Hugh-Jones 2006).

This Kalina asterism “Kaitusiyuman” is made up of stars of the IAU constellations Corona Borealis and Boötes (Kemp et al 2022). Corona Borealis forms the “head” and part of Boötes the “body”. NOTE: Some Kalina place this asterism near Andromeda.

This Carib asterism “Kaitusiyuman” or “Kaitusi” represents the Jaguar (Pantera onza) and there are two versions (Magaña, and Jara, 1982):

- One is made up of the stars of the IAU constellations Boötes and Corona Borealis. Corona Borealis is the “head”. The “body” is the stars Delta (δ) Boötis, Mu (μ) Boötis, Beta (β) Boötis (Nekkar), and Gamma (γ) Boötis. One “leg” runs from Gamma (γ) Boötis through Lambda (λ) Boötis, to Theta (θ) Boötis. The other “leg” runs from Mu (μ) Boötis through Chi (χ) Boötis to Zeta (ζ) 1 Coronae Borealis. The “tail” runs from Sigma (σ) Boötis through Epsilon (ε) Boötis to Psi (ψ) Boötis.
- One is made up of stars of the IAU constellations Andromeda, Pisces, and Triangulum.

Jaguarmundi:

The stars of this Kogi asterism “Neb-sˇkizˇ i abaxse” are currently unidentified (Kelley & Milone 2011). A jaguarmundi is a wild cat, slightly larger than domesticated cats.

Jaguar’s Testicles:

This Barasana asterism is a cluster of stars around Zeta (ζ) 1 and 2 Scorpii in the IAU constellation Scorpius (Hugh-Jones 2006). It is part of their asterism “Iya Yai” (see Caterpillar Jaguar, above) and is also described as the eggs of a snake.

Jail of Sky:

This Korean asterism “Haneul-ui Gam-og” (하늘의 감옥) is a rough hexagon of stars in the IAU constellation Ursa Major: 36, 37, 39, 43, and 44 Ursae Majoris and HIP 52136.

Jamadangi:

This Vedic star “Jamadangi” is Beta (β) Cassiopeiae (Caph) in the IAU constellation Cassiopeia.

James:

This German asterism "James" or "Saint James the Younger" is the IAU constellation Virgo and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures. This is incorrectly listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "S. Jacobus minor Alias Virgo". It later appears in Edward Sherburne's *Sphere of Marcus Manilius* in 1675 and in John Hill's *Urania* in 1754.

This German asterism "James" or "St. James the Elder" is the IAU constellation Gemini and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures. It later appears in Edward Sherburne's *Sphere of Marcus Manilius* in 1675 and in John Hill's *Urania* in 1754.

Janagan:

This Gumbayngirr asterism is the Pleiades cluster in the IAU constellation Taurus as listed by Morelli in 2015. Morelli recorded these variations: "Daarril", "Ganay", and "Wirriiga".

January Salt and Pepper Cluster:

See Salt and Pepper, below.

Jar:

This Latin asterism "Hydria" is the IAU constellation Crater. John Hill listed this name in his *Urania* in 1754.

Jason:

This Greek asterism is the IAU constellation Ophiuchus. Jason is the Argonaut who sought the golden fleece.

Jason's Keel:

Roman poet Sextus Propertius (1st century B.C.E.) called Ptolemy's asterism Argo's Ship (see above) "Iasonia Carina" ("Jason's Keel").

Jason's Ship:

This Latin asterism "Navis Jasonis" is Ptolemy's asterism Argo's Ship (see above). Johann Bayer's *Uranometria* (1603) lists "Navis Iasonis". The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Navis Iasonis".

Jason's Yacht:

This Latin asterism "Celox Jasonis" is Ptolemy's asterism Argo's Ship (see above).

Javelin Bearer:

This Seleucid star "Κονταράτος" or "Kontarátos" is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes. R. H. Allen lists this as a name from "Greco-Persian Tables" in his *Star Names* in 1899.

Javelin of Sky:

This Korean asterism "Haneul Chang" (하늘 창) is a line of three stars in the IAU constellation Boötes: Epsilon (ε), Sigma (σ), and Rho (ρ) Boötis.

Jamardba:

This Wardaman star is 71 Tauri in the Hyades cluster in the IAU constellation Taurus (Cairns and Harney 2003).

Jaw:

This ancient Egyptian asterism "Aret" is the Hyades cluster in the IAU constellation Taurus.

Jaw of a Whale:

This is the star Alpha (α) Ceti (Menkar) in the IAU constellation Cetus. Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) labels this star "Ceti Mandibula" ("jaws of a whale").

Jaw of the Tapir:

This Lokono or Arawak asterism "Kama Tâla" or "Kamatala" is the Hyades cluster in the IAU constellation Taurus (Rybka 2018). Its rising marks the beginning of the hunting season. NOTE: R. H. Allen in his *Star Names* in 1899 mentions that explorer Yañez Pinzon in 1500 listed the "Tapüra Rayoaba" as a name for Taurus used by the natives living on the banks of the Amazon River, without specifying the people involved.

This Tupi Guarani asterism "Queixada da Anta" or "Tapi'I rainhyka" is the Hyades cluster in the IAU constellation Taurus.

This Tupi asterism "Sembiara Rajyguara" is the Hyades cluster in the IAU constellation Taurus (De Freita Mourão 2009).

Jaw of the Wild Bull:

This Babylonian asterism from the MUL.APIN tablets "Is-le" is the Hyades cluster in the IAU constellation Taurus. The *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) list it as "MUL.is-le-e" (Hunger 1992) and in the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period list it as "mul is li-e" (Bartel van der Waerden 1974, Koch-Westenholz 1995). The IAU constellation Taurus is called "Bull of Heaven" ("GU.AN.NA") by the Babylonians (see above).

This Akkadian asterism "is le e" (Block, Yigal, and Horowitz 2015) listed in the Ura = hubulla XXII tablet is identical to the Babylonian asterism "Is-Le" above.

This Seleucid asterism "MUL" or "al-pi-i[n]" ("single bull") listed in the tablet SBTU II No 43 (W 22646) from the Seleucid (Hellenistic) period (275 B.C.E. – 116 C.E.) is the Pleiades cluster in the IAU constellation Taurus (Foxvog 1993).

This Persian asterism "Gisli" from the list of Masu stars from the lists K 250 and VAT 9418 from the Persian (Achaemenid) Period (539 – 331 B.C.E.) is the Hyades cluster in the IAU constellation Taurus as listed in Franz Boll's *Ancient Observations of Coloured Stars* in 1918. It appears in the list of Zodiacal Signs in VAT 4956 of this period as "MUL" (Bartel van der Waerden 1974). Ernst Weidner lists it in his

Fixsterne in 1971 as "is-li-e". Hermann Hunger in his *Astronomical Diaries and Related Texts from Babylonia* in 1988 lists "is le" as "jaw of the bull" and only the star Alpha (α) Tauri (Aldebaran).

Jaws:

This **telescopic** asterism, also known as Ty's Oil Can (see below), appears in *Pattern Asterisms* by American astronomer John A. Chiravalle. This is listed on Robert Zebahl's *Faint Fuzzies* website as Pothier 11. It is in the IAU constellation Virgo close to the Sombrero Galaxy, Messier 104. Its size is 25' X 25'. Two 8th magnitude stars and a double star (HIP 61654 and 61656) form the "jaws" of the shark. A curve of six 10th magnitude stars forms the body of the shark. It was American astronomer and author Phil Harrington that named this asterism "Jaws": It is Harrington 21 on his list of asterisms. Size 25' X 25'.

Jegban:

This Wardaman star is Delta (δ) Ursae Majoris (Megrez) in the IAU constellation Ursa Major (Cairns and Harney 2003).

Jellyfish:

There are six **telescopic** jellyfish asterisms:

- One is the globular cluster Messier 30 (NGC 7099) in the IAU constellation Capricornus. It was discovered by French astronomer Charles Messier in 1764. It is listed in John Herschel's General Catalogue of 1864 as GC 4687. This is also known as the Honeycomb.
- One is the reflection nebula NGC 5367 in the IAU constellation Centaurus. John Herschel listed this as h 3548 and later as GC 3706 in his *General Catalogue* of 1864. It is also known as the Space Jellyfish.
- One is the open cluster NGC 2509 in the IAU constellation Puppis. It was discovered by English astronomer William Herschel in 1783 who listed it as "VIII 1" in his catalogue. It is GC 1613 in the *General Catalogue* of 1864. It was given this name by American astronomer Wayne Schmidt, who describes it as a 12-arc minute long jellyfish.
- One is the supernova remnant IC 443 (SH 2-248, LBN 844, PGC 2817561, Ced 73) in the IAU constellation Gemini beside the star Eta (η) Geminorum. This was discovered by German astronomer Max Wolf in 1893. German astronomer Uwe Glahn lists this name in the *Deep Sky Forum* in March 2025.
- One is planetary nebula NGC 1535 in the IAU constellation Eridanus. It was discovered in 1785 by English astronomer William Herschel who listed it as "IV 26" in his catalogue. It is GC 826 in the *General Catalogue* of 1864. It is also known as the Cleopatra's Eye (see above) and the Ghost of Neptune Nebula (see below). Walter Scott Houston gave it this name when he described it as a "bright planetary nebula… which swims like a celestial jellyfish". Astronomer Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) lists the name "Celestial Jellyfish" and makes it O'Meara 22.
- One is the globular cluster Messier 3 (NGC 5272) in the IAU constellation Canes Venatici. This was discovered in 1784 by English astronomer William Herschel. English Admiral Henry William Smyth describes it as a "medusa pellucens" ("shining jellyfish") in his *Bedford Catalogue* in 1844. It is listed in the General Catalogue of 1864 as GC 3636 and in John Herschel's catalogue as h 1663. American astronomer Sherburne Wesley Burnham (1838 – 1921) noted in *Burnham's Celestial Handbook* that "Admiral Smyth mentions… the curious resemblance to a jellyfish".

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) simply lists it as a "Canes Venatici Nebula".

Jenimate:

This Micronesian star is Gamma (γ) Andromedae in the IAU constellation Andromeda.

Jenn's Confluence:

This **telescopic** asterism is two chains of stars merging at the northwest edge of the Sagittarius Star Cloud (Messier 24) in the IAU constellation Sagittarius. It was discovered by American amateur astronomer Jennifer Polakis.

Jenywen:

This Micronesian asterism is the belt of Orion in the IAU constellation Orion.

Jeong:

This Korean star is Alpha (α) Ursae Majoris (Dubhe) in the IAU constellation Ursa Major.

Jerom:

This German asterism is the IAU constellation Boötes as listed by German astronomer Wilhelm Schickard (1592 – 1635). John Hill lists this asterism in his *Urania* in 1754.

Jerome:

This asterism "Jerome" or "Saint. Jerome" is the IAU constellation Auriga and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures (Stevenson 1921). Edward Sherburne lists his in is *Sphere of Marcus Manilius* in 1675 and R. H. Allen lists this in his *Star Names* in 1899.

Jesus:

This asterism "IHS" was made up of the stars of the IAU constellation Cancer by German astronomer Erhard Weigel (1625 – 99) who produced his *Astrocopium Orbi Europaeo Sacrum* chart in 1661, 1681 and 1688 in which he tried to replace existing constellations a new system based upon the heraldry of the nation states and principalities of seventeenth century Europe, as well as of its principal hierarchies and social classes. It is depicted by the capital letters "IHS".

Jewel Box:

This **telescopic** asterism is the open cluster NGC 4755 (Caldwell 94) in the IAU constellation Crux. It was discovered by French astronomer Nicolas Louis de Lacaille in 1751. It was named by English astronomer John Herschel (1792 – 1871), who described it as "a superb piece of fancy jewelry" and where he listed it as h 3435. It is GC 3275 in the *General Catalogue* of 1864. It is also known as "Herschel's Jewel Box". *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this as the "Jewel Box".

Jewel Box of the Scorpion:

This **telescopic** asterism is the open cluster NGC 6231 (Caldwell 76) in the IAU constellation Scorpius, also known as the Anchor, the False Comet, The Table of Scorpius, the Northern Jewel Box, and the

Crocodile. It was discovered by Italian astronomer Giovanni Battista Hodierna before 1654, who called it "Luminosae" (Italian for "bright"). It is listed in the *General Catalogue* of 1864 as GC 4245 and in John Herschel's catalogue as h 3652. American astronomer Tom Bryant gave it this name in his observations in 2010 at Little Bennett Regional Park.

Jewel Bug Nebula:

This **telescopic** asterism is the planetary nebula NGC 7027 in the IAU constellation Cygnus. It was discovered by British astronomer Rev. Thomas Webb (1807 – 1885). It is also known as the Pink Pillow Nebula, the Magic Carpet Nebula, the Green Rectangle Nebula, and the Sugar Pops Nebula.

Jewel Market:

This Chinese xing guan "Lièsì" (列肆) is a line of two stars in the IAU constellations Ophiuchus and Serpens: Lambda (λ) Ophiuchi and Sigma (σ) Serpentis (the determinative star). This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan "Lièsì" is two stars in the IAU constellation Hercules: Omega (ω) and 29 Herculis.

Jeweled Belt of Al Jawza':

This Arabic asterism "mintaqat al-jawza'" is the belt of Orion in the IAU constellation Orion. It is also known as the String of Pearls (see below) or the Belt of Al Jawza' (see above).

Jeweled of Virgo:

This **telescopic** asterism "Gemmátus Vírginis" is the barred spiral galaxy NGC 5584 in the IAU constellation Virgo. It was discovered by E. E. Barnard in 1881. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "many bright HII regions make this multiple-armed beautiful galaxy resemble a body adorned with jewels."

Jeweled Ring:

This **telescopic** asterism is the quasar RX J1131-1231 in the IAU constellation Crater. This was discovered by a team led by Rubens Reis at the University of Michigan using the Chandra X-Ray Observatory and the XXM-Newton telescope in 2014. This was later photographed by the Hubble Space Telescope and the James Webb Space Telescope, recording the gravitational lensing which resulted in multiple images of the quasar which in turn led to the name.

Jewels of the Teapot:

This **telescopic** asterism is in the IAU constellation Sagittarius and is on John Raymond's list of asterisms. Jeffrey Corder lists it as Corder 3566. This is the triangle of double stars HIP 90575, 90478A, and 90510A.

Jewish Cross:

This Tzotzil (of Chamula) asterism is the IAU constellation Crux (Milbrath 1999). They associate it with evil.

Jiang Lou:

This Chinese asterism “Jiang Lou” from the *Xiuyao jing* (宿曜經）(759 and revised 764) is the IAU constellation Aries (Kotyk 2017).

Jilijoaibu:

This Pemon asterism “Jilijoaibu”, “Jilizoaibu” or “Jilikawai” is made up of stars of the IAU constellations Orion and Taurus, specifically the Hyades and Pleiades clusters and the main part of Orion (Berezkin 2005, Lima and De M. Figueirôa, 2007). The Pleiades are his head. This appears to be similar to the Tupi Guarani asterism “Homem Velho” (see Old Man with a Stick, below). Jilijoaibu is a one-legged man whose leg was cut off by his adulteress wife. An alternate name for this asterism is “Jilike Pupai” (“starred head”).

Jigirri-jigirri:

This Wardaman star is Beta (β) Ursae Majoris (Merak) in the IAU constellation Ursa Major (Cairns and Harney 2003).

Jimi Hendrix’s Broken Guitar:

This **telescopic** asterism “ ” (“Jimi Hendrix’s Broken Guitar”) is in the IAU constellation Pegasus. German astronomer René Merting describes it thus: “6 stars form the guitar body- the stars of the neck are sometimes only recognizable in averted vision… it looks like the guitar was smashed on the [globular cluster] M 15.” The “guitar body” includes HIP 106157, 106243, and 106222. The “broken neck” runs out to HIP 106361. Size 60’ X 30’.

Jìn:

This Chinese star “Jìn” from the 3 Kingdoms and Ming Dynasty Period is the star Kappa (κ) Herculis in the IAU constellation Hercules and is part of their xing guan Heavenly Market West Wall (see above).

Jinnenikak:

This Micronesian asterism is the IAU constellation Virgo.

Jirdij:

This Wardaman star is Eta (η) Ursae Majoris (Alkaid) in the IAU constellation Ursa Major (Cairns and Harney 2003).

Jirijin:

This Wardaman star is Beta (β) Delphini (Rotanev) in the IAU constellation Delphinus (Cairns and Harney 2003).

Jishui:

This Chinese star is Omicron (o) Geminorum in the IAU constellation Gemini, and this name was approved by the IAU in 2016.

Jǐuhé:

This Chinese star “Jǐuhé” from the 3 Kingdoms and Ming Dynasty Period is the star Mu (μ) Herculis in the IAU constellation Hercules and is and is part of their xing guan Heavenly Market East Wall (see above).

Jizhin:

This Tibetan gyukar "Jizhin" is Alpha (α) Aquilae (Altair) in the IAU constellation Aquila (Johnson-Groh 2013).

Joachim and Anna:

This German asterism "Joachim and Anna" or "Saint Joachim and Saint Anna" is the IAU constellation Cetus and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures. This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "S. Ioachimus et Anna Al Cetus". It later appears in Edward Sherburne's *Sphere of Marcus Manilius* in 1675 and in John Hill's *Urania* in 1754.

Joash:

This Italian asterism is the IAU constellation Sagittarius as listed by Italian humanist and poet Ambrogio Fracco, also known as Novidius (1480 - ?). Joash (Jehoash- 836 – 796 B.C.E.) was the king of Judah and appears in the Bible.

Job:

This German asterism is the IAU constellations Indus and Pavo and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures. This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "S. Job Al Pavo". Job later appears in John Hill's *Urania* in 1754.

Job's Coffin:

This Western asterism consists of a diamond of four bright stars in the IAU constellation Delphinus: Alpha (α) Delphini (Sualocin), Beta (β) Delphini (Rotanev), Gamma (γ) Delphini and Delta (δ) Delphini. R. H. Allen lists it in his *Star Names* in 1899, but comments "the date and name of the inventor of this title I have not been able to learn". Size 150'. *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this name for this asterism but vaguely attributes the name to "some modern". *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Job's Coffin" for this asterism. The SAC database lists this as "Job's Coffin". Gene Hanson lists it on his *Beginner's Guide* website as the "Mini Kite". Jeffrey Corder lists it as Corder 4226.

John:

There are two German asterisms named "John" or "St. John the Baptist":

- One is the IAU constellation Cancer and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures. This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "S. Joannes". Edward Sherburne attributes it to Schiller but calls it "Saint John the Evangelist" in his *Sphere of Marcus Manilius* in 1675. It later appears in John Hill's *Urania* in 1754.

- One is the IAU constellation Aquarius. Aquarius is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as "Johannes Baptista". In his Star Names in 1899, R. H. Allen reports that "New Testament Christians of the 16th and 17th centuries" identified the IAU constellation Aquarius as "John the Baptist".

Joined:

This Latin asterism "Jugula" or "Jugulae" as the IAU constellation Orion. R. H. Allen attributes this to Roman playwright Titus Maccius Plautus (c. 254 – 184 B.C.E.) and Roman polymath Marcus Terentius Varro (116 – 27 B.C.E.). Allen explains this as a reference to the two bright stars in the "shoulders" of Orion, which Allen writes they called the "Umeri" ("upper arm"). Allen also points out that French astronomer Jérôme Lalande wrote that the stars Lambda (λ) Orionis (Meissa), and Phi (ϕ) 1 and 2 Orionis "look like a set of three nuts, which has caused this constellation to be called Nux [Latin for "nut"], or Juglans, Stella jugular".

- The celestial globe (1480) of German mechanic Hans Dorn (c 1430 – 1506) lists "IVGLA A OR" for Betelgeuse and "IVGVLA B OR" for Gamma (β) Orionis (Bellatrix).
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Jugula" and attributes it to Plautus as Allen does.
- R. H. Allen lists this Latin asterism "Jugula" or "Jugulae" in his *Star Names* in 1899
- Johann Bayer's *Uranometria* (1603) lists "Jugula"

Jointly:

This Latin star "Coniuncte" is the star Mu (μ) Ursae Majoris as listed on the Sloane astrolabe BM SL 54 (Dekker 2000).

Joints of the Vertebrae:

This Arabic asterism "Ḥarazāh" is the stars Lambda (λ) and Upsilon (υ) Scorpii in the IAU constellation Scorpius as listed by Iranian astronomer Abu Rayhan Muhammad ibn Ahmad al-Biruni (973 – c. 1050) and in R. H. Allen's *Star Names* in 1899.

Jolly Roger:

This telescopic asterism is the small open cluster NGC 1502 in the IAU constellation Camelopardalis. It was discovered by William Herschel in 1787 who listed it in his catalogue as "VII 47". It is GC 802 in the *General Catalogue* of 1864. The Jolly Roger (skull and crossbones symbol on a flag) was first used in the 1710s, so it would have been known to Herschel, but I do not yet know who first named this open cluster after it. This is listed as O'Meara 20 in astronomer Stephen James O'Meara's *Hidden Treasures Catalogue* (2007), who lists the name "Jolly Roger". It is also known as the Golden Harp Cluster.

Jonah's Whale:

This German asterism is the IAU constellation Cetus as listed by German astronomer Wilhelm Schickard (1592 – 1635). "Cetus Jonah" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch. Edward Sherburne lists "Jonah's Whale" in his *Sphere of Marcus Manilius* in 1675 and John Hill lists this asterism in his *Urania* in 1754. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists this as "the whale of Johah".

Jonathan's Arrow:

This German asterism "Telum Ionathae" is the IAU constellation Sagitta as listed by German astronomer Wilhelm Schickard (1592 – 1635). "Telum Ionathae" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch. Edward Sherburne lists this in his *Sphere of Marcus Manilius* in 1675 and John Hill lists this asterism in his *Urania* in 1754.

Jonumas:

This Micronesian asterism is the IAU constellation Crater.

Jopherud:

This "Persian" asterism is the IAU constellation Cygnus as listed in John Hill's *Urania* in 1754.

Jordan River:

This Dutch asterism "Jordanus", "Jordanis", or "Jordanus Fluvius" was created in 1612 by Flemish astronomer Petrus Plancius (1552 – 1622). One end started in the IAU constellation Canes Venatici, then it flowed through the IAU constellations Leo Minor and Lynx and ended near the IAU constellation Camelopardalis: Thus it "runs" along under the "feet" of Ursa Major. Plancius' celestial globe (1613) of published in Amsterdam by Pieter van der Keere depicts "Jordanis Fluvius". German astronomer Jacob Bartsch (1600 – 1633) listed Jordanus in his *Planisphaerium Stellatum* (1613) as "Jordanus vel Jordanus Fluvius Judaeae".

This German asterism "Jordan" or "River Jordan" is the IAU constellation Hydra and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures.

The *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) lists "Jordan" and depicts it as a river running between Ursa Major and Leo.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius labels this "Iordanus Fluv" and depicts this asterism and even depicts it as a river running underneath Ursa Major. It labels the Lebanese mountains that are source of the headwaters of this river on this celestial chart, labelling them "Dan" and "Tor", situated behind Ursa Major's tail.

This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 with the abbreviated label "Jordanuis Flu".

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this "La Fleuve Jourdan", "Jordanus Fluvius", as well as a Greek translation (which runs off the edge of the image I am using).

"Jordan River" later appears in John Hill's *Urania* in 1754. Edward Sherburne lists this in his *Sphere of Marcus Manilius* in 1675.

This German asterism is the IAU constellation Eridanus as listed by German poet Philipp von Zesen (1619 – 1689).

This Atacameño asterism "Río Jordan" is the IAU constellation Crux (Moyano 2011).

Joromoj:

This Micronesian star is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes.

Joseph:

This German asterism "Joseph" or "Saint Joseph" is the IAU constellation Orion and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures (Stevenson 1921). This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "S. Josephus Al. Orion". It later appears in Edward Sherburne's *Sphere of Marcus Manilius* in 1675 and in John Hill's *Urania* in 1754.

This German asterism is the IAU constellation Taurus as listed by German poet Philipp von Zesen (1619 – 1689).

Joseph's Chariot:

This German asterism is the IAU constellation Ursa Major as listed by German poet Philip von Zesen (1619 – 1689). Zesen also described it as one of the bears sent by Elisha to punish his persecutors. John Hill lists this as the Little Dipper in his *Urania* in 1754 but does not identify his source and R. H. Allen lists this in his *Star Names* in 1899, but later suggests that Zesen used this for Ursa Minor. Edward Sherburne lists it as "Chariot of Joseph" in his Sphere of Marcus Manilius in 1675 and attributes it to German poet, jurist, and translator Georg Philipp Harsdörffer (1607 – 1658).

Joseph's Cup:

This German asterism is the IAU constellation Crater as listed by German astronomer Wilhelm Schickard (1592 – 1635) and German poet Philipp von Zesen (1619 – 1689). John Hill lists this asterism in his *Urania* in 1754 as does R. H. Allen in his *Star Names* in 1899. Crater is labelled "Josphi vel Saulus" in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch. Edward Sherburne lists this both as "Joseph's Cup" and "Saul's Cup" in his *Sphere of Marcus Manilius* in 1675. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "cup of Joseph" and attributes it to Schickard.

Joshua:

This German asterism is the IAU constellation Orion as listed by German astronomer Wilhelm Schickard (1592 – 1635) and German poet Philipp von Zesen (1619 – 1689). "Orion vel Josua" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch. Edward Sherburne lists this in his *Sphere of Marcus Manilius* in 1675 and John Hill lists this asterism in his *Urania* in 1754.

Joy:

This Greek star "Chara" (χαρά) is Beta (β) Canum Venaticorum in the IAU constellation Canes Venatici:

- Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum,* depicts "Bootes" (sic) holding the leashes of two hunting hounds, named "Chara" and "Asterion". Asterion contains Beta (β) Canum Venaticorum, and Chara contains Alpha (α) Venaticorum.

- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this as the name of one of two "jagdhunde" on leashes held by Boötes.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists this star as "Chara" it in his *Celestial Atlas* in 1822.
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 writes that "Hevelius had already made this the lucida of Chara's collar": Hevelius was the first to list Canes Venatici as a separate constellation (see Canes Venatici, above).
- The IAU approved the name Chara for Beta (β) Canum Venaticorum Aa in 2016. The star Alpha (α) Canum Venaticorum has now become "Cor Caroli" (see Charles' Heart, above). The name Asterion is .

Joyful:

This asterism "Iouisales" is the IAU constellation Aquila. This name is listed in Johann Bayer's *Uranometria* (1603).

Joyful Players of Eridanus:

This **telescopic** asterism "Ludibúndi Erídani" is the spiral galaxy NGC 1614 (Arp 186) in the IAU constellation Eridanus. It was discovered by American astronomer Lewis Swift in 1885. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Joykexo:

This Tupi Guarani asterism is the belt of Orion in the IAU constellation Orion which is part of their asterism "Homem Velho" (see Old Man, below).

Joyous Glittering:

This Kiribati asterism "Raiti ni bure" is the IAU constellation Coma Berenices (Trussel and Groves 1978). They also called it "String of Shells" (see below).

Ju Zi:

This Chinese asterism "Ju Zi from the *Xiuyao jing* (宿曜經）(759 and revised 764) is the IAU constellation Pisces (Kotyk 2017).

Judah's Lion:

This German asterism is the IAU constellation Leo as listed by German astronomer Wilhelm Schickard (1592 – 1635). "Leo de triba Iuda" ("Lion of the Tribe of Judah") is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch. Edward Sherburne lists it as "the Lion of the Tribe of Juda" in *his Sphere of Marcus Manilius* in 1675 and attributes it to Schickard. John Hill lists this asterism in his *Urania* in 1754. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists this as "the Lion of Judah" and attributes it to Schickard.

Judas Thaddaeus:

This asterism is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "S. Judas Thaddaeus Alias Aquarius and is the IAU constellation Aquarius. In his *Star Names* in 1899,

R. H. Allen reports that "New Testament Christians of the 16th and 17th centuries" identified the IAU constellation Aquarius as "Judas Thaddaeus the Apostle" but did not give any other details as to who these people were.

Jude:

This German asterism "Jude" or "St. Jude" is the IAU constellation Aquarius and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures. Edward Sherburne lists it in his *Sphere of Marcus Manilius* in 1675 and it later appears in John Hill's *Urania* in 1754.

Judge:

This Korean asterism "Pansa" (판사) is a line of two stars in the IAU constellation Centaurus: Theta (θ) and Eta (η) Centauri.

Judge Directing:

This Akkadian asterism "Dayan Shisha" star is Alpha (α) Draconis (Thuban) in the IAU constellation Draco as listed by R. H. Allen in his *Star Names* in 1899.

Judge Fault:

This Korean asterism "Simpan" (심판) is a line of two stars in the IAU constellation Lacerta: 11 and 15 Lacertae.

Judge for Estimating the Age of Animals:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is the star 12 Hydrae in the IAU constellation Hydra.

This Chinese xing guan "Tiānjì" (天记) is the star Gamma (γ) Velorum in the IAU constellation Vela.

This Chinese Chenzhuo xing guan "Tianji" is the star Gamma (γ) Pyxidis in the IAU constellation Pyxis.

Judge for Nobility:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a box of four stars tucked inside the dipper of the Big Dipper in the IAU constellation Ursa Major (see Big Dipper, above): HIP 57477 (the determinative star), 66 Ursae Majoris, HIP 56944 and HIP 56083.

This Chinese xing guan "Tiānlǐ" (天理) is a box of four stars tucked inside the dipper of the Big Dipper in the IAU constellation Ursa Major (See Big Dipper, above): 66 Ursae Majoris, HIP 55797, 55060, and 58259. Compare this to the Korean asterism "Judge Prison" (see below).

This Chinese Chenzhuo xing guan "Tiānlǐ" is a "box" of four stars in the IAU constellation Ursa Major: HIP 57477, 66 Ursae Majoris, HIP 56944, and HIP 56083.

Judge of Heaven:

This Assyrian star "Dayan-same" is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra. Compare this to Life of Heaven (below).

Judge Prison:

This Korean asterism “Gam-og Pansa” (감옥 판사) is an “L” of stars in the bucket of the Big Dipper in the IAU constellation Ursa Major (see Big Dipper, above): HIP 56035, 66 Ursae Majoris, and HIP 57477. Compare this to the Chinese xing guan “Judge for Nobility” (see above).

Judge’s Stick:

This Hungarian asterism “Bírópálca” is the belt of Orion in the IAU constellation Orion.

Judging:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of two stars in the IAU constellation Hydra: Gamma (γ) Hydrae (the determinative star) and HIP 66400A.

This Chinese xing guan Píng (平), also known as “Justice”, is a line of two stars in the constellation Hydra: Gamma (γ) and Eta (η) Hydrae.

This Chinese Chenzhuo xing guan is two stars in the IAU constellation Hydra: Gamma (γ) Hydrae and HIP 65835.

Judinan:

This Wardaman star is Epsilon (ε) Delphini in the IAU constellation Delphinus (Cairns and Harney 2003).

Jug:

This Greek asterism “Υδρία” (“Ydría”) is the IAU constellation Crater.

July Salt and Pepper Cluster:

See Salt and Pepper, below.

Jumper:

This Celtic (Gaulish) asterism “Lingonis” (“jumper”, “dancer”, or “fetcher”) is the IAU constellation Scorpius (Boutet 2017) and is abbreviated as “Ling” in the *Book of Ballymote*.

Junction:

This Arabic star “Al Wazl” is Gamma (γ) Sagittarii in the IAU constellation Sagittarius as listed in R. H. Allen’s *Star Names* in 1899.

Junior Officers:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of four stars in the IAU constellations Leo and Leo Minor: 60 Leonis (the determinative star), 54 Leonis, 44 Leonis Minoris, and 42 Leonis Minoris.

This Chinese xing guan Shàowēi (少微) is a triangle of stars in the IAU constellation Leo Minor: 41, 51, 52, and 54 Leonis Minoris.

This Chinese Chenzhuo xing guan “Shàowēi” is a bending line of four stars in the IAU constellation Leo: 52, 53, 54, and 60 Leonis.

Junk Star:

This Thai asterism “Dao Sam Pao” is made up of stars of the IAU constellations Canis Major, Canis Minor, and Gemini (Nitiyanant 2015). The “keel” of the junk is Alpha (α) Geminorum (Castor), Beta (β) Geminorum (Pollux), Alpha (α) Canis Majoris (Sirius) and Alpha (α) Canis Minoris (Procyon).

Juno’s Star:

This Latin star “Junonis astrum” is Alpha (α) Aquarii (Sadalmelik) in the IAU constellation Aquarius and is listed in R. H. Allen’s *Star Names* in 1899.

Jupiter and Juno Constellation:

This Latin asterism “Jovis et Junonis Sidus” is the IAU constellation Leo as listed by 1st century Roman poet Marcus Manilius.

Jupiter’s Armour:

This Latin asterism “Jovis Armiger” is the IAU constellation Aquila. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists this as “Armiger Jovis”.

Jupiter’s Bird:

This Latin asterism “Jovis Ales” or “Alea Jovis” is the IAU constellation Aquila:

- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Iovis Ales” as an alternate name for Aquila.
- The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch lists “Jovis Ales” as a name for Aquila.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Jovis Ales”.
- “Alea Jovis” is listed in R. H. Allen’s *Star Names* in 1899.

Jupiter’s Butler:

This German asterism “Jovis Pincera” is the IAU constellation Aquarius as listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

Jupiter’s Nurse:

This Latin asterism “Jovis Nutrix” is the IAU constellation Auriga. This is a reference to the Amalthean goat.

Jurrpan:

This Yolgnu star, “Jurrpan”, is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes (Clarke 2009, 2015). Jurrpan is a mythical ancestor of the Yolgnu who went to the sky to live in the heavens. It’s rising at sunrise in the eastern sky marked the time to harvest spike rushes.

Just Married of Hydra:

This **telescopic** asterism “Neógames Hýdrae” is the elliptical galaxy NGC 4105 in the IAU constellation Hydra. It was discovered in 1791 by William Herschel who listed it as “II 865”. It became GC 2720 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by

astronomers Gerard Bodifee and Mic hel Berger (2010): They called it this as ”together with NGC 4106, NGC 4105 has just started the formation of a couple”.

Justice:

This Chinese star “Zheng” from the Three Kingdoms to the Ming Dynasty is Alpha (α) Ursae Majoris (Dubhe) in the IAU constellation Ursa Major.

This Chinese Chenzhuo xing guan “Zheng” is the star Alpha (α) Ursae Majoris (Dubhe) in the IAU constellation Ursa Major. It is part of their xing guan Northern Dipper.

This Latin asterism “Justicia” is the IAU constellation Virgo.

- “Justicia” is listed as a name for Virgo in the11th century *De signis caeli (“of the signs of heaven*”).
- Johann Bayer’s *Uranometria* (1603) lists “Iusta, rectius Isutitia” (“Just, more correctly Justice”) as a name for Virgo
- Justicia is later listed by John Hill in his *Urania* in 1754.
- R. H. Allen also lists Justicia in his *Star Names* in 1899 and adds the variation “Justa”.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Justicia”.

Juta:

This Estonian asterism “Juta” is a cross of stars in the IAU constellation Cygnus: Alpha (α) Cygni (Deneb), Epsilon (ε) Cygni, Gamma (γ) Cygni, Delta (δ) Cygni, and Eta (η) Cygni. It is found on the *Taeiva Kaart* of Estonian cartographer Ado Grenzstein (1886) which was created for the Estonian language *Olevik* newspaper and printed using the wood engraving technique.

Juta’s Hair:

This Estonian asterism “Juta Juuksed” is the IAU constellation Coma Berenices. It is found on the *Taeiva Kaart* of Estonian cartographer Ado Grenzstein (1886) which was created for the Estonian language *Olevik* newspaper and printed using the wood engraving technique.

Juta’s Veil:

This Estonian asterism is made up of stars of the IAU constellation Leo Minor. It is found on the *Taeiva Kaart* of Estonian cartographer Ado Grenzstein (1886) which was created for the Estonian language *Olevik* newspaper and printed using the wood engraving technique.

K:

There are two **telescopic** “K” asterisms:

- One is Kernya 10 from the observing list of Hungarian astronomer Gábor János Kernya, and is in the IAU constellation Cepheus. Kernya describes it as “a very small group of at least 10 stars, which draw a twisted letter ‘K’… members are only 14-18 magnitude.”
- One is the open cluster NGC 6819 in the IAU constellation Cygnus. This was discovered by English astronomer Caroline Herschel in 1784. It is GC 4511 in the *General Catalogue* of 1864. Size 5’ X 5’. It is also known as the Octopus (see above), or the Fox Head (see above) and has also been described as a letter “U” or “X”.

Ka-li-tum:

See Star Star, below.

Ka Ma Tu:

This Semitic asterism from Elba, "ka` -ma-tu`", is the oldest asterism name known and is the Pleiades cluster in the IAU constellation Taurus.

KA.MUSH.Ì.KÚ.E:

This Babylonian star "KA.MUSH.Ì.KÚ.E" or "Pashittu" as listed in Anthony Hope's *A Guide to Ancient Near Eastern Astronomy* in 1996 is Beta (β) Andromedae (Mirach) in the IAU constellation Andromeda.

Ka'ahupahau:

This Hawaiian asterism is the IAU constellation Piscis Austrinus.

Kabairekereke:

This Kiribati asterism is made up of stars of the IAU constellation Scorpius (Trussel and Groves 1978). NOTE: This name is related to the name of one of their stars in this asterism, see "Baireke" above.

Kabairua:

This Kiribati star is an unidentified star in the IAU constellation Scorpius (Trussel and Groves 1978).

Kabanei:

This Kiribati star "Kabanei", "te kabanei", or "Na Kabanei" is an unidentified star in the IAU constellation Serpens (Trussel and Groves 1978). NOTE: This name is used by the Kiribati for two animals: One is the leather jacket (Alutera scripta), a swallow that lives only on the land. The other is the trigger fish (Amanses sandwichiensis).

Kabibi:

This Kiribati star "Kabibi" or "Na Kabibi" is currently unidentified (Trussel and Groves 1978).

Kachina Doll Cluster:

This **telescopic** asterism, also known as the Owl Cluster, Dragonfly Cluster, Massed Jewels, and the E.T. Cluster, is open cluster NGC 457 (Caldwell 13) in the IAU constellation Cassiopeia. It was discovered by William Herschel in 1787 who labeled it "VII 42" in his catalogue. It is GC 256 in the General Catalogue of 1864. Two bright stars (HIP 6229 and Phi (ϕ) Cassiopeiae) are the eyes.

Káčje:

This Kaykavian asterism is the IAU constellation Ophiuchus.

Kadri's Sieve:

This Estonian asterism is the side by side open clusters known as the Double Cluster (NGC 869 and 884) in the IAU constellation Perseus (Kuperjanov 2006).

Kaffa:

This Arabic star "Kaffa" is Delta (δ) Ursae Majoris in the IAU constellation Ursa Major (Hafez 2010).

Kagili:

This Wardaman star is one of the stars of the Pleiades cluster in the IAU constellation Taurus (Cairns 1999) representing a young woman and is part of their asterism “Murabibi” (see Teenagers and Little Ones, below).

Kahe:

This Hawaiian star is Pi (π) Scorpii in the IAU constellation Scorpius.

Kai ni kabeti:

This Kiribati asterism is made up of stars of the IAU constellation Scorpius (Trussel and Groves 1978).

Kai ni Katine:

This Kiribati asterism is made up of stars of the IAU constellation Sagittarius (Trussel and Groves 1978). It is described as “trapeze in Sagittarius”.

Kaiwaka:

Māori star, “Kaiwaka”, is an unidentified star of the winter sky (Thompson 2019).

kak-kab ti-nu-ri al-ma-na-a-ti:

This Akkadian asterism “kak-kab ti-nu-ri al-ma-na-a-ti” from the Ura = hubulla XXII lists (Block, Yigal, and Horowitz 2015) is unidentified currently. The Sumerian name is mulim-šu-rin-na nu-kúš-ù-e-ne

Kakkab:

This star is Alpha (α) Lupi in the IAU constellation Lupus. R. H. Allen suggested in his *Star Names* in 1899 that the Babylonian name for the star was “Kakkab Su-gub Gud Elim” (“star left hand of the horned bull”). The IAU is considering this name for the star.

Kakuhihewa:

This Hawaiian star is Beta (β) Pegasi (Scheat) in the IAU constellation Pegasus.

Kalausi:

See Whirlwind, below.

Kalev and his Children:

This Estonian asterism “Kalev” is the Hyades cluster in the IAU constellation Taurus. It is found on the *Taeiva Kaart* of Estonian cartographer Ado Grenzstein (1886) which was created for the Estonian language *Olevik* newspaper and printed using the wood engraving technique. This is a reference to Kalevi or Kaleva, an ancient Finnish ruler mentioned in Friedrich Reinhold Kreutzwald’s epic poem *Kalevipoeg*.

Kaleva’s Star:

This Finnish star “Kalevan tähti” is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major.

Kaleva’s Sword:

This Finnish asterism “Kalevanmiekka” or “Kalevan miekka” is the belt of Orion. NOTE: R. H. Allen lists this as “Kalevan Miekka” and as a “Lapland” asterism in his *Star Names* in 1899 and identifies it as Orion’s belt.

Kalidi:

This !Kung asterism is the Southern Cross in the IAU constellation Crux (Alcock 2014) plus the Pointer Stars (see Pointers below). The stars all bear men's names, with those in the Southern Cross being the names of the son's of their sky God ≠Gao N!a:

- Alpha (α) Centauri (Rigil Kentaurus): ≠Toma
- Beta (β) Centauri (Hadar) /Gaishay
- Alpha (α) Crucis (Acrux): Kxoma
- Gamma (γ) Crucis: Khan//a

Kallisto:

This Latin asterism is the IAU constellation Ursa Major. This is a reference to the myth of Kallisto and Arcas.

Kalomatu's Family:

This Tami asterism is the Pleiades cluster in the IAU constellation Taurus. Kalomatu and his family escaped up a ladder of arrows to escape the anger of this brother. When the cluster sets it marks a season where food is scarce.

Kalpeny:

This Hindu star is Beta (β) Aquarii (Sadalsuud) in the IAU constellation Aquarius. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Kalpeny". This star is part of the Vedic asterism Hundred Cures (see above).

Kama Rube:

This Kiribati asterism is a quadrilateral of stars in the IAU constellation Draco (Trussel and Groves 1978). They do not specify which stars.

Kama te Irariki:

The stars of this Kiribati asterism are currently unidentified (Trussel and Groves 1978). Compare to the Kiribati asterism "Kama" (see Rainbow Runner, above).

Kama te Kinaka:

The stars of this Kiribati asterism are currently unidentified (Trussel and Groves 1978). Compare to the Kiribati asterism "Kama" (see Rainbow Runner, above).

Kamaiaki:

This Kiribati asterism is the IAU constellation Crux (Trussel and Groves 1978).

Kamailehope:

This Hawaiian star is Alpha (α) Centauri (Rigil Kentaurus) in the IAU constellation Centaurus.

Kamailemua:

This Hawaiian star is Beta (β) Centauri (Hadar) in the IAU constellation Centaurus.

Kambalia:

See Crookedness of Talons, above.

Kambar:

This Kazakh asterism is the IAU constellation Leo.

Kameang:

This Kiribati asterism is the IAU constellation Ursa Major (Trussel and Groves 1978). NOTE: Kameaang is also listed as the name of an unidentified star in this constellation.

Kameio Rariki:

The stars of this Kiribati asterism are currently unidentified (Trussel and Groves 1978). Compare to their asterism “Kameio” (see Troublesome, below).

Kamparl-Kamparl:

This Murruwarri asterism is the Pleiades cluster in the IAU constellation Taurus (Fuller et al 2014).

Kamuy:

This Ainu star “Kamuy” is HIP 79219 (HD 145457) in the IAU constellation Corona Borealis and was given this name in the IAU NameExoWorlds campaign. Kamuy is a supernatural entity in Ainu culture. NOTE: It is listed on Stellarium as “Kamui”. It has an exoplanet named Chura: In the Ryukyuan/Okinawan language this means “natural beauty”.

Kan:

This Myanmar yathi (zodiac constellation) “Kan” (ကန့်) is the IAU constellation Virgo.

Kandaon:

This Boeotian asterism “Κανδάων” (“Kandáon”) is the IAU constellation Orion. This was their name for Ares, the God of war.

Kang:

This Kala Lagaw Ya star is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius. Kang is the mate of their mythical figure Thoegay and is part of their asterism Canoe (see above).

For the star Kang, see Neck, below.

Kangaroo:

This Kamilaroi/Euahlayi asterism “Bandaarr” or “Bundar” (“grey kangaroo”) is located under the belly of their asterism “Gawarrgay” (see Emu in the Sky, above) in the Milky Way, looking away from the Emu (Fuller et al 2014). This is in the IAU constellation Corona Australis. Note: This is known to the Kamilaroi/Euahlayi as the Crocodile (see above), as crocodiles are found in northern Australia. The peoples in other parts of Australia call it the Kangaroo, and the Kamilaroi/Euahlayi probably were influenced by this in using this alternate name. In 1875 William Ridley originally identified four stars in the IAU constellation Corona Australis as Bundar, but later changed this to the IAU constellation Corvus with this asterism, as did Parker in 1905.

This Gundungurra asterism “Muruai” is the Pointer stars, Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus (Mathews 1908).

This **telescopic** kangaroo is 19 stars tucked inside the corner of the "kite" of the IAU constellation Boötes 3.1 degrees west of Delta (δ) Boötis (Thiba). A triangle of 9th – 10th magnitude stars form the "head" with HIP 73586 at the top of the "neck" and HIP 73657 as the tip of an "ear". A line of stars forming the "back" runs from there through two 9th magnitude stars to HIP 73375 and on through a curving line of 5 9th magnitude stars forming a "tail". A shallow curve of 8th – 10th magnitude stars forms a "leg". Size 113'.

Kant of Ursa Major:

This **telescopic** asterism "Kántius Úrsae Majóris" is the face-on spiral galaxy Messier 101 (NGC 5457) in the IAU constellation Ursa Major. It was discovered by French astronomer Pierre Méchain in 1781. The 1864 *General Catalogue* lists this as GC 3770 and John Herschel's catalogue as h 1744. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this to honor Immanuel Kant (1724 – 1804). It is also known as the "Pinwheel" (see below).

Kantoa:

The stars of this Kiribati asterism are currently unidentified (Trussel and Groves 1978). Kantoa was a giant son of Nao and Neiko, husband of Nei Uamumuru.

Kanya:

This Vedic rashi "Kanya" is the IAU constellation Virgo (Bhagwath 2019, Rath 2022). R. H. Allen lists "Kanya" in his *Star Names* in 1899 and translates it as "maiden". W. Brennan lists it as "Canya" in his *Hindu Astronomy* in 1896. Kanya was the mother of Krishna. The Chinese phonetically translated "Kanya" from the Vedic *Candragarbha-parivarta* in 566 as "Jiaruo" (Kotyk 2017). Bhagwath (2019) writes that it represents the energy of the God Vivasvan.

Kanyala:

This Kokatha and Ngalea star is Beta (β) Centauri (Hadar) in the IAU constellation Centaurus (Leaman and Hamacher 2014).

Kapakau-o-Tafahi:

See Wing of Tafahi, below.

Kapaumeta:

This Netwar star "Kapaumeta" is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus (Ramik 2019).

Kappa:

There are two **telescopic** "kappa" asterisms:

- One is in the IAU constellation Draco and was listed as Corder 2375 on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Corder attributes it to John Raymond. Size 80' X 35'. This resembles the Greek letter Kappa (κ). It includes the stars 4, 6, and Kappa (κ) Draconis and HP 61564.
- One made up of stars of the IAU constellations Hercules and Ophiuchus and was listed as Corder 3179 on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida.

Corder attributes it to John Raymond. Size 20'. This resembles the Greek letter Kappa (κ) and includes the stars Iota (ι) and Kappa (κ) Ophiuchi, HIP 83342A, and 43 and 47 Herculis.

Kappas:

This **telescopic** asterism is made up of a pair of stars of the IAU constellation Taurus: Kappa (κ) 1, and 2 Tauri. *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), labels these the "Kappas".

Kapteyn's Star:

This **telescopic** variable star is VZ Pictoris (HIP 24186, HD 33793) in the IAU constellation Pictor (magnitude 8.85). It was discovered by Dutch astronomer Jacobus Kapteyn in 1898. It is an M1 red subdwarf star and the closest halo star to Earth. *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists "Kapteyn's Star". Two exoplanets were discovered orbiting this star in 2014.

Kapuahi:

This Hawaiian star is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus.

Kara:

This Kiribati star "Kara" or "Na Kara" is currently unidentified (Trussel and Groves 1978). This name has several translations, including "layer of hard soil", "large packet of fish", or "old person" and I'm unsure which refers here.

Karajema's Will:

This Estonian asterism "Karajema Tähed" is made up of stars of the IAU constellation Andromeda (Kuperjanov 2006).

Karaka:

This **telescopic** Māori star is HIP 76351A (HD 137388) in the IAU constellation Apus (magnitude 8.70). It was given this name in the IAU NameExoWorlds campaign. It is named for a plant that produces orange fruit. It has an exoplanet named Kererū, which is their name for the bush pidgeon.

Karakat:

This Myanmar yathi (zodiac constellation) "Karakat" (ကရကဋ်) is the IAU constellation Cancer.

Karakurt:

This Kazakh asterism is the IAU constellation Cassiopeia.

Karambal:

This Yolngu star is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus. Karambal made off with one of the Mayi Mayi (see Seven Young Sisters, below). He was pursued and climbed a tree, which was set on fire, and the flames carried him up into the sky where he retains the color of the fire.

This Bunjalung star is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus. Karambal fell in love with one of the Wareenggary (see Seven Young Women, below) and for this was burnt by Bullabogabun,

a great warrior, whose wife Karambal seduced once the Wareenggary fled into the sky. This was listed in Folklore of the Australian Aborigines, Science of Man, Vol. 1, 1898, p. 119.

Karantika:

This Banjar and Meratus Dayak asterism is the Pleiades cluster in the IAU constellation Taurus.

Karatgurk:

This Kulin Nations asterism "Karatgurk" is the Pleiades cluster in the IAU constellation Taurus (Massola 1968).

Karbana:

This Egyptian star "Karbana" is Alpha (α) Carinae (Canopus) in the IAU constellation Carina. A poet in the time of Thutmose III mentions it as "the star which pours his light in a glance of fire, when he disperses the morning dew". In his *Star Names* in 1899, R. H. Allen writes that this appears as "Kabarnit" in the time of Assyrian king Ashurbanipal (669 – 631 B.C.E.).

Karduna:

This Kokatha and Ngalea star is Alpha (α) Virginis (Spica) in the IAU constellation Virgo (Leaman and Hamacher 2014).

Kareke uouan Nei Auti:

The stars of this Kiribati asterism are currently unidentified (Trussel and Groves 1978).

Karekea te Baraitoa:

The stars of this Kiribati asterism are currently unidentified (Trussel and Groves 1978).

Karma Goleb:

This Tibetan asterism is made up of stars of the IAU constellation Perseus (Johnson-Groh 2013).

Karma Mar:

This Tibetan asterism is made up of stars of the IAU constellation Scorpius (Johnson-Groh 2013). Johnson-Groh names one of the stars as Alpha (α) Scorpii (Antares).

Karma Mindrup:

This Tibetan khyim (zodiac constellation), also known as "Karma Karchen" or "Torang Karchen" (see Big Early, above), is probably the Big Dipper asterism in the IAU constellation Ursa Major (Johnson-Groh 2013).

Karma Rikchu:

This Tibetan khyim (zodiac constellation), also known as "Karma Rikche", is the Northern Cross asterism in the IAU constellation Cygnus (see Northern Cross below).

Kārtavīrya:

This Vedic star is "Kārtavīrya" or "Kartavirya" is Kappa (κ) Orionis in the IAU constellation Orion.

Kārtikeya:

This Vedic star “Kārtikeya” or “Kartikeya” is Gamma (γ) Orionis in the IAU constellation Orion.

Kasapa:

“Kasapa” is a Vedic name for the IAU constellation Cassiopeia (Bhagwath 2019).

Kàške:

This Chakavian asterism is the IAU constellation Ophiuchus.

Katakora:

This Kiribati asterism “Katakora” is made up of stars of the IAU constellation Canis Minor (Trussel and Groves 1978).

Kathaca:

This Sinhalese asterism is the IAU constellation Cancer.

Kathryn’s Wheel:

This **telescopic** asterism is PGC 58985, an interacting galaxy in the IAU constellation Ara. This was discovered in 2015 and is the closest collisional ring galaxy to the Milky Way (~ 30 million light years).

Kaua-mea:

This Hawaiian asterism is the IAU constellation Corona Borealis.

Kaukupenga:

This Tongan asterism is the IAU constellation Corona Borealis. There is some discussion as to whether the name of this asterism is Ao-o-Uvea.

Kaus Australis:

See Southern Bow, below.

Kaus Borealis:

See Northern Bow, below.

Kaus Media:

See Middle Bow, below.

Kaveh:

This telescopic Iranian star “Kaveh” or “Kāve” is HIP 92895 (HD 175541) in the IAU constellation Serpens (magnitude 8.00). It was given this name in the IAU NameExoWorlds campaign. It is the name of a hero of Ferdowsi’s epic poem *Shahnameh*. It has an exoplanet named Kavian: This is a reference to a banner called Derafsh Kaviani (“banner relating to Kaveh”).

Kayeb’s Pets:

This Palikur asterism is two dark clouds in the Milky Way near the IAU constellation Scorpius (Green and Green 2011). They are two jaguars hunting a deer, whose horns (“gituw”) appear in the tail of Scorpius. Some Palikur refer to these jaguars simply as “Two Jaguars” (see below).

Kealohalani-po-keao:

This Hawaiian star is Beta (β) Cassiopeiae (Caph) in the IAU constellation Cassiopeia.

Keawe:

This Hawaiian star is Alpha (α) Pegasi (Markab) in the IAU constellation Pegasus.

Keen-Eyed One:

This Greek asterism "Χάρωψ" ("Chárops") is the IAU constellation Hercules.

Keenan's System:

This **telescopic** asterism Arp 104, is a pair of interacting galaxies in the IAU constellation Ursa Major:

- Spiral galaxy NGC 5216, and
- Globular galaxy NGC 5218.

These two galaxies were discovered by English astronomer William Herschel in 1790. This system is named after the American astronomer Philip C. Keenan who studied them in 1935 and published a paper on the bridge of galactic material connecting the two galaxies.

Keeper of Goats:

This constellation "Custos Caprarum" is the IAU constellation Auriga. Johann Bayer's *Uranometria* (1603) lists the name "Custos Caprarum" for Auriga. The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch lists "Custos Caprarum".

Keeper of Heaven:

This Arabic star "ħāris al-samā'" (حارس السماء) or "Al Ḥāris al Samā" is Alpha (α) Virginis (Spica) in the IAU constellation Virgo. R. H. Allen translates this as "Guardian of the North" in his *Star Names* in 1899 and lists it as a name of Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes. Allen may be confusing this with their star Keeper of North (see below).

Keeper of North:

This Arabic star "ħāris al-shamāl'" (حارس الشمال), later latinized to "Haris-el-sema", is Alpha (α) Virginis (Spica) in the IAU constellation Virgo. John Hill lists this as "Huzme" in his *Urania* in 1754.

Keeper of the Goats:

This Latin asterism "Custos Caprarum" is the IAU constellation Auriga and related to the asterism Capra (see Kids, below) and appears in Ovid's *Metamorphoses*.

Keeper of the Ostriches:

This Persian star "Rai al Naaim" is Lambda (λ) Sagittarii in the IAU constellation Sagittarius as listed in the *Calendarium* of Al Achsasi al Mouakket in 1650 and is part of the asterism Going Ostriches (see above). listed it as "Rāʿi al Naʿāïm". Edward Sherburne attributes "Al Naâim" ("the ostriches") to Persian astronomer Ulugh Beg Mirza (1394 – 1449), and cites "Dr. Hyde" translating this as "cattle" which is absurd: Apparently he made this assumption as Mohammed Tizinus showed them in his tables with a shepherd nearby. Of course this "shepherd" is the "keeper" of the ostriches.

This Arabic star “Rāʿi al Naʿāïm” (ألراع آلنعم) is Lambda (λ) Sagittarii in the IAU constellation Sagittarius and was listed under this name by the 16th century Arabic astronomer Al Tizini and is part of the asterism Going Ostriches (see above).

This Latin asterism “Pastor Struthionum” is Lambda (λ) Sagittarii in the IAU constellation Sagittarius.

Keeper of the Oxen:

This asterism “Custos Boum” is the IAU constellation Boötes as described by 2nd century Roman poet Juvenal and as listed by French astronomer Jérôme Lalande.

Keeper of the Underworld:

This Latin asterism “Janitor Lethaeus” is the IAU constellation Canis Major and is a reference to Cerberus, the three headed dog that guarded the entrance to the underworld.

Keeper of the Wain:

This Latin asterism “Plaustri Custos” is the IAU constellation Boötes. It is derived from the Greek asterisms Bear Watcher (see below) and Guardian of the Bear (see below) and related to the various asterisms listed in this handbook that refer to the IAU constellation Ursa Major as a “wain”. 1st century Roman poet Publius Ovidius Naso (Ovid) suggested the wain when he wrote “interque Triones Flexerat obliquo plaustrum temone Bootes” (“and among the Bears, I turned my cart obliquely from the Dipper”. The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Custos Plaustri” as an alternate name for Boötes. Johann Bayer’s *Uranometria* (1603) lists “Plaustri Custos” as an alternate name for Boötes.

Keepers:

This French asterism is the stars Alpha (α) Ursae Majoris (Dubhe) and Beta (β) Ursae Majoris (Merak) in the IAU constellation Ursa Major as listed by French astronomer Dominique François Jean Arago (1786 – 1853).

Keid:

See Broken Egg Shells, above.

Kemble's Cascade:

This **telescopic** asterism, Kemble 1 in the asterism list of RASC member Father Lucien Kemble (1922 – 1999), is a chain of about 20 7th to 9th magnitude stars: One end of the chain is the star HIP 18172, and the line runs through HIP 18406, 18395, 18505, 18525, double stars HIP 18818 and 18884 and ends in open cluster NGC 1502 in the IAU constellation Camelopardalis (which is another **telescopic** asterism, see Jolly Roger, above). NGC 1502 is the “pool” that the cascade runs into. Size 180’ X 180’. American astronomer and author Phil Harrington reports that once Kemble found it, he told American astronomer Walter Scott Houston about it, and Walter made the rest of the world aware of it. Harrington made it Harrington 3 on his list. This is O’Meara 20 on astronomer Stephen James O’Meara’s *Hidden Treasures Catalogue* (2007).

Kemble’s Kite:

See Kite below.

K'empapi:

The stars of this Quechua asterism are unidentified at present (Ciancia 2018).

Kenmu:

This Egyptian decan "Kenmu" was in the IAU constellation Sagittarius. In later Hellenistic texts it was named "ⲕⲟⲛⲓⲙⲉ" ("Konime"). In the Testament of Solomon, it became "Axesbyth" or "Phêth", Aristobulus of Paneas called it "Satan", in Greek Hermeticism it became "Chthisar", in Latin Hermeticism "Renethis", Roman astrologer Julius Firmicus Maternus called it "Chenene" or "Chenem", Cosmas of Maiuma (d. 760) called it "Ananke", French scholar Joseph Justus Scaliger (1540 - 1609) called it "Chenen" and German Jesuit astronomer Athanasius Kircher (1602 – 1680) called it "ⲧⲉⲣⲁⲫ" ("Teraph"). Variations include "Khthisar". It has been depicted as a crowned elderly man wrapped from chest to heels with a flask in his right hand and a scepter in his left.

Kenmut:

This Egyptian decan "Kenmut" was in the IAU constellation Cancer. In later Hellenistic texts it was named "ϫⲛⲟⲩⲙⲓⲥ" ("Knum"). In the *Testament of Solomon*, it became "Saphthorael" or "Saphathoraél", Aristobulus of Paneas (2nd century B.C.E.) called it "Hellors", in Greek Hermeticism it became "Chnouphos", in Latin Hermeticism "Charmine", 4th century Roman astrologer Julius Firmicus Maternus called it "Thiumis" or "Thumus", Cosmas of Maiuma (d. 760) called it "Hekate", French scholar Joseph Justus Scaliger (1540 - 1609) called it "Thuimis" and German Jesuit astronomer Athanasius Kircher (1602 – 1680) called it "ⲙⲉⲣⲕⲟⲫϯ" ("Mercophta"). Variations include "Khnouphos". It has been depicted as a torso on a pedestal with two female faces turned away from each other, one with a hat, one with a necklace of dragons.

Kenós:

This Selk'nam star is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus. Kenós is the creator of the Selk'nam world.

Keoe:

This Hawaiian star is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra. This is one of the three stars of the Navigator's Triangle (see below). Note: Some researchers believe that this name was originally applied to the entire constellation of Lyra, not just Vega.

Képeci:

This Kaykavian asterism is the Hyades cluster in the IAU constellation Taurus.

Kepheus:

This Greek asterism Κηφεύς is the IAU constellation Cepheus as it appeared in the 2nd century in Ptolemy's *Almagest*:

- The "body" is a line of stars from Epsilon (ε) Cephei through Zeta (ζ) Cephei to "shoulders" at Xi (ξ) Cephei and "hips" at Beta (β) Cephei,
- One "arm" runs from Xi (ξ) Cephei to Iota (ι) Cephei,
- One "arm" runs from Xi (ξ) Cephei through Alpha (α) Cephei (Alderamin) and Eta (η) Cephei to Theta (θ) Cephei,
- One "leg" runs from Beta (β) Cephei to Gamma (γ) Cephei, and

- One “leg” runs from Beta (β) Cephei to Kappa (κ) Cephei.

Kepler’s Supernova:

This **telescopic** asterism is supernova remnant Kepler’s Supernova, Kepler’s Nova, or Kepler’s Star, SN 1604, is in the IAU constellation Ophiuchus. It is the remnants of a type 1a supernova recorded by German astronomer Johannes Kepler in 1604.

Ker-khept-sert:

This Egyptian decan “Ker-khept-sert” was in the IAU constellation Aquarius. In later Hellenistic texts it was named “Xu”. In the Testament of Solomon, it became “Ichthion”, Aristobulus of Paneas called it “Anafa”, in Greek Hermeticism it became “Sosomo”, in Latin Hermeticism “Luxois”, Roman astrologer Julius Firmicus Maternus called it “Cratero” or “Astiro”, Cosmas of Maiuma (d. 760) called it “Phobos”, French scholar Joseph Justus Scaliger (1540 - 1609) called it “Astiro” and German Jesuit astronomer Athanasius Kircher (1602 – 1680) called it “вογκογλѧ” (“Vucula”).Variations include “Sosomno”. It has been depicted as a crowned man wrapped from chest to heels, holding an ankh.

Kermit the Tadpole:

This **telescopic** asterism is the open cluster NGC 6633 (Caldwell 10) in the IAU constellation Ophiuchus. It was discovered by English astronomer Caroline Herschel and recorded by her brother William Herschel in 1788: William listed it as “VIII 72”. It is GC 4410 in the *General Catalogue* of 1864. It was given this name by American astronomer John Chiravalle. Size 45’ X 30’. This is also known as the Tweedledum Cluster (see below), Captain Hook Cluster (see above), the Otter and Ball (see below), and the Wasp Waist Cluster (see below). This is named for Jim Henson’s character Kermit the Frog, who first performed in 1955. Jeffrey Corder lists this as Corder 3571.

Ketpholtsuman:

This star is Beta (β) Geminorum (Pollux) in the IAU constellation Gemini as listed by Italian astronomer Giovanni Battista Riccioli (1598 – 1671). We’ve no idea what the origin of this name was.

Kewatino Achak:

This Ininew (Cree) star (Buck 2016) is Alpha (α) Ursae Minoris (Polaris).

Key:

This Greek lunar mansion is possibly the stars of the IAU constellation Aquila and is listed in the *Magical Papyrus 121*, preserved in the British Museum, and dated to the 3rd century C.E. (Mosenkis, date n/k).

This **telescopic** asterism Sánta 72, listed in 2007 by Hungarian astronomer Sánta Gábor, is a group of 10th – 12th magnitude stars in the IAU constellation Canis Major. Gábor describes it as a “key-like asterism [including] doubles”.

Keyhole Nebula:

There are two **telescopic** “Keyhole” asterisms:

- One is the HII region NGC 3372 (Caldwell 92) in the IAU constellation Carina. It was discovered by French astronomer Nicolas Louis de Lacaille in 1752 and listed in his catalogue as “III 6”. It is GC 2197 in the *General Catalogue* of 1864. American astronomer Sherburne Wesley Burnham

(1838 – 1921) lists it under the name "Keyhole Nebula" in *Burnham's Celestial Handbook*. The 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) lists this as the "Keyhole Nebula". *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists "Keyhole Nebula" as a name for this nebula. Astronomer Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) lists it as the "Keyhole" and makes it O'Meara 30. It is also known as the Eta Carina Nebula, the Gabriela Mistral Nebula and the Homunculus Nebula.

- One is reflection nebula NGC 1999 (vdB 46, LBN 979, Ced 55i) in the IAU constellation Orion. This was discovered by English astronomer William Herschel in 1785: Herschel described it as "a star with milky chevelure or vB nucleus with milky nebulosity" and listed it as "IV 33" in his catalogue. It is GC 1202 in the *General Catalogue* of 1864. The Helwan Observatory Bulletin No. 21 of 1920 describes it as a "dense glove with an absolutely dark triangular hole cutting into it." Robert Zebahl lists NGC 1999 as the Keyhole on his *Faint Fuzzies* website. It is also known as the Black Eye Nebula (see above), the Rubber Stamp Nebula (see above), the Thirteenth Pearl Nebula (see below) and "Africa" (see above).

Keystone:

There is, of course, a Keystone asterism in the IAU constellation Hercules (see Keystone of Hercules below), but there is another **telescopic** keystone in the IAU constellation Cetus. The corners are the stars HIP 1660, 1915, 1765, and 1957. This appears in *Pattern Asterisms* by American astronomer John A. Chiravalle and is Corder 84 on the list of American astronomer Jeffrey Corder.

Keystone of Hercules:

The four central stars in the IAU constellation Hercules form a wedge-shaped quadrilateral resembling the keystone of an arch: Epsilon (ε) Herculis, Zeta (ζ) Herculis, Eta (η) Herculis, and Pi (π) Herculis. Compare this to Cornerstone, above.

Khabasiranu:

This Seleucid asterism is in the IAU constellations Eridanus and Fornax. It is a rough oval of stars with a single star line projecting from one end. The oval of stars is made up of Tau (τ) 3, 4, 5 and 6 and Upsilon (υ) 2, 3 and 4 Eridani, and Alpha (α) Fornacis (Dalim). From Tau (τ) 3 Eridani a line goes out to the star Tau (τ) 1 Eridani. Compare this to the Akkadian asterism Habasiranu (see above).

Khambalia:

See Crookedness of Talons, above.

Khan//a:

This !Kung star is Gamma (γ) Crucis in the IAU constellation Crux (Alcock 2014). Khan//a is one of the sons of their sky God ≠Gao N!a and is part of their asterism Kalidi (see above).

Khanish:

This Seleucid star is Beta (β) Centauri (Hadar) in the IAU constellation Centaurus. Compare this to the Babylonian star Hanis. It is part of the "foot" of their asterism Numushda (see below).

Khanuwy Fish:

This ancient Egyptian asterism “Khenwy” is made up of the stars of the IAU constellation Sagittarius. It is a quadrilateral of four stars: the double star Beta (β) 1 and 2 Sagittarii (Arkab), a, and i Sagittarii, and HIP 97749. Nearby is their “Net” asterism (see below).

Khem:

This asterism is the IAU constellation Perseus as listed by French astronomer Joseph Jérôme Lefrançois de Lalande (1732 – 1807), who claimed this was the name of an Egyptian God. This is probably a reference to the Egyptian God Khnum, who was God of the Nile River. NOTE: Khem is derived from the Egyptian “kmt”, which means “Egypt”, which became the Greek “Χημία “ (Khēmía) or Bohairic Coptic “ϧⲏⲙⲓ” (khēmi, “Egypt”).

Khent-heru:

This Egyptian decan “Khent-heru” was in the IAU constellation Pisces. In later Hellenistic texts it was named “ⲧⲡⲏⲃⲓⲟⲩ” (“Xont-har”). In the *Testament of Solomon*, it became “Phtheneoth” or “Phthenoth”, Aristobulus of Paneas (2nd century B.C.E.) called it “Larvata”, in Greek Hermeticism it became “Sopphi”, in Latin Hermeticism “Flugmois”, 4th century Roman astrologer Julius Firmicus Maternus called it “Tepibui” or “Tepabiu”, Cosmas of Maiuma (d. 760) called it “Dolos”, French scholar Joseph Justus Scaliger (1540 - 1609) called it “Thopibui” and German Jesuit astronomer Athanasius Kircher (1602 – 1680) called it “ⲥⲟⲟⲩⲣⲟⲩⲧ” (“Sourut”). This has been depicted as a naked man with a coat on his shoulders, flask in his right hand, and his left index finger at his lips.

Khent-kheru:

This Egyptian decan “Khent-kheru” was in the IAU constellation Aries. In later Hellenistic texts it was named “ϧⲟⲛⲧⲁⲣⲉ” (“Xont-har”). In the *Testament of Solomon*, it became “Rhyax” or “Ruax”, Aristobulus of Paneas (2nd century B.C.E.) called it “Bendonc”, in Greek Hermeticism it became “Chenlachori”, in Latin Hermeticism “Aulathamas”, 4th century Roman astrologer Julius Firmicus Maternus called it “Senator” or “Asiccan”, Cosmas of Maiuma (d. 760) called it “Aidoneus”, French scholar Joseph Justus Scaliger (1540 - 1609) called it “Asiccan”, and German Jesuit astronomer Athanasius Kircher (1602 – 1680) called it “ⲁⲣⲟⲩⲉⲣⲓⲥ” (“Arueris”). Variations include “Khenlakhori”. It has been depicted as a young child holding a scepter above its head.

Khentet-hert:

This Egyptian decan “Khentet-hert” was in the IAU constellation Libra. In later Hellenistic texts it was named “ϧⲟⲛⲧⲁⲣⲉ” (“Xont-har”). In the *Testament of Solomon*, it became “Alath”, Aristobulus of Paneas (2nd century B.C.E.) called it “Pieret”, in Greek Hermeticism it became “Phou”, in Latin Hermeticism “Psamiatois”, 4th century Roman astrologer Julius Firmicus Maternus called it “Senta” or “Aepiten”, Cosmas of Maiuma (d. 760) called it “Loimos”, French scholar Joseph Justus Scaliger (1540 - 1609) called it “Arpien” and German Jesuit astronomer Athanasius Kircher (1602 – 1680) called it “ⲟⲫⲓⲟⲛⲓⲟⲥ” (“Ophionius”). It has been depicted as a crowned man with a serpent face.

Khentet-khert:

This Egyptian decan “Khentet-khert” was in the IAU constellation Scorpius. In later Hellenistic texts it was named “ϧⲟⲛⲧⲁϧⲣⲉ” (“Spt-χne”). In the *Testament of Solomon*, it became “Audameoth”, Aristobulus of Paneas (2nd century B.C.E.) called it “Haziza”, in Greek Hermeticism it became “Name”, in Latin Hermeticism “Necbeuos”, 4th century Roman astrologer Julius Firmicus Maternus called it “Sentacer” or “Asente”, Cosmas of Maiuma (d. 760) called it “Nymphs”, French scholar Joseph Justus

Scaliger (1540 - 1609) called it "Sentacer" and German Jesuit astronomer Athanasius Kircher (1602 – 1680) called it "ⲁⲣⲓⲙⲁⲛⲓⲟⲥ" ("Arimanius").

Kher-khept-Kenmut:

This Egyptian decan "Kher-khept-Kenmut" was in the IAU constellation Leo. In later Hellenistic texts it was named "ϧⲁⲣϧⲛⲟⲩⲙⲓⲥ" ("Xar-Knum"). In the *Testament of Solomon*, it became "Phobothel" or "Bobêl", Aristobulus of Paneas (2nd century B.C.E.) called it "Jarea", in Greek Hermeticism it became "Chnoumos", in Latin Hermeticism "Zaloias", 4th century Roman astrologer Julius Firmicus Maternus called it "Craumonis" or "Abruicois", Cosmas of Maiuma (d. 760) called it "Hephaistos", French scholar Joseph Justus Scaliger (1540 - 1609) called it "Aphruimis" and German Jesuit astronomer Athanasius Kircher (1602 – 1680) called it "ⲧⲟⲩⲫⲱⲉⲟⲩⲥ" ("Typhon"). Variations include "Khnoumos". It has been depicted as a lion with a serpent's body.

Khongjom Nubi:

This Meitei asterism "Khongjom Nubi" is the Pleiades cluster in the IAU constellation Taurus.

Khukhu:

This Egyptian decan "Khukhu" was in the IAU constellation Aquarius. In later Hellenistic texts it was named "ⲧⲡⲏϧⲩ" ("Tpa-Biu"). In the *Testament of Solomon*, it became "Achoneoth" or "Agchoniôn", Aristobulus of Paneas (2nd century B.C.E.) called it "Simos", in Greek Hermeticism it became "Chonoumous", in Latin Hermeticism "Crauxes", 4th century Roman astrologer Julius Firmicus Maternus called it "Tepis" or "Amasiero", Cosmas of Maiuma (d. 760) called it "Osiris", French scholar Joseph Justus Scaliger (1540 - 1609) called it "Tepisatras" and German Jesuit astronomer Athanasius Kircher (1602 – 1680) called it "ⲡⲣⲟⲧⲉⲟⲩⲥ" ("Proteus"). Variations include "Khonoumous". It has been depicted as a crowned man wrapped from chest to heels, holding a flask in the right hand and a scepter in the left.

Kiblat:

This Banjar asterism "Kiblat" or "Qiblah" is the belt of Orion in the IAU constellation Orion. For the Banjar, these stars point toward the Kaaba in Mecca.

Kick the Can Cluster:

This **telescopic** asterism is the globular cluster NGC 4147 in the IAU constellation Coma Berenices. It was discovered by English astronomer William Herschel in 1784 who listed it as "I 19". It is GC 2752 in the *General Catalogue* of 1864. NOTE: Kick the Can was a popular kid's game in the 1930s.

Kid:

This Latin star "Haedus" or "Haedus II" is Eta (η) Aurigae in the IAU constellation Auriga. It is part of the asterism Capra and Haedi (See Kids, below).

This Turkish asterism "oğlak" is the IAU constellation Capricornus. Edward Sherburne lists it as "Uglack" in his *Sphere of Marcus Manilius* in 1675, as does John Hill in his *Urania* in 1754.

Kid of the Sea:

This Latin asterism "Aequoris Hircus" is the IAU constellation Capricornus. The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Aequoris Hircus" as an alternate name for Capricornus. Compare this to Hill's "Sea Goat", below.

Kidney:

This Babylonian asterism "MUL.BIR" (Hunger 1992) from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) and listed in the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period as "mul bir" (Koch-Westenholz 1995) is the IAU constellation Puppis.

This Babylonian star "BIR" or "kalitu" as listed by Anthony Hope in his *A Guide to Ancient Near Eastern Astronomy* in 1996 is Zeta (ζ) Puppis in the IAU constellation Puppis.

This Akkadian asterism "Kalitu" (Hunger 1992) from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) is the IAU constellation Puppis.

Kidney Bean:

This **telescopic** asterism is NGC 4774, a ring galaxy in the IAU constellation Canes Venatici. It was discovered by English astronomer William Herschel in 1787 who listed it as "III 526". It is GC 3284 in the *General Catalogue* of 1864.

Kidron:

This German asterism is the IAU constellation Eridanus as listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch. Kidron is a valley near Jerusalem.

Kids:

This Greek asterism "Ερι φοι" or "Érifoi" is in the IAU constellation Auriga and was first described by Aratus in the 3rd century B.C.E. The Romans gave it the name "Capra et Haedi" Capra is the Roman name for Alpha (α) Aurigae (Capella- see She-Goat, below) and Haedi is "kids". It is a triangle of stars near the star Alpha (α) Aurigae (Capella), the "she goat". The three "goatlings" or "Haedi" are the stars Zeta (ζ) Aurigae (Saclateni or Haedus I), Eta (η) Aurigae (Haedus), and Epsilon (ε) Aurigae (Almaaz).

Propertius (50 – 15 B.C.E.) called them "Haedus" ("the kid").

This asterism was known to Pliny the Elder (24 – 79) and 1st century Roman astrologer Marcus Manilius as "the Goatlings,".

Ptolemy (c.100 – c.170) merged the Charioteer and the Kids in his 2nd century *Almagest*. The *De ordine ac positione stellarum in signis* ("*On the order and position of the stars in the signs*") lists "Hedulo" ("kids").

Dorn (1829) lists this as "Goat and He-Goats" as depicted on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283).

Robert Hues lists this asterism "young kids" in his *A Learned Treatise of Globes* in 1659 and refers to the star Capella as "the little goat".

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) labels this asterism "Capra".

German astronomer Johann Bayer (1572-1625) gave them the plural name "Capellae".

This asterism is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as "Capella seu Capra".

John Hill gives them the name "Hoedi" in this *Urania* in 1754.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) labels this asterism "la Chevre" and depicts it as a goat being held by "le Cocher" (Auriga).

English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Haedi, or two stars Zeta and Eta in the arm of Auriga".

This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "duo Haedi": The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this asterism as "the Kids".

Compare this to the Norwegian "Kittens", below. This asterism is often listed on modern observing lists as a **telescopic** asterism but obviously it was known long before the invention of the telescope.

This asterism is found in Romanian sky lore, where it is called "She-Goat and Three Kids" (see below).

This Arabic asterism "Al 'Ināz" is this Greek asterism as listed by Persian astronomer Zakariya al-Qazwini (1203 – 1283).

This Lithuanian asterism "Hoedi" is the stars Zeta (ζ) Aurigae (Saclateni or Haedus I), Eta (η) Aurigae (Haedus), and Epsilon (ε) Aurigae (Almaaz) in the IAU constellation Auriga.

Kikianalia:

This Hawaiian star is Alpha (α) Virginis (Spica) in the IAU constellation Virgo.

Kill:

This Chinese xiù (lunar mansion) "Liu" (𣍐)from the from the Tang Dynasty (618 – 907 C.E.) is in the IAU constellation Hydra (Kotyk 2017) and is compared to the Vedic nakshatra Ashlesha (see Embracer, above). Compare to the later Chinese xiù "Zhāngxiù" (see Extended Net, above) and their xing guan "Zhéwēi" (see Executions, above).

Killing:

This Chinese star "Sha" from the Three Kingdoms to the Ming Dynasty is Epsilon (ε) Ursae Majoris in the IAU constellation Ursa Major.

Kîmāh:

This Hebrew asterism "Kîmāh", "Kimah", or "Kim'oh" (Rubin 2019) from their Tanakh, (כִּימָה), may be the Pleiades cluster, the star Alpha (α) Tauri (Aldebaran), the star Alpha (α) Boötis (Arcturus), or the star Alpha (α) Canis Majoris (Sirius). English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Chimah" as a name for Taurus and the Pleiades cluster.

Kimono Sleeve Stars:

This Japanese asterism "Sode Boshi" is the IAU constellation Orion.

Kindly Disposed of Tucana:

This **telescopic** asterism "Phílophron Túcanae" is the interacting galaxies IC 5250 in the IAU constellation Tucana. It was discovered by DeLisle Stewart in 1900. This name appears in *The Catalogue of One*

Thousand Named Galaxies by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “IC 5250 consists of a quiet pair of closely interacting galaxies, like a kindly kissing couple”.

Kindness:

This Chinese star “Shan” is Sigma (σ) Sagittarii in the IAU constellation Sagittarius and is part of their xiù (lunar mansion) “Dǒuxiù” (斗宿) – see Dipper, above.

This Chinese Chenzhuo xing guan “Shan” is the star Sigma (σ) Sagittarii in the IAU constellation Sagittarius.

King:

This Hawaiian asterism “Ka Mō’i” is the IAU constellation Cepheus.

This Babylonian star “MUL.LUGAL” (Hunger 1992) or “LUGAL” (Hunger and Sachs 1988, Anthony 1996) from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) and listed as “mul lugal” in the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period (Koch-Westenholz 1995) is Alpha (α) Leonis (Regulus) in the IAU constellation Leo. This also appears in later Seleucid sky lore. R. H. Allen lists the name “Sharru” in his *Star Names* in 1899 as does Anthony Hope in his *A Guide to Ancient Near Eastern Astronomy* in 1996.

This Babylonian asterism “LUL.LA” is listed in Anthony Hope’s *A Guide to Ancient Near Eastern Astronomy* in 1996, translates it as “false” and describes it as “probably not a real star”. It has been identified in other lists as Alpha (α) Leonis (Regulus) in the IAU constellation Leo.

This Sumerian asterism “mullul-la” from the Ura = hubulla XXII lists (Block, Yigal, and Horowitz 2015) is Alpha (α) Leonis (Regulus) in the IAU constellation Leo.

This Persian star “Sarru” from the list of Masu stars from the lists K 250 and VAT 9418 from the Persian (Achaemenid) Period (539 – 331 B.C.E.) is Alpha (α) Leonis (Regulus) in the IAU constellation Leo in Franz Boll’s *Ancient Observations of Coloured Stars* in 1918. Boll also lists “Pa” and “lugal” as “not yet identified. Ernst Weidner lists it as “lugal” in his *Fixsterne* in 1971.

This Akkadian asterism “sa-ar-ri” from the Ura = hubulla XXII lists (Block, Yigal, and Horowitz 2015) is Alpha (α) Leonis (Regulus) in the IAU constellation Leo. Anthony Hope lists it as “sarru” in his *A Guide to Ancient Near Eastern Astronomy* in 1996 but describes it as “probably not a real star”. It is listed as “Sarru” *Astrological Reports to the Kings* of the late Assyrian period (Parpola 1993, Hunger 1992).

This Egyptian Dendera star is Alpha (α) Leonis (Regulus) in the IAU constellation Leo (Hoffman 2017) and part of their asterism Lion (see below).

This Latin star “Rex” is Alpha (α) Leonis (Regulus) in the IAU constellation Leo in R. H. Allen’s *Star Names* in 1899.

King Arthur:

Several British authors make references to the IAU constellation Orion as King Arthur:

- English author Sir Walter Scott mentions him in his *Lay of the Last Minstrel* (1805), which also refers to the IAU constellation Ursa Major as “the Northern Bear”, and

- Scottish author William Sharp (1855 – 1905, writing as Fiona MacLeod) refers to Arcturus in the IAU constellation Boötes as King Arthur.

King Cobra:

This **telescopic** asterism, also known as the Pac-Man Cluster and the Golden Eye Cluster, is the open cluster Messier 67 in the IAU constellation Cancer. It was discovered by German astronomer Johann Gottfried Koehler in 1779. The General Catalogue of 1864 lists it as GC 2682 and John Herschel's catalogue lists it as h 531.

King David's Chariot:

This Irish asterism is the Big Dipper Asterism in the IAU constellation Ursa Major as listed in R. H. Allen's *Star Names* in 1899, which Allen describes as "from one of that island's early kings". English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists this as "David's Car". Compare to David's Chariot, above.

King David's Harp:

This Welsh asterism is the IAU constellation Lyra. R. H. Allen attributes it to Italian humanist and poet Ambrogio Fracco, also known as Novidius (1480 - ?) in his *Star Names* in 1899.

King Fish:

This Kiribati star "Urua" is currently unidentified (Trussel and Groves 1978). This is a fish of the family Carangidae.

King Hamlet's Ghost:

This **telescopic** asterism is NGC 3628, a spiral galaxy with a prominent dust lane in the IAU constellation Leo. This was discovered by English astronomer William Herschel in 1784 who listed it as "V 8" in his catalogue. It is GC 2378 in the *General Catalogue* of 1864. It is also known as Sarah's Galaxy (see below), the Hamburger Galaxy (see above), the "Northernmost of Leo" (see below), and the Vanishing Galaxy (see below). Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) lists this as O'Meara 58 and lists the names "Hamburger Galaxy" and "Sarah's Galaxy".

King of Babylon:

This German asterism is the IAU constellation Cepheus as listed in Edward Sherburne's *Sphere of Marcus Manilius* in 1675 and later in John Hill's *Urania* in 1754. Both attributes this to "Harsdorf" or "Harsdorfius", which would be German poet, jurist and translator Georg Philipp Harsdörffer (1607 – 1658).

King of the Stars:

This Micronesian asterism from the Marshall Islands is the Pleiades cluster and is part of their asterism Creation of the Sky (see above). This represents the youngest son of Ligedaner (see Mother of the Stars, below). The oldest son is Dümur (see above).

King Trishanku:

This Vedic asterism is the IAU constellation Crux (Bhagwath 2019). Trishanku was a king of the Ishvaku dynasty mentioned in the Valmiki Ramayana who was a disciple of Vishwamitra.

King Vulture:

This Shipibo asterism is made up of stars of the IAU constellations Aquila: Alpha (α) Aquilae (Altair), Beta (β) Aquilae (Alshain) and Gamma (γ) Aquilae (Green and Green 2011).

This Carib asterism "Anuwanayuman" or "Anuwana" represents the King Vulture (Gypagus papa), but its present location is unknown (Magaña, and Jara, 1982). This is the vulture that brought Epietembo (see One-Legged Hunter) into the sky.

King Yama:

This Chinese translation "Yánluó wáng" (閻羅王) or "King Yama" of the Vedic asterism Yama from the *Xiuyao jing* (宿曜經) (759 and revised 764) is the IAU constellation Gemini (Kotyk 2017). Compare to the Hindu asterism Lord Yama (below).

Kingdoms:

This Belarussian asterism "каралеўствaў" is in the IAU constellation Gemini. The "kingdoms" are the stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux), which represent the Great Lithuanian Princedom and the Polish Kingdom.

Kingfisher:

This Palikur asterism "Tavara" is made up of stars of the IAU constellations Aquila: Alpha (α) Aquilae (Altair), Beta (β) Aquilae (Alshain) and Gamma (γ) Aquilae (Green and Green 2011).

This Samoan asterism "Ti'otala" is the IAU constellation Delphinus (Fitisemanu 2022). This kingfisher is stalking "Sē" (see Grasshopper, above).

This Carib asterism "Sagasagayuman" or "Sagasaga" represents a kingfisher bird (Megaceryle alcyon) and is the IAU constellation Delphinus (Magaña, and Jara, 1982).

Kingly:

This Arabic star "Malikiyy" is Alpha (α) Leonis (Regulus) in the IAU constellation Leo:

- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Meliki, or kingly"
- "Malikiyy" is listed in R. H. Allen's *Star Names* in 1899.

This star is Alpha (α) Ursa Minoris (Polaris) in the IAU constellation Ursa Minor as listed in Edward Sherburne's Sphere of Marcus Manilius in 1675. Sherburne also calls it "Rex" and explains "quia olim erat prope polum immobilis, quam Reli|quae Omnes Stellae venerabantur" ("once upon a time, he was near the immovable pole, which the rest of all the stars worshipped"). Sherburne attributes this name to the German Jesuit missionary and polymath Johann Schreck Terrentius (1576 – 1630). NOTE: The Chinese names for this star are the "Origin of All Things" (see below), "Curved Array 1" or the "Northern Star" (see below).

Kings:

This Korean asterism "Wang" (왕) is a long line of stars in the IAU constellation Taurus: 103, 98, Chi (χ), Psi (ψ), and 41 Tauri, and HIP 17954A.

King's Belt:

This Romanian asterism “Cingătoarea Regelui” is the belt of Orion in the IAU constellation Orion (Ottescu 2009).

Kings from the East:

This Romanian asterism “Craii de la Răsărit” is the belt of Orion in the IAU constellation Orion (Ottescu 2009). Their names are Saul, David, and Solomon.

King’s Horse:

This German asterism is the IAU constellation Equuleus and was named by German poet Philipp von Zesen (1619 – 1689). He described it as the horse that Haman in the Book of Esther hoped for.

King’s Ring:

This American **telescopic** asterism is the planetary nebula IC 1454 in the IAU constellation Cepheus. This name was posted by American astronomer Dragan Nikin on the *Deep Sky Forum* in October 2019.

Kings of Ammon:

This asterism “Ταμετοῦρο Αμοῦν”, “Tametoúro Amoún”, or “Regum Ammonis” is the IAU constellation Aries as listed by German Jesuit scholar Athanasius Kircher (1602 – 1680). This related to a belief that to the Egyptians it represented the King of Gods and related to their God Amen.

Kip-pat:

This Babylonian and Sumerian ziqpu from the Babylonian star catalogue BM 78161 (Liechty 1988, Leitz 2019) is Alpha (α) Coronae Borealis (Alphecca) in the IAU constellation Corona Borealis, is the third ziqpu on this list and is part of their asterism Dignity (see above). Compare this to Kipparti (see below).

Kipparti:

This Babylonian ziqpu “mulGAM-ti” from cuneiform text AO 6478 (Schaumberger 1952) is Alpha (α) Coronae Borealis (Alphecca) in the IAU constellation Corona Borealis. Compare this to Kit-pat (see above).

Kiss Me Star:

This Tswana star “Ntshune” is Alpha (α) Piscis Austrini (Fomalhaut) in the IAU constellation Piscis Austrinus (Slotegraaf 2013). Its appearance was a warning to lovers to part before their parents discovered them.

Kiss Nebula:

See Albino Butterfly Nebula, above.

Kissed of Centaurus:

This **telescopic** asterism “Osculáta Centaúri” is the elliptical galaxy NGC 5090 in the IAU constellation Centaurus. John Herschel listed it as h 3487 and later as GC 3496 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “this galaxy forms a physical pair with [the spiral galaxy] NGC 5091. The elliptical galaxy seems to be gently touched or kissed by the partner”.

Kissin:

This Latin star “Kissin” is 21 Comae Berenices in the IAU constellation Coma Berenices. This is a species of ivy or convolvulus (bindweed).

Kissing Crescents Nebula:

This **telescopic** asterism is the planetary nebula NGC 2022 in the IAU constellation Orion. It was discovered by English astronomer William Herschel in 1785 who listed it as “IV 34” in his catalogue. It is GC 1225 in the *General Catalogue* of 1864. It is also known as Orion’s Collarbone Nebula.

Kitalpha:

See Part of the Horse, below.

Kitchen of Sky:

This Korean asterism “Haneul-ui Bueok” (하늘의 부엌) is an irregular pentangle of stars in the IAU constellation Draco: Delta (δ), Eta (η), Rho (ρ), Epsilon (ε), and Sigma (σ) Draconis.

Kite:

This German asterism “Milvius” is the IAU constellation Cygnus. This alternate name is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

This Western asterism is made up of the principal stars of the IAU constellation Boötes: Alpha (α) Boötis (Arcturus), Epsilon (ε) Boötis, Delta (δ) Boötis, Beta (β) Boötis (Nekkar), Gamma (γ) Boötis, and Rho (ρ) Boötis.

This American asterism is the IAU constellation Scorpius. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 describes the “paper kite” as the star Alpha (α) Scorpii (Antares), Beta () 1 Scorpii (Acrab), Delta (δ) Scorpii, and Pi (π) Scorpii, with the rest of the stars in this constellation forming the “string”. R. H. Allen lists this in his *Star Names* in 1899. Allen describes it as being listed in “some popular books of the present day”.

For another large-scale “kite”, see the Hawaiian asterism “Ka Lupe O Kawelo” (see Kite of Kawelo below).

One “Mini Kite” asterism consists of a diamond of four bright stars in the IAU constellation Delphinus: Alpha (α) Delphini (Sualocin), Beta (β) Delphini (Rotanev), Gamma (γ) Delphini and Delta (δ) Delphini. R. H. Allen lists it in his *Star Names* in 1899, but comments “the date and name of the inventor of this title I have not been able to learn”. Size 150’. Gene Hanson lists it on his Beginner’s Guide website as the “Mini Kite”. It is also known as “Job’s Coffin” (see above).

There are twenty-two **telescopic** “kite” asterisms:

- One is the open cluster NGC 1664 in the IAU constellation Auriga. It was discovered by English astronomer William Herschel in 1786 who listed it as “VIII 59” in his catalogue. It is GC 907 in the *General Catalogue* of 1864. This is called the kite by some as the primary stars form a roughly diamond-shaped outline with a trail of stars extending off one of the corners like a tail. It is also known as the 4-H Cluster or the Four-Leaf Clover.
- One is Kemble’s Kite, Kemble 3 on the asterism list of RASC member Father Lucien Kemble (1922 – 1999), also known as the Measuring Scoop: This is a diamond shaped kite with a tail in the IAU constellation Cassiopeia near its border with the IAU constellation Camelopardalis. A 6th magnitude star, HIP 16319, forms the apex of one side of the diamond-shaped kite with the

star HIP 16048 at the other. The top of the kite is the star HIP 16420. The "tail" is a row of stars: HIP 15959, 15796, and 15754. Size 90' X 30'. This is Harrington 15 on American astronomer and author Phil Harrington's list. NOTE: This is right next to the asterism Earring of the Dragon (see above).

- One in the IAU constellation Cassiopeia is the Queen's Kite, a rough pentagon formed by the star Chi (χ) Cassiopeiae and the stars HIP 7251, 7617, 7963, and 7812. The string is the stars HIP 8115A and HIP 8148. It is called the "Queen's Kite" as it is close to Cassiopeia (who was a queen). This is listed in *Asterisms: Small Star Patterns for Telescopes and Binoculars* by Dutch astronomer Demelza Ramakers in 2011. Size 120'. It has the name "Queen's Kite" as it is part of Cassiopeia.
- One, also known as the Frigate Bird or Pirate Bird, is the open cluster NGC 6866 in the IAU constellation Cygnus. It was discovered by Caroline Herschel in 1783 in the IAU constellation Cygnus and recorded by her brother William in 1790 as "VII 59. It is GC 4544 in the *General Catalogue* of 1864. American astronomer Tom Lorenzin describes this "kite": "8M; 8' diameter; 50-plus 10M and dimmer members; main body is diamond shaped with tail coming out of the E and arcing S; don't let go of that string!"
- One circular style "Chinese Kite" from *Pattern Asterisms* by American astronomer John A. Chiravalle is found in the constellation Hercules with nine stars including HIP 88030, 87877, 87691, 87694, and 87840 forming the circular "kite" and four stars (HIP 88122, 88239, 88006, and 88089) forming two "strings". Size 90'. Jeffrey Corder lists this as Corder 3408.
- One is Sánta 137, listed in 2008 by Hungarian astronomer Sánta Gábor, which is made up of 9 – 12th magnitude stars in the IAU constellation Capricornus. Gábor describes it as "very nice, kite-shaped asterism".
- One is Leiter 15 from the list of astronomer Frank Leiter, which is a group of 13th magnitude stars in the IAU constellation Scutum. It is about 2.5 arcminutes l ong. Leiter writes that it "appears in an 8" as a suspicious glow at 90X magnification. Magnification of 130X or higher reveals the shape". Its size is 3' X 1'.
- One is Sánta 140, in the IAU constellation Gemini, listed in 2007 by Hungarian astronomer Sánta Gábor, which is described by Gábor as a "kite-shaped asterism of 8 – 12 [magnitude] stars, nice".
- One is Kernya 8, listed by Hungarian astronomer Gábor János Kernya, which is in the IAU constellation Cygnus. Kernya describes it as the "FSR 0317 cluster" and as a "loose group, its shape is similar to a paper kite… it should be able to be examined with 8-10 cm binoculars."
- One is Kernya 46, listed by Hungarian astronomer Gábor János Kernya, which is six stars in the IAU constellation Monoceros. Kernya describes it as a "deltoid or kite-shaped arrangement."
- One is Hay-Merting 2, the "Kite" or "Kite Rhombus" in the IAU constellation Sagitta. This was discovered by German astronomer René Merting in 2015 and listed by Robert Zebahl on his *Faint Fuzzies* website. Zebahl describes it as "about 30 arcminutes north of the cluster Roslund 3… four brighter stars of 9th to 10th magnitude form a perfect rhombus and inside three fainter, 11 to 12 [magnitude] bright stars form a curved chain with makes the whole thing look like an octahedron when seen in three dimensions. Another interpretation would be a kite without a string, broken by the pirate's hook (Leiter 4) about 1° south." For Leiter 4 see "Hook" above.
- One is the cluster Berkeley 90 in the IAU constellation Cygnus. Size 5' X 5'. René Merting describes it on the *Faint Fuzzies* website as a "nice kite rhombus".
- One is Dunlop 319 in the IAU constellation Tucana, listed by Scottish astronomer James Dunlop in his catalogue of 1828. A group of four 11th – 12th magnitude stars form the "kite" and a string of three 12th – 13th magnitude stars the "tail".

- One is Streicher 7 in the IAU constellation Carina. It was discovered by South African astronomer Magda Streicher, who describes it as being 1.5° south of NGC 2516 and that "the asterism stars display a long axis pointing south-east, where the brightest star in this grouping is located- it has magnitude 7.7 and is a beautiful yellow color." Size 6'.
- One is Ennis 8 in the IAU constellation Cetus, listed by Canadian astronomer Charles Ennis. The "kite" is made up of the stars 60 and 61 Ceti and HIP 9827 and 9911. The "tail" is the stars 63 and 66 Ceti and HIP 10382.
- One is Ennis 15 in the IAU constellation Canis Major listed by Canadian astronomer Charles Ennis. The "kite" is made up of the stars HIP 30711, 30461, 30436, 30390, and 30288. The "tail" runs from HIP 30288 through HIP 30263, and 30203, to HIP 30066.
- One is in the IAU constellation Pisces and is Ennis 24 on the observing list of Canadian astronomer Charles Ennis.
    - A parallelogram of four stars forms the "kite": Double star H°IP 1900A, HIP 1648, HIP 1691, and HIP 1873.
    - From HIP 1648 a line of stars forms the "tail": HIP 1587, HIP 1470, HIP 1424, the double star HIP 1365, and HIP 1321. Some of the stars involved in the "tail" of the kite are a cascade listed by American astronomer Jeffrey Corder as Corder 71.
- One, also known as the "Paper Kite", is NGC 4762, which is an edge-on lenticular galaxy in the IAU constellation Virgo. It was discovered by English astronomer William Herschel in 1784 who listed it as "II 75". It is GC 3278 in the *General Catalogue* of 1864. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists this as a "paper kite".
- One is in the IAU constellation Cetus and is Ennis 60 on the observing list of Canadian astronomer Charles Ennis. Size 90' X 20'. The "kite" is five 6^{th} – 7^{th} magnitude stars including HIP 12313, the double star 12399, HD 16622, and HIP 12170. The "tail" runs from this last star to HIP 11907. This is Corder 412 on Jeffrey Corder's list: Corder describes it as "a parallelogram of four stars…with one of the 6^{th} magnitude stars at the SW corner."
- One is made up of stars of the IAU constellation Cygnus and was listed in July 2024 by American astronomer "The Ardent" on *Cloudy Nights*. This is in the North American Nebula, NGC 7000. The "kite" is the stars 57 Cygni, HIP 103519, HIP 103637, and HIP 103371. The "tail" is the stars 57 and 56 Cygni.
- One is the Chi (χ) Cygni Kite made up of stars of the IAU constellation Cygnus and was listed in July 2024 by American astronomer "The Ardent" on *Cloudy Nights*. The "kite" is made up of the stars Chi (χ) Cygni, HIP 97485, 17 Cygni, and HIP 97307. The "tail" runs from 17 Cygni through HIP 97087, HIP 97142, HIP 97242, and HIP 97228 to 15 Cygni.
- One is made up of stars of the IAU constellation Sagittarius: 24 and 25 Sagittarii, HD 171097, HD 171056, and HIP 90953. Spanish astronomer "Takuan" posted this on *Cloudy Nights* in July 2024.

Kite of Kawelo:

This Hawaiian star line "Ka Lupe O Kawelo" involves stars in the IAU constellations Andromeda, Cetus, Cassiopeia, Pegasus, and Piscis Austrinus. It starts with the asterism 'Iwakeli'i (Chief Frigate Bird), which to Western astronomers is the "W" of the constellation Cassiopeia (see W below). The center of the star line is the Kite of Kawelo, which is the Great Square of Pegasus (see Great Square, above). The four stars of the kite are Manokalanipo (Alpha (α) Andromedae (Alpheratz)), Kakuhihewa (Beta (β) Pegasi (Scheat)), Pi'ilani (Gamma (γ) Pegasi (Algenib)), and Keawe (Alpha (α) Pegasi (Markab)). The star

line then connects south to the stars Pi'ikea (Beta (β) Ceti (Diphda)) and Kukanilako (Alpha (α) Piscis Austrini (Fomalhaut)). The northern pointer is found by connecting the stars Manokalanipo (Alpheratz) and Kealohalani-po-keao (Beta (β) Cassiopeiae (Caph)). The southern pointer is found by connecting the stars Keawe (Alpha (α) Pegasi (Markab)) and Kukaniloko (Alpha (α) Piscis Austrini (Fomalhaut)).

Kite Stars:

This Banjar and Bugis asterism is the IAU constellation Crux.

This Temuan asterism "Bintang Layang Petek" is the IAU constellation Crux (Jaafar and Khairuddin 2014).

Kitten:

There are two Arabic stars with this name:

- One is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor as depicted on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283). Dorn (1829) describes it as "the star at the extremity of the tail".
- One is the star Alpha (α) Aurigae (Capella) in the IAU constellation Auriga as depicted on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283).

Kittens:

This Norwegian asterism "Killingene" is in the IAU constellation Auriga. This is a triangle of stars near the star Alpha (α) Aurigae (Capella): Zeta (ζ) Aurigae, Eta (η) Aurigae, and Epsilon (ε) Aurigae. Compare this to the Greek asterism Kids (see above).

Kleeia:

This Greek star is Delta (δ) 3 Tauri in the Hyades cluster in the IAU constellation Taurus. It was later latinized to Cleeia. Kleeia is one of the Hyades sisters.

Klemola's Star:

This variable star is DN Leonis (HIP 52123) in the IAU constellation Leo. It was named for American astronomer Arnold Klemola (1931 – 2019).

Klingon Battlecruiser:

There are four **telescopic** "Klingon battlecruiser" asterisms:

- One is the open cluster NGC 1662 (Collinder 55) in the IAU constellation Orion, which resembles the running lights of a D 7 class Klingon battlecruiser. This was discovered by English astronomer William Herschel in 1784 who listed it as "VII 1" in his catalogue. It is GC 905 on the *General Catalogue* of 1864. American astronomer Russell Sipe (Sky and Telescope February 2005) gave this name to this asterism.
- One is open cluster NGC 7209 in the IAU constellation Lacerta. This is also known as the Drunken Lizard Cluster or Star Lizard Cluster. It was discovered by William Herschel in 1787 who listed it as "VII 53". It is GC 4755 in the *General Catalogue* of 1864. Blake Nancarrow of the RASC Toronto Centre came up with this asterism: Nancarrow sees it as viewed from above. Nancarrow informed us of this in March 2023.

- One is the open cluster NGC 2301 in the IAU constellation Monoceros. It was discovered by William Herschel in 1786 who listed it as "VI 27" in his catalogue. It is GC 1465 in the *General Catalogue* of 1864. In the 19th century it was known as Copeland's Golden Worm, later named the Great Bird Cluster (see above) by Phil Harrington and as the "Sparrow" by South African astronomer Carol Botha. More recently astronomers who are fans of J. K. Rowling's *Harry Potter* series named it Hagrid's Dragon. This is O'Meara 36 in astronomer Stephen James O'Meara's *Hidden Treasures Catalogue* (2007), which lists the names "Hagrid's Dragon", "Romulan War Bird", and "Klingon Battle Cruiser".
- One is Lorenzin 9 on American astronomer Tom Lorenzin's asterism list in the IAU constellation Taurus. René Merting describes it on the Faint Fuzzies website:" Everything sparkles and glitters beautifully – especially the star 119 Tau appears golden yellow, and the star 117 Tau has a beautiful, warm amber hue. I see the Blade Cruiser a little more expansive than Tom described it back then; the southern wing runs south of the star 116 Tau and is thus right in the center of Cr 65... The outline of the body of the cruiser starts at 120 Tauri and runs through 119 Tauri, HIP 25702, 115 Tauri, 111 Tauri, 110 Tauri, 116 Tauri, and HIP 25790.

Knee:

There are two Arabic "knee" asterisms:

- One, "ar-Rukbah" (الركبة), is Delta (δ) Cassiopeiae in the IAU constellation Cassiopeia:
  - This was later latinized to "Rukbah", "Ruchbah", "Rucba", "Rucbar", or "Ruchbar".
  - This also had the longer name "Al Rukbah al Dajājah" ("one who kneels on both knees"), which was later latinized to "Elgeziale rulxbachei", "Alcheti hale rechabatih", "Elzegeziale", "Elhathi", "Alchete", "Alcheti", and "Algethi". Johann Bayer's *Uranometria* (1603) incorrectly lists "Algiethi", "Algethi", and "Elgeziale rulxbachi" as names for Hercules.
  - In the 1515 edition of the *Almagest* and the 1521 edition of the *Alfonsine Tables* it appeared as "Algiethi incurvati super genu ipsius" ("Algiethi knelt on his knees").
  - This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Ruchbah": The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822.
  - American uranographer Elijah Burritt's *The Constellations for each Month in the Year* (1835) lists this star as "Ruchbah".
  - The IAU approved the name Ruchbah for the star Delta (δ) Cassiopeiae Aa.
- One is the star "Ruchba" or "Rucba" is Omega (ω) 1 Cygni in the IAU constellation Cygnus:
  - The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists "rukbat al-dajāja"
  - English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Rukbat al dajálah, the hen's knee"

Knee of the Archer:

This Arabic star "Rukbat ur-Rāmī" (ركبة الرامي) is Alpha (α) Sagittarii in the IAU constellation Sagittarius as listed by the Persian astronomer Ulugh Beg Mirza (1394 – 1449).

- This was later latinized to "Rukbat", "Rucba", "Rucbah", "Rukbah", "Rucbar"
- The star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985) lists the Arabic name "Rukbat al-rāmī al-yusrā" and the Hebrew name "berekh ha-qeshet ha-semoli".

- Dorn (1829) lists this as “the Archer’s Tendon” and describes it as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya’ al-Qazwini (1203 – 1283).
- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists “Rukbat al-rāmī al-yusrā” (“the left knee of the archer”).
- This is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852 as “ruchbah er ramih”: The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822.
- The *Standard Dictionary of Facts* (1908 – 1924) lists “Ruchbar ur Ranich”.
- The IAU approved the name Rukbat for Alpha (α) Sagittarii.

Kneeler:

This Greek asterism “Engonasin” (’Ενγόνασιν) is the IAU constellation Hercules as it appeared in the 2nd century in Ptolemy’s *Almagest,* and it incorporated stars of the IAU constellations Boötes and Hercules. Variations include “Engonasi” and “Engonasis”. Eudoxus (408 – 355 B.C.E.) called it “Ἐνγούνασι” (“En'goúnasi”), Hipparchus (190 – 120 B.C.E.) called it “Ἐνγόνασι” (“En'gónasi”) and Aratus (315 – 240 B.C.E) called it “Ὀκλάζων” (“Oklázon”, “the kneeling one”). Eratosthenes (d.194 B.C.E.) referred to this asterism as “οὐτός, φασὶν, Ἡρακλής ἐστίν” (“standing upon the Dragon”), this dragon being the constellation Draco next to the constellation Hercules. The11th century *De signis caeli* (Santoni 2017) lists it as “qui stans genu flexu” (“who stood with his knee bent”). 1st century Roman architect Vitruvius called it “Ingeniculatus” (“ingenuated”), 4th century Roman astrologer Julius Firmicus Maternus called it “Ingeniculus” (“ingenious”) and 1st century Roman poet Marcus Manilius called it “Ingenicla Imago” (“ingenious image”) and “Ignota Facies” (“you will face the unknown”). The *Aratus Latinus* lists “Ingeniculo… quod in genu laborat” (“Ingenius… that’s working on his knee”).

This constellation was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his Book of the Fixed Stars in 964 (Hafez 2010) as “al-Jāthī” and “’ala Rukbateh”.

De Astronomica (“the astronomy”), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This lists the name “Engonasin” as well as “Hercules” and depicts a nude beaded male running to the left with a lion skin draped over his left forearm and a club raised in his right hand. He is running towards a tree around which is wound a serpent.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as the “Kneeler”.

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists this constellation as “Engonasis qui et Hercules” in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) lists this constellation as “Engonasin” with the subtitle “Hercules”. He is depicted as a very long-haired, bearded male kneeling on his left knee with a serpent wound around his extended left arm.

Danish astronomer Tycho Brahe’s *Astronomiae Instauratae Progymnasmata* (1602) lists the name “Engonasi” for Hercules.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Engonasi” and Ingeniculus” as names for Hercules.

Johann Bayer’s *Uranometria* (1603) lists these names for this asterism: “Engonasi, Ingeniculus, Prociduus in genua, Incuruatus in genu, Genu flexus”.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Engonasi” as an alternate name for Hercules.

“Engonasi”, “Ingeniculus”, “Geniculatus”, “Geniculatur”, “Genibus Inixus” (“resting on his knees”), “prociduus vel incurvatus ingenua” (“prostrate or stooped”), “Rectius in Genu” (“right in the knee”) and “Flexus Gunu” (“bending the knee”) are all listed as an alternate names for Hercules in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

Giovanni Paolo Gallucci’s *Theatrum Mundi, et Temporis* (1614) labels this constellation “Hercules” and “Enconaso” and depicts a nude bearded male kneeling on his right knee with his back to us. He had an animal skin draped over his left arm and is holding aloft a club in his right hand.

French astronomer Ismaël Boulliau (Ismaël Bullialdus, 1605 – 1694) translated it as “Ο εn Γonacín” (“O en Gonacín”), which led to the variations “Genuflexus”,”Genunixus”, “Geniculatus”, (all of which mean “kneeling”) and “Ingeniclus” (“Ingenous”). Other names include “Incurvatus in Genu” (“bent over on one knee”), “Procidens” (“falling down”), “Prociduus” (“prociduous” or “falling from its proper place”), “Procumbens in genua” (“bend down on your knees”), “Incumbens in genibus” (“leaning on your knees”), and a 1551 translation of Ptolemy’s *Tetrabiblos* has “Qui in genibus est” (“who is on your knees”).

Edward Sherburne lists “Engonast” is the IAU constellation Hercules in his *Sphere of Marcus Manilius* in 1675 but translates it as “he is dying”.

Dutch cartographer Frederik de Wit’s *Planisphaerium Coeleste* (1670) labels this constellation “Engonasi” with the subtitle “Hercules” and depicts it as a nude male viewed from the rear, kneeling on his right knee, holding aloft a club in his right hand and a branch in his left hand.

German astronomer Johann Bayer (1572-1625) inaccurately quoted the 8th century B.C.E. poet Homer as listing “Γνύξ ἐριπών” (“Gnýx eripón” or “on bended knee”) and “Ἴδωλον ἄπευθος” (“Éidolon ápefthos”) as well as “Imago laboranti similis” as “the unknown image”.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) depicts “Engonasin” as a male dressed in a tunic and sandals, walking to our right, with a crook in his right hand and a lion’s skin draped over his left arm.

“Engonasin” is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661.

Robert Hues lists its Arabic name as “Alcheti hale resembleth” and translates this as “one falling upon knees” in his *A Learned Treatise of Globes* in 1659.

In his *Star Names* in 1899, R. H. Allen lists “Cernuator” as “wrestler” but this is probably derived from the rare verb “cernuo” (“to throw or fall head foremost”).

It wasn't until a Venetian edition of the fables of Hyginus was published in 1485 that the mythological figure of Hercules was associated with this IAU constellation. Ptolemy's constellation incorporated the "keystone" that most modern amateur astronomers are familiar with, but it was a much larger constellation than the one shown on modern star maps.

- The "keystone" of Hercules is the lower half of the "body",
- The upper half of the "body" is a pentagon of the stars Zeta (ζ) Herculis, Beta (β) Herculis (Kornephoros), HIP 82764, Delta (δ) Herculis, and Epsilon (ε) Herculis,
- From the "neck" at HIP 82764 a line goes out to the "head" at Alpha (α) 1 Herculis (Rasalgethi),
- From one "shoulder" at Beta (β) Herculis an "arm" runs out through an "elbow" at Gamma (γ) Herculis to a "hand" of the stars 8 and Kappa (κ) Herculis,
- From the other "shoulder" at Delta (δ) Herculis an "arm" runs out through Lambda (λ) and Mu (μ) Herculis to a "hand" of the stars Xi (ξ), Nu (ν) and Omicron (ο) Herculis,
- From one "hip" at 67 Herculis a "leg" runs out to a "knee" at Theta (θ) Herculis to a "shin" at Iota (ι) Herculis and a "foot" of the stars 77, 82 and 88 Herculis,
- From the other "hip" at Eta (η) Herculis a "leg" runs out through Sigma (σ) Herculis to a "knee" at Tau (τ) Herculis and then through the stars Phi (φ), and Chi (χ), to a foot at Psi (ψ) 2 Herculis, and
- From this "foot" at Psi (ψ) 2 Herculis, a "staff" runs through the star Mu (μ) Boötis to the stars Psi (ψ), 46 and 45 Boötis.

This "Persian" asterism "Bersanu Nicbeste" or "Ber zanū nisheste" is the IAU constellation Hercules. German astronomer Johann Bayer (1572-1625) listed the latter name, as did R. H. Allen in *Star Names* in 1899. John Hill listed the former in his *Urania* in 1754 as did Edward Sherburne "Bersanu Nisheste" in his *Sphere of Marcus Manilius* in 1675.

This Egyptian asterism "Gonasin" is one of the paranatellonta of the decans of Pisces as listed in *the Sphaera Barbarica* described by Teucros (Mosenkis, date n/k) and is the IAU constellation Hercules.

Kneeler's Left Shoulder:

This Arabic star "Menkib al Jathi al Aisr" is Delta (δ) Herculis in the IAU constellation Hercules as listed in the Calendarium of Al Achsasi al Mouakket in 1650.

Kneeling Man:

This Arabic asterism "Alrajul Alraakie" (الرجل الراكع) is the IAU constellation Hercules. This is a reference to the original Greek name for this asterism, "Ἐγγόνασιν" (see Kneeler, above).

Kneeling Terrace:

This Peruvian asterism is the IAU constellation Aries.

Knife:

This asterism is the "sickle" at the front of the IAU constellation Leo (see Sickle of Leo, below). R. H. Allen writes in his *Star Names* in 1899 that it dates to the "earliest records".

This proposed Egyptian (Upper Egypt) asterism "mdnỉt" or "Mendenit" from the Old Kingdom (3100 B.C.E.) is related to their nome (district) of that name and is made up of stars of the IAU constellation Delphinus (Berio 2014).

This **telescopic** asterism is Ennis 9 in the IAU constellation Sagittarius, listed by Canadian astronomer Charles Ennis. It is the cluster Simonic 41. The "handle" is the stars HIP 99448 and 99426. The "blade" is the curve of stars starting at HIP 99465 and running through HD 191253, HD 191188, and HIP 99364 to 99305.

Knife Edge:

This **telescopic** asterism NGC 5907 is a spiral galaxy in the IAU constellation Draco. It was discovered in 1788 by English astronomer William Herschel who listed it as "II 759". John Herschel listed it as h 1917 and it became GC 4087 in his *General Catalogue* of 1864. It is viewed edge-on with a spiraling tidal stream of stars. NOTE: Lord Rosse thought he was looking at two objects separated by the dust lane, and created the name NGC 5907, but this was later discovered not to be a separate object. It is GC 4086 in the *General Catalogue* of 1864. NGC 5906 now refers to the fainter part of the galaxy west of the dust lane, which was recorded by George Johnstone Stoney in 1850. It is also known as the Cat Scratch Galaxy (see above), the Enveloped of Draco (see above), and the Splinter Galaxy (see below).

Knife Edge of Indus:

This **telescopic** asterism "Cultráta Índi" is the edge-on spiral galaxy NGC 7123 in the IAU constellation Indus. This was discovered in 1835 by John Herschel who listed it as h 3886 and later as GC 4696 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the dust band, thin and sharp as a knife".

Knife of Draco:

This **telescopic** asterism "Cúlter Dracónis" is the edge-on spiral galaxy NGC 3735 in the IAU constellation Draco. It was discovered in 1801 by William Herschel who listed it as "I 287". It became GC 2452 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Knight with a Drawn Sword:

This German asterism "Eques cum districto gladio" was made up of stars of the IAU constellation Hercules by German astronomer Erhard Weigel (1625 – 99) who produced his *Astrocopium Orbi Europaeo Sacrum* chart in 1661, 1681 and 1688 in which he tried to replace existing constellations a new system based upon the heraldry of the nation states and principalities of seventeenth century Europe, as well as of its principal hierarchies and social classes. This is labeled "Polonia" on Weigel's chart and represents the coat of arms of Poland.

Knights:

This Arabic asterism is a bending line of stars in the IAU constellation Cygnus: Zeta (ζ) Cygni, Epsilon (ε) Cygni, Gamma (γ) Cygni, Delta (δ) Cygni, and Kappa (κ) Cygni. The star Alpha (α) Cygni (Deneb) is the "Rear Knight". Dorn (1829) lists this as "horsemen" and describes this as appearing depicted on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283):

- The star list of Abraham Bar Hiyya in 1104 (Goldstein 1985) lists the Arabic name "Rukbat al-dajāja" and the Hebrew name "arkovet ha-tarnegolet" for Gamma (γ) Cygni.

- An anonymous Hebrew star list from 1392 (Goldstein 1985) lists the Arabic name "Rukbat al-dajāja" and Hebrew name "arkovet tarnegolet" for Alpha (α) Cygni (Deneb).

Knight's Badge:

This **telescopic** asterism is the open cluster NGC 1513 in the IAU constellation Perseus. This was discovered by English astronomer William Herschel in 1790 who listed it in his catalogue as "VII 60". It is GC 809 in the *General Catalogue* of 1864. English Admiral Henry William Smyth described it as "formed like a badge of knighthood" in his *Bedford Catalogue* in 1844. It is also known as "D".

Knitting Needle:

This **telescopic** asterism is NGC 3432 (Arp 206), an edge-on spiral galaxy in the IAU constellation Leo Minor. This was discovered by English astronomer William Herschel in 1787 who listed it as "I 172" in his catalogue. It is GC 2238 in the *General Catalogue* of 1864. It is also known as the "Pretty One of Leo" (see below).

Knock at the Door:

"iNquonqoli" is a Zulu star rises before the Morning Star (Venus) and is currently unidentified (Alcock 2014).

Knot:

This Greek star "Δεσμός" ("Desmós"), meaning "knot" or "bond" is Alpha (α) Piscium (Alrescha) in the IAU constellation Pisces as listed by Aratus (315 – 240 B.C.E) and Geminus. This was latinized by the Roman general Germanicus (15 B.C.E. – 19 C.E.) to "Sundesmos" and "Desmos".

This Latin star "Nodus" or "Nodus Coelestis" ("knot of heaven") is Alpha (α) Piscium (Alrescha) in the IAU constellation Pisces as listed by Roman statesman Marcus Tullius Cicero (106 – 43 B.C.E.). The 1515 edition of the *Almagest* listed "Nodus Duorum Filorum" ("a knot with two threads"). "Nodus" is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661. Edward Sherburne lists "Nodus" and "Commissura Piscium" ('fish junction") in his *Sphere of Marcus Manilius* in 1675.

There are three Arabic asterisms with the name "al-ʿUqdah" (العقدة):

- One is the stars Iota (ι) Hydrae (Ukdah), Tau (τ) 1 Hydrae (Ukdah I), Tau (τ) 2 Hydrae (Ukdah II), and 33 Hydrae (Ukdah III):
    - R. H. Allen writes in his *Star Names* in 1899 that 13th century Persian astronomer Zakariyya' al-Qazwini (1203 – 1283) used this name for just the star Tau (τ) 1 Hydrae.
    - English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 mentions both versions.
- One is the star Alpha (α) Piscium (Alrescha) in the IAU constellation Pisces:
    - This was later latinized to "Okda".
    - English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists this as "Okda, from the 'Okdah al Khaïtaïn, or 'knot of the two threads".
    - The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list this star as "Okda".

- One, latinized to “Ukdah”, is the star Iota (ι) Hydrae. The IAU approved the name Ukdah for the star Iota (ι) Hydrae.

This Arabic star “ʿUḳd al Ḥaiṭain” is Alpha (α) Piscium in the IAU constellation Pisces:

- English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists this star as “Kaitain”.
- R. H. Allen lists “Kaitain” as a variation of this in his *Star Names* in 1899.
- The 1st edition of British schoolmaster Arthur P. Norton’s *A Star Atlas and Telescopic Handbook* (1910) lists “Kaitain” and “Okda” for this star, but his 14th edition (1959) only lists “Kaitain” for this star.
- Robert Burnham lists “Ukd al Haitain” in his *Burnham’s Celestial Handbook* in 1978 and translates this as “flaxen cord”.

This Latin name “Nodus” is two stars in the IAU constellation Draco:

- Zeta (ζ) Draconis: Nodus I
- Delta (δ) Draconis: Nodus II or Nodus Secundus. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Nodus Secundus” for this star.

Knots:

This Arabic asterism is a quadrilateral of stars in the IAU constellation Delphinus: Alpha (α) Delphini (Sualocin), Beta (β) Delphini (Rotanev), Delta (δ) Delphini, and Gamma (γ) Delphini. Dorn (1829) lists this as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya’ al-Qazwini (1203 – 1283). Compare this to their asterism Young Camel (see below).

Knotty One of Leo:

This **telescopic** asterism “Nodósus Leónis” is the barred spiral galaxy NGC 3367 in the IAU constellation Leo. It was discovered in 1784 by William Herschel who listed it as “II 78”. It became GC 2193 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Ko Bird:

Mayan Ritual of the Bacabs speaks of “Ix Ko-ti-tzab” (“ko bird in the rattles constellation”). This asterism, the Rattlesnake Rattle (see below) is the Pleiades cluster in the IAU constellation Taurus which would mean this is a star in the Pleaides cluster.

Kochab:

See Star, below.

Koeia:

See Star, below.

Kogamasigo:

This Tswana star which is in the sky all night is currently unidentified (Alcock 2014).

//kohai stars:

This /Xam asterism, also known as the //Xwhai stars, is the three stars Alpha (α) Aquilae (Altair), Beta (β) Aquilae (Alshain) and Gamma (γ) Aquilae (Tarazed) in the IAU constellation Aquila. Altair is their "Great Star" "//Xwhai", or "!Gaunu" (see Great Star, above), which is Altair (Alcock 2014). The other two stars are !Gaunu's sisters !Guonni (see above) and ≠ku-kyam (see Cape Daisy, above), although it is uncertain which star represents each sister.

Kohamasiu:

This Lovedu star "Kohamasiu" is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus.

Kohi:

This Māori asterism "Kohi" or "Te Kohi" may be made up of stars of the IAU constellation Carina (Robertson et al 2016).

Koi Fish:

This **telescopic** asterism is NGC 4559 (Caldwell 36), an intermediate spiral galaxy with a weak inner ring structure in the IAU constellation Coma Berenices. This was discovered by English astronomer William Herschel in 1785 who listed it as "I 92". It is GC 3101 in the *General Catalogue* of 1864. This is also known as the Club (see above).

Koiki:

This star is SSSC 803504 in the IAU constellation Crux (magnitude 5.97). It was named after indigenous Australian land rights campaigner Eddi Koiki Mabo on 3 June 2015, the 23rd anniversary of the Mabo decision, which overturned the notion of terra nullius in Australia. It is also part of the Meriam Mir and Kala Lagaw Ya asterism "Tagai" (see below).

Koirught:

This "Turkish" asterism is the IAU constellation Scorpius as listed in John Hill's *Urania* in 1754.

Kokirikiri:

This Māori asterism is the Large Magellanic Cloud (Orchiston 2017).

Kokopelli:

Kokopelli is a Hopi fertility/trickster deity usually depicted as a humpbacked flute player. There are two in the sky:

- One listed on the Gourmet Garlic Gardens website by Bob Anderson on 12 July 2024 describes it as made up of the stars of the IAU constellations "Ursa Major, Ursa Minor and Boötes" but is not specific as to which stars.
- One listed by Gwen Wells-Wittwer on 7 November 2024 is the IAU constellation Orion. NOTE: Gwen's husband is part Cherokee.

Kokotea:

This Māori asterism "Kokotea" is one of the Magellanic Clouds (Orchiston 2017).

Kokouri:

This Māori asterism “Kokouri” is one of the Magellanic Clouds (Orchiston 2017).

K’olli:

This Quechua asterism from Sonqo is unidentified dark nebulosity (Urton 1981).

Kollü Pal:

This Mapuche star “Kollü Pal” is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius (Menares 2008).

Komomari:

The stars of this Kaurna asterism have not yet been identified (Hamacher 2015).

Komondor:

This telescopic Hungarian star “Komondor” is the K type star HAT-P-12 in the IAU constellation Canes Venatici (magnitude 12.84). It received this name in the IAU’s NameExoWorlds competition in 2022. The Komondor is a breed of herding dog. It has an exoplanet, HAT-P-12 b, “Puli”. The Puli is another breed of herding dog.

Kon:

This Myanmar yathi (zodiac constellation) “Kon” (ကုံ) is the IAU constellation Aquarius.

Kookaburra:

This Wiradjuri asterism “Kukuburra” or “Gugubarra” is the IAU constellation Corona Australis (Howitt 1905, Grant and Rudder 2010, Kemp et al 2022). The Kookaburra is a terrestrial tree kingfisher.

Koraiapom:

This Netwar and Nahwal star is Beta (β) Orionis (Rigel) in the IAU constellation Orion (Ramik 2019).

Kornephoros:

See Cudgel Bearer, above.

Kosjenka:

This **telescopic** Croatian star is the G8 type star WASP-63 in the IAU constellation Columba (magnitude 10.9). It received this name in the IAU’s NameExoWorlds competition in 2022. Kosjenka is the protagonist of a Croatian fairy-tale, Regoč. It has an exoplanet, WASP-63b, “Regoč”, which is named for another protagonist in that tale.

Kosthagara:

This ancient Vedic asterism is made up of 4 stars of the IAU constellation Leo, but it is no longer known precisely which stars these are (Leitz 2019).

Kotógoik:

This Toba star “Kotógoik” is unidentified at present (Gómez 2011).

Kowal’s Object:

See Sagittarius Dwarf Irregular Galaxy.

Kozlÿtje:

This Chakavian asterism is the IAU constellation Auriga.

Krampâč:

This Kaykavian asterism is the IAU constellation Corvus.

Kratu:

This Vedic star “Kratu” (“rishi” or “sage”) is Alpha (α) Ursae Majoris in the IAU constellation Ursa Major (Allen 1899, Bhagwath 2019). R. H. Allen also lists the name “Jamadagni” in his *Star Names* in 1899. This is one of the sons of Brahma, who appears as Vashishtha (the star Zeta (ζ) Ursae Majoris). The other sons of Brahma are the other stars in the Big Dipper asterism (see Seven Sages, below).

Kraz:

This Czech star is Beta (β) Corvi in the IAU constellation Corvus and was listed in Czech astronomer Antonín Bečvář’s *Atlas Coeli* in 1951. The IAU approved the name Kraz for Beta (β) Corvi.

Kriya:

This Hindu asterism is the IAU constellation Aries as listed in R. H. Allen’s *Star Names* in 1899.

Kronberger’s Triangle:

This **telescopic** asterism is a pair of galaxies in the IAU constellation Virgo: PGC 53047/53046 (MCG+01-38-006). The pair was named for the late Deep Sky Hunter Group member Matthias Kronberger by German astronomer Uwe Glahn. Uwe posted it on the *Deep Sky Forum* in May 2012.

Krzeminski's Star:

This **telescopic** blue supergiant star, is part of the pulsar Centaurus X-3 in the IAU constellation Centaurus. It was discovered by the Polish astronomer Wojciech Krzemiński in 1974.

Ksora:

This Arabic star “Ksora” is Delta (δ) Cassiopeiae in the IAU constellation Cassiopeia.

Ku of the Misty Heavens:

This Hawaiian asterism Kukalani’ehu is the IAU constellation Aries. Ku is a Hawaiian God of war.

Ku That Resounds Within:

This Hawaiian star Kukaniloko is Alpha (α) Piscis Austrini (Fomalhaut) in the IAU constellation Piscis Austrinus. Kukaniloko was a famous Hawaiian Queen of O’ahu.

Kua:

This “Euphratian” star “Kakkab Kua” is Delta (δ) Leonis in the IAU constellation Leo as listed by R. H. Allen in his *Star Names* in 1899. “Kua” is listed as a Babylonian star in Bartel van der Waerden’s *Birth of Astronomy* in 1974, though the particular star is not identified. Kua was an oracle God.

Kugha:

This Turkish asterism is the IAU constellation Gemini as listed in John Hill’s *Urania* in 1754.

Kulira:

This Hindu asterism is the IAU constellation Cancer.

Kuma:

The star “Kuma” is Nu (ν) 2 Draconis in the IAU constellation Draco.

Kumete:

This Kiribati asterism is an unidentified quadrilateral of stars in the IAU constellation Delphinus (Trussel and Groves 1978).

Kummim Bieetch:

This Mara and Mopoor asterism is the stars Lambda (λ) Scorpii and Upsilon (υ) Scorpii in the IAU constellation Scorpius (Dawson 1881, Hamacher 2011).

Kumu Palm:

This Carib asterism “Kumukumuyuman” or “Kumukumu” represents the Kumu Palm (Oenocarpus batava). This is known to rise when its fruits begin to ripen but its present location is unknown (Magaña, and Jara, 1982).

Kunar:

This Mabuiag asterism is the Magellanic Clouds.

Kunei n Auti:

This Kiribati asterism is three small stars in the IAU constellation Taurus (Trussel and Groves 1978).

Kunkun Tuuromballank:

This Marra and Moporr asterism is the Coal Sack Nebula (see Coal Sack above). It is also part of their asterism “Torong” (see Emu in the Sky, above).

Kunnawarra:

This Kulin Nations star “Kunnawarra” is Lambda (λ) Aquilae in the IAU constellation Aquila as listed by Massola (1968).

Kurhah:

See Mark on the Horse Hide, below.

Kurtz's Light Variable Star:

This **telescopic** variable star is HIP 98757 (HD 188136) in the IAU constellation Octans (magnitude 7.97). I believe that this was named for the astronomer Donald Wayne Kurtz.

Kuruman:

This Carib star is believed to cause the waves and tides. Its present location is unknown (Magaña, and Jara, 1982).

Kurumul:

This Dharawal star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (King 1790).

Kusuvwi the Older Brother:

This Palikur asterism Kusuvwi Eggutye" is a small group of stars near the Pleiades cluster in the IAU constellation Taurus (Green and Green 2011). He is being followed by Kusuvwi Isamwitye (see Kusuvwi the Younger Brother, below).

Kusuvwi the Younger Brother:

This Palikur asterism "Kusuvwi Isamwitye" is the Pleiades cluster in the IAU constellation Taurus (Green and Green 2011). He is following his older brother Kusuvwi Eggutye (see Kusuvwi the Older Brother, above). The belt and sword of Orion represent the one-legged man Mahuwkaye, who is helping Kusuvwi Isamwitye. The other stars of Orion are parts of Kusuvwi Isamwitye's boat, his children, and the Transporting Star (see below).

Kutner's Cloud:

This **telescopic** asterism is dark nebula is Barnard 18 in the IAU constellation Taurus. I believe that this was named for American astronomer Marc L. Kutner.

Kuurn Kuuronn:

This Marra and Moporr asterism is the Large Magellanic Cloud (Hamacher 2011).

Kuwano's Object:

This name has been used for two stars named for Yoshiyuki Kuwano (1931 – 1998):

- One is the **telescopic** star PU Vulpeculae in the IAU constellation Vulpecula (magnitude 8.7 – 16.6), and
- One is V1407 Aquilae in the IAU constellation Aquila (magnitude 12.2 – 15.6).

Kuwano's Star:

This telescopic star name has been used for two stars named for Yoshiyuki Kuwano (1931 – 1998):

- One is PU Vulpeculae in the IAU constellation Vulpecula (magnitude 8.7 – 16.6),.
- One is V4021 Sagittarii in the IAU constellation Sagittarius.

Kuwi:

This Omani star "Kuwi" or "Kuwɪ¯" is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra.

K'uzhaghalen:

This is an alternate Dena'ina name for their asterism "Yéhda" (see Traveler, below (Cannon 2021)).

Kuzi:

This Turkish asterism is the IAU constellation Aries. John Hill lists it in his *Urania* in 1754 as does R. H. Allen in *Star Names* in 1899.

Kwányip:

Kwányip is a popular forebear in Selk'nam mythology, who took over the duties of the creator Kenós. There are two versions of this Selk'nam star:

- One is the star Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius.
- One is the star Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion.

Scorpius and Orion are in the sky in different seasons.

Kwányip's Wives:

These are the wives of the shaman Kwányip in Selk'nam mythology. There are two different versions of this Selk'nam asterism:

- One is the stars Sigma (σ) and Tau (τ) Scorpii in the IAU constellation Scorpius. They flank the star Antares, which represents Kwányip (see above).
- The other is the stars Gamma (γ) Orionis (Bellatrix) and Delta (δ) Orionis (Mintaka). In this version a sister of Kwányip, represented by the star Epsilon (ε) Orionis (Alnilam) and one of her two sons, the nephews of Kwányip (the Sasán) made the belt of Orion. This son is the star Zeta (ζ) Orionis (Alnitak). The identity of the star of the other Sasán is unknown.

Kwankaio:

This Netwar star is Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor (Ramík 2019).

Kwota Tepas:

This Nahwal star "Kwota Tepas" is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus (Ramík 2019).

Kxoma:

This !Kung star is Alpha (α) Crucis (Acrux) in the IAU constellation Crux (Alcock 2014). Kxoma is one of the sons of their sky God ≠Gao N!a and is part of their asterism Kalidi (see above).

L:

This asterism is in the IAU constellation Lupus and is Corder 2970 on the observing list of American astronomer Jeffrey Corder. Size 140' X 50'. This is four stars including Eta (η) and Theta (θ) Lupi, HIP 78754, 79000, and 78655, and the double stars HIP 78747 and 78970.

There are eighty-six **telescopic** "L" asterisms:

- One is Cseh 12 listed by Hungarian astronomer Viktor Cseh, which is a group of 7 stars between 9^{th} – 10^{th} magnitude in the IAU constellation Puppis. Cseh describes them as a "beautiful group" that forms "a regular upside-down letter 'L'".

- One is “Carl’s L” from the asterism list of Dutch astronomer Carl Vehmeyer, which is in the IAU constellation Scorpius. This consists of stars 10th – 12th magnitude and the top of the “L” is the Tom Thumb cluster (see below).
- One is Lacaille II:11 in the IAU constellation Centaurus, which was recorded in 1755 by Abbé Nicholas Louis de Lacaille. Lacaille described it as “seven or eight small stars compressed in a right line”. There are two lines of stars at right angles to one another: One line includes the 7th magnitude star HIP 54830, the rest of the stars being between 8th and 11th magnitude: If you extend it out to the next 8th magnitude star this could be interpreted as a “T”. The other slightly longer line includes the 8th magnitude star HIP 54790 and other stars between 8th and 11th magnitude.
- One is Corder 181 in the IAU constellation Pisces and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. This consists of HIP 5216, 5231, 5209, and 5103. Size 45’ X 30’.
- One is Corder 564 in the IAU constellation Taurus and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. This includes HIP 17018. Size 15’.
- One is Corder 1859 in the IAU constellation Ursa Major and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 30’ X 15’. This includes HIP 46692, 46748, and 46964A.
- One is Corder 2005 in the IAU constellation Leo and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 10’. This is made up of 4 9th magnitude stars.
- One is Corder 2127 in the IAU constellation Hydra and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 70’ X 25’. This includes HIP 54570, 54468, 54430, 54400, and 54332.
- One is Corder 2504, a backwards “L” in the IAU constellation Centaurus and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 35’ X 20’. This is 5 7th – 8th magnitude stars including HIP 65808, 65738, and 65601.
- One is Corder 2561, a backwards “L” in the IAU constellation Ursa Minor and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 45’ X 20’. The four stars include HIP 67512, 67925, 68029, and 67959A.
- One is Corder 2651 in the IAU constellation Boötes and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 15’. This includes HIP 70591 and 70579 and 22 Boötis.
- One is Corder 2928, a backwards “L” in the IAU constellation Draco and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 6’. This is four 9th magnitude stars, oriented NNW/SSE.
- One is Corder 3033, a backwards “L” in the IAU constellation Scorpius and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 15’. This includes the stars HIP 80146A, 80066, 80010, and 80035.
- One is Corder 3099 in the IAU constellation Scorpius and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 50’ X 25’. This includes the stars HIP 81523, 81803A, 81819, and 81904.
- One is Corder 3276 in the IAU constellation Ara and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 45’. This includes the stars HIP 85147, 85363, 85480, and 85448.

- One is Corder 3595, a backwards “L” in the IAU constellation Lyra and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 45’. This includes the stars HIP 90999, 90908, 90831, and 90886.
- One is Corder 3623 in the IAU constellation Draco and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 20’. This includes the stars HIP 91784, HIP 91735, and 46 Draconis.
- One is Corder 3851, a backwards “L” in the IAU constellation Octans and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 15’. This includes the stars HIP 95335 and 95344.
- One is Corder 4772 in the IAU constellation Grus and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size40’ X 20’. Includes HIP 113034, 112938, 112832, and 112922.
- One is in the IAU constellation Cassiopeia and is Corder 249 on the observing list of American astronomer Jeffrey Corder. Size 45’. This includes HIP 7339, 7318, and 7166.
- One is in the IAU constellation Andromeda and is Corder 289 on the observing list of American astronomer Jeffrey Corder. Size 20’. This includes HIP 8684.
- One is in the IAU constellation Cassiopeia and is Corder 448 on the observing list of American astronomer Jeffrey Corder. Size 35’. This is five stars and includes HIP 13853, the double star HIP 13677A, HIP 13428, and HIP 13621.
- One is in the IAU constellation Perseus and is Corder 449 on the observing list of American astronomer Jeffrey Corder. Size 35’. This includes HIP 13521, 13550, 13592, 13625, and 13640.
- One is in the IAU constellation Cepheus and is Corder 598 on the observing list of American astronomer Jeffrey Corder. Size 10’. This is four 8^{th} to 10^{th} magnitude stars including HIP 18209. Corder describes it as “a tiny V-shaped or L-shaped asterism”. I believe it looks more like an “L”.
- One in the IAU constellation Camelopardalis is Corder 894 on the observing list of American astronomer Jeffrey Corder. Size 10’. This is five stars of 9^{th} – 10^{th} magnitude arranged NW/SE with optical triples at each end.
- One is in the IAU constellation Auriga and is Corder 916 on the observing list of American astronomer Jeffrey Corder. Size 20’. This is ten stars between 8^{th} – 10^{th} magnitude including the double stars HIP 27214 and 27205A, and the star HIP 27120.
- One is in the IAU constellation Camelopardalis and is Corder 1000 on the observing list of American astronomer Jeffrey Corder. Size 10’. This includes a row of three 9^{th} magnitude stars and the double star HIP 28842A.
- One is in the IAU constellation Lynx and is Corder 1095 on the observing list of American astronomer Jeffrey Corder. Size 30’. This includes HIP 30661, 30578, 30605, 5 Lyncis, and two other 8^{th} magnitude stars.
- One is in the IAU constellation Lynx and is Corder 1571 on the observing list of American astronomer Jeffrey Corder. Size 15’. This is four stars between 8^{th} – 10^{th} magnitude including HIP 40867 and 40829.
- One is in the IAU constellation Cancer and is Corder 1650 on the observing list of American astronomer Jeffrey Corder. Size 50’ X 20’. This is four 8^{th} magnitude stars including HIP 42326, 42356, and 42243.

- One is in the IAU constellation Ursa Major and is Corder 1882 on the observing list of American astronomer Jeffrey Corder. Size 35' X 25'. This is four 7th – 9th magnitude stars including HIP 47380.
- One is in the IAU constellation Ursa Major and is Corder 2087 on the observing list of American astronomer Jeffrey Corder. Size 35'. This is six 8th – 9th magnitude stars and one 6th magnitude star including HIP 52984, 53128, and the double star HIP 53257.
- One is in the IAU constellation Cetus and is Corder 51 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is four 9th - 10th magnitude stars including HIP 1160.
- One is in the IAU constellation Cetus and is Corder 225 on the observing list of American astronomer Jeffrey Corder. Size 45'. This is five 6th – 9th magnitude stars including HIP 6606 and the double star HIP 6564A.
- One is in the IAU constellation Sculptor and is Corder 282 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is four 7th – 8th magnitude stars including HIP 8206 and 8187.
- One is in the IAU constellation Dorado and is Corder 989 on the observing list of American astronomer Jeffrey Corder. Size 5'. This is 5 8th – 10th magnitude stars including HIP 28400 and 28465.
- One is in the IAU constellation Columba and is Corder 1140 on the observing list of American astronomer Jeffrey Corder. Size 3'. This is four 9th – 10th magnitude stars.
- One is in the IAU constellation Puppis and is Corder 1408 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is six 6th – 9th magnitude stars including HIP 37616 and 37594.
- One is in the IAU constellation Pyxis and is Corder 1680 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is four 8th – 9th magnitude stars including HIP 42894.
- One is in the IAU constellation Carina and is Corder 1703 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is four 7th – 8th magnitude stars including HIP 43292 and 43298.
- One is in the IAU constellation Chamaeleon and is Corder 2036 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is six 8th – 10th magnitude stars including a pair of optical doubles.
- One is in the IAU constellation Antlia and is Corder 2066 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is seven 6th – 9th magnitude stars including HIP 53550.
- One is in the IAU constellation Centaurus and is Corder 2305 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is four 8th – 9th magnitude stars.
- One is in the IAU constellation Centaurus and is Corder 2329 on the observing list of American astronomer Jeffrey Corder. Size 30' X 20'. This is four 8th magnitude stars including HIP 60113, 60026, and 60003.
- One is in the IAU constellation Virgo and is Corder 2452 on the observing list of American astronomer Jeffrey Corder. Size 110' X 35'. This is five stars including HIP 64122, 64181, 64308, and 50 and 49 Virginis.
- One is in the IAU constellation Hydra and is Corder 2464 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is six 10th – 11th magnitude stars.

- One is in the IAU constellation Virgo and is Corder 2508 on the observing list of American astronomer Jeffrey Corder. Size 40' X 25'. This is five 7th – 9th magnitude stars including HIP 65943 and the double stars HIP 65982A and 66097.
- One is in the IAU constellation Centaurus and is Corder 2528 on the observing list of American astronomer Jeffrey Corder. Size 60' X 35'. This is five 6th – 7th magnitude stars including HIP 66917, 66733, 66722, 66566, and 66427.
- One is in the IAU constellation Boötes and is Corder 2648 on the observing list of American astronomer Jeffrey Corder. Size 85' X 60'. This is five 7th – 8th magnitude stars including HIP 70310, 70401, 70548, 70605, and 70800.
- One is in the IAU constellation Norma and is Corder 2895 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is four 9th magnitude stars including HIP 76549 and the double star HIP 76497A.
- One is in the IAU constellation Serpens and is Corder 2925 on the observing list of American astronomer Jeffrey Corder. Size 60'. This includes 30 Serpentis and the double stars d and Mu (μ) Serpentis and HIP 77542.
- One is in the IAU constellation Libra and is Corder 2952 on the observing list of American astronomer Jeffrey Corder. Size 45'. This is four 4th – 8th magnitude stars including HIP 78059, 78204, and 48 Librae.
- One is in the IAU constellation Serpens and is Corder 2958 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is five 8th – 10th magnitude stars.
- One is in the IAU constellation Triangulum Australe and is Corder 3080 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is nine 8th – 10th magnitude stars.
- One is in the IAU constellation Triangulum Australe and is Corder 3144 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is four 6th – 7th magnitude stars including HIP 82764, 82566, and 82505, and the double star HIP 82654A.
- One is in the IAU constellation Draco and is Corder 3216 on the observing list of American astronomer Jeffrey Corder. Size 45' X 20'. This is four 6th – 7th magnitude stars including HIP 84183, 84130, 84171, and 94342.
- One is in the IAU constellation Ophiuchus and is Corder 3219 on the observing list of American astronomer Jeffrey Corder. Size 5'. This is four 9th – 10th magnitude stars.
- One is in the IAU constellation Ophiuchus and is Corder 3220 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is five 9th – 10th magnitude stars.
- One is in the IAU constellation Ophiuchus and is Corder 3222 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is four 7th – 9th magnitude stars including the double star HIP 84269.
- One is in the IAU constellation Octans and is Corder 3252 on the observing list of American astronomer Jeffrey Corder. Size 30'. This is eight 7th – 11th magnitude stars including HIP 84461.
- One is in the IAU constellation Ophiuchus and is Corder 3304 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is four 8th – 10th magnitude stars including HIP 85920 and 85899.
- One is in the IAU constellation Ara and is Corder 3344 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is five 7th – 8th magnitude stars including HIP 86628, 86674, 86598, and 86589.

- One is in the IAU constellation Apus and is Corder 3355 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is four 8th – 10th magnitude stars including HIP 86783.
- One is in the IAU constellation Draco and is Corder 3378 on the observing list of American astronomer Jeffrey Corder. Size 15' X 10. This is five 7th – 8th magnitude stars including HIP 87572.
- One is in the IAU constellation Scorpius and is Corder 3388 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is five 7th – 8th magnitude stars including HIP 87505.
- One is in the IAU constellation Sagittarius and is Corder 3465 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is four 9th magnitude stars.
- One is in the IAU constellation Sagittarius and is Corder 3725 on the observing list of American astronomer Jeffrey Corder. Size 50' X 20'. This is four 7th – 8th magnitude stars including HIP 93336, 93077, and the double star HIP 93224.
- One is in the IAU constellation Pavo and is Corder 3772 on the observing list of American astronomer Jeffrey Corder. Size 20' X 10'. This is four 8th – 9th magnitude stars including HIP 94060.
- One is in the IAU constellation Aquila and is Corder 3825 on the observing list of American astronomer Jeffrey Corder. Size 60' X 45'. This includes Omega (ω) 1 and 2 Aquilae, 28 Aquilae, and HIP 94999.
- One is in the IAU constellation Sagitta and is Corder 3836 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is four 7th – 8th magnitude stars including HIP 95060, 95078, and the double star HIP 95116A.
- One is in the IAU constellation Pavo and is Corder 3985 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is four 8th magnitude stars including HIP 97975 and 97939.
- One is in the IAU constellation Sagittarius and is Corder 4066 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is four 8th – 9th magnitude stars including the double star HIP 99350A.
- One is in the IAU constellation Cygnus and is Corder 4093 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is seven 3rd – 9th magnitude stars including Omicron (o) Cygni, HIP 99781 and 99785.
- One is in the IAU constellation Cygnus and is Corder 4107 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is six 7th – 9th magnitude stars including the double stars HIP 100058A and 100127A.
- One is in the IAU constellation Pavo and is Corder 4179 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is four 8th magnitude stars including HIP 101322 and 101286.
- One is in the IAU constellation Cygnus and is Corder 4267 on the observing list of American astronomer Jeffrey Corder. Size 30'. This is eight 6th – 10th magnitude stars including HIP 103126, 103163 and the double star HIP 103189.
- One is in the IAU constellation Cygnus and is Corder 4401 on the observing list of American astronomer Jeffrey Corder. Size 30' X 25'. This is five 8th – 9th magnitude stars including HIP 105596 and 105586.
- One is in the IAU constellation Cepheus and is Corder 4527 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is four 9th – 10th magnitude stars including HIP 108047.

- One is in the IAU constellation Pegasus and is Corder 4578 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is four 8th – 9th magnitude stars including the double star 109182.
- One is in the IAU constellation Pegasus and is Corder 4776 on the observing list of American astronomer Jeffrey Corder. Size 35'. This is four 7th – 8th magnitude stars including HIP 113086 and 113173.
- One is in the IAU constellation Grus and is Corder 4843 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is five 8th – 10th magnitude stars.
- One is in the IAU constellation Grus and is Corder 4893 on the observing list of American astronomer Jeffrey Corder. Size 55' X 50'. This is five 5th – 8th magnitude stars including HIP 115537, 115531, 115577, and 115942 and the double star Omicron (o) Gruis.
- One is in the IAU constellation Pegasus and is Corder 4917 on the observing list of American astronomer Jeffrey Corder. Size 70' X 25'. This is five 6th – 7th magnitude stars including HIP 115465, 116383, 116265, 116117, and 116187.
- One is in the IAU constellation Cepheus and is Corder 4929 on the observing list of American astronomer Jeffrey Corder. Size 45' X 10'. This is six 8th – 10th magnitude stars including HIP 116503 and 116308. Corder lists this as an "L" or "J" and elsewhere on his list calls it Corder 4924, "a chain of 6 stars".
- One is in the IAU constellation Aquarius and is Corder 4933 on the observing list of American astronomer Jeffrey Corder. Size 45'. This is six 6th – 9th magnitude stars including HIP 116566, 116537, and 116446 and the double star HIP 116591.
- One is in the IAU constellation Tucana and is Corder 4985 on the observing list of American astronomer Jeffrey Corder. Size 80' X 30'. This is six 7th – 8th magnitude stars including HIP 117716, 117760, 117794, 117688, and 117600.

La Superba:

See Superb, below.

Labor Women:

This Chinese Chenzhuo xing guan is a bent line of four stars in the IAU constellation Aquarius: Epsilon (ε) Aquarii, Mu (μ) Aquarii, 5 Aquarii, and 3 Aquarii.

Labrys:

This American asterism is made up of stars of the IAU constellation Orion. One end of the handle shaft is the "belt of Orion" asterism: Zeta (ζ), Epsilon (ε), and Delta (δ) Orionis. The handle then runs down to the star Alpha (α) Canis Majoris (Sirius), which is the jewel on the labrys' handle. One blade is defined by the stars Alpha (α) Orionis (Betelgeuse), and Gamma (γ) Orionis. The other is defined by Kappa (κ) Orionis and Beta (β) Orionis (Rigel). The Uppsala Archaeoastronomical Project proposed this Minoan asterism. This asterism was passed on to me by Dana Corby of Ariadne's Tribe in Tacoma, Washington in November 2023.

Lacerated of Canes Venatici:

This **telescopic** asterism "Lacerátus Cánum Venaticórum" is the irregular galaxy NGC 4485 (Arp 269) in the IAU constellation Canes Venatici. It was discovered by English astronomer William Herschel in 1788

who listed it as “I 198”. It is GC 3042 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as it “is obviously being eaten by its voracious neighbour, NGC 4490”. It is also known as the “Cocoon” (see above) and the “Rhinoceros and its Infant” (see below). Stephen James O’Meara’s *Hidden Treasures Catalogue* (2007) lists it without a name.

Lacerater of Canes Venatici:

This **telescopic** asterism “Lacerátor Cánum Venaticórum” is the barred spiral galaxy NGC 4490 (Arp 269) in the IAU constellation Canes Venatici. It was discovered by English astronomer William Herschel in 1788 who listed it as “I 198”. It is GC 3042 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as NGC 4485 “is obviously being eaten by its voracious neighbour, NGC 4490”. It is also known as the “Cocoon” (see above) and the “Rhinoceros and its Infant” (see below). Stephen James O’Meara’s *Hidden Treasures Catalogue* (2007) lists it without a name.

Lacerta:

None of the stars of Lacerta are on the list of 90 brightest stars and the stars of this constellation show up in 59 asterisms in this handbook.

This IAU constellation (IAU abbreviation Lac), “Lacerta” (Latin “lizard”), was created by the Johannes Hevelius (1611 – 1687) in 1687. Hevelius named it “Stellio” for the stallion or stellion, a lizard found on the Mediterranean coast. In Hevelius’ *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, “Lacerta” is depicted as a long-tailed lizard: On one chart it is simply labelled “Lacerta” but on another it is labelled “Lacerta sive Stellio” (“Lacerta or Stellio”). To the French it is “Lézard”, to the Italians “Lucertola”, and to the Germans “Eideschse”.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists “Lacerta” in his Celestial Atlas in 1822.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley’s pirated catalogue of Flamsteed’s observations of 1712, depicts Lacerta as a running creature with a very long tail.

Lacerta is listed in English astronomer John Flamsteed’s *Atlas Coelestis* in 1729: It is depicted as a running creature that looks to me more like a dog with a long tail than a lizard.

The *Atlas Coelestis* of German astronomer Johann Gabriel Doppelmayr (1742) labels this constellation “Lacerta Stellio” and depicts it as a lizard running to our right.

German astronomer Johann Elert Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) listed it as “Eidexe” and Bode’s *Vorstellung Der Gestirne* (1782) lists this constellation as “der Eidexe” and depicts it as a long-tailed dog running to our right.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Lacerta in his *Celestial Atlas* and his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822): It is depicted as a lizard with a curly tail.

Lacerta is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852: The author is unknown, but it is based on Jamieson’s *Celestial Atlas*.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts Lacerta as a creature running to our left that looks more like a dog with a long tail.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "Le Lezard Marin" as a running creature that looks more like a dog with a long tail than a lizard, as does the 1778 edition. Closeup charts in the 1776 edition label it "le Lezard".

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts "Lacerta" as a lizard walking to our left.

"Lacerta" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as a lizard.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts "Lacerta" as a lizard.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts "Lacerta" as a lizard.

"Lacerta" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It is depicted as a lizard walking to our right.

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Lacerta, The Lizard" as an official constellation "recognized in the catalogue of the British Association".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Lacerta" in his *Star Atlas* (1893) and describes it as "The Lizard".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Lacerta" and describes it as a "Lizard".

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists it as "Lacerta… the Lizard".

The Facts of File Dictionary of Astronomy, 2nd edition, 1985, by Valerie Illingworth, ed., lists this as "Lacerta (Lizard)".

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) redesigned the in his book *The Stars - A New Way to See Them* (1952). The standard IAU chart shows this constellation as a quadrilateral of the stars Alpha (α), Beta (β), 4, and 5 Lacertae, with a line running from this last star through 6 Lacertae to 1 Lacertae. Rey keeps the aforementioned quadrilateral as the "head", then adds another made up of 5, 2, 11, and 6 Lacertae to form a "body" with a "tail" a line running from 6 Lacertae to a bend at the double star HIP 109754A to 1 Lacertae.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Lacerta in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* as a single bending line of stars running from Beta (β) Lacertae through Alpha (α) Lacertae, 5 Lacertae, 11 Lacertae, and 6 Lacertae, ending at 1 Lacertae.

Lacework Nebula:

This **telescopic** asterism is the planetary nebula NGC 6960 (C 34, LBN 191, PGC 3517;684, Ced 128a) in the IAU constellation Cygnus. It was discovered by English astronomer William Herschel in 1784 who listed it as "V 15". It is GC 4600 in the *General Catalogue* of 1864. This is also known as the West Veil Nebula, Filamentary Nebula, Cirrus Nebula, Witch's Broom Nebula, and Pickering's Triangular Nebula.

Lachesis of Draco:

This **telescopic** asterism "Láchesis Dracónis" is the elliptical galaxy NGC 5982 in the IAU constellation Draco. It was discovered in 1788 by William Herschel and listed as "II 764". It became GC 4128 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it is "the middlemost member… of a beautiful trio, which is reminiscent of the three Fates (Greek Moirai)." Lachesis ("measurer") was one of those three Fates. This is part of the NGC 5982 Cluster which is also known as the Dragon Slayer Group.

Lachishinaxanaxat:

This Mocoví asterism "Lachishinaxanaxat" is the IAU constellation Crux (Lopez 2021).

Laconian Dogs:

This German asterism "Canes Laconicae" is the IAU constellations Ursa Major and Ursa Minor as listed by German poet Philip von Zesen (1619 – 1689). It is probably a corruption of the asterism Cynosura (see Dog's Tail, above). This is a reference to dogs of Sparta. Compare this to Zesen's asterism "Puppy" (below).

Laconian Key:

This Greek asterism is the IAU constellation Cassiopeia and was given this name as it resembled the key used for Laconian locks.

Ladder:

This Ikoots asterism "Eskalera" is the Pointer stars Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus (see Pointers below). They view this as the ladder the Roman centurions used when they crucified Christ.

There are four Quechua asterisms with the name "Chakana", "Chaccana", or "Chakanuay" ("ladder", "bridge", "crossbeam"):

- One found in Misminay, "Chaccana", is the belt of Orion in the IAU constellation Orion (Urton 1980).
- One from Misminay, named "Chakana", represents the five extremities of the body and may be a being described by Cobo as a celestial being related to lightning and thunder:
    - The belt of Orion is the "head and arms",
    - One "leg" is Theta (θ) Orionis, and
    - One "leg" is Eta (η) Orionis.
- One, "Chakana", is the IAU constellation Crux (Urton 1980).
- One from Sonqo, "Chakanuay", is the stars Delta (δ), Epsilon (ε), and Eta (η) Canis Majoris in the IAU constellation Canis Major (Urton 1981).

Ladle:

This Lithuanian asterism “Samtis” is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above).

This Belarussian asterism “Koushyk” is the IAU constellation Ursa Major (Avilin 2009).

This Filipino asterism “Tabo” is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above).

This Kiribati star “Kai Ni Moi” is in the IAU constellation Delphinus (Trussel and Groves 1978) and is described as “slightly apart from four others”, which would make it Epsilon (ε) Delphini.

There are three **telescopic** “ladle” asterisms:

- One, “kleine Kelle” (“small ladle”), is AI J2340 6+0756 in the IAU constellation Pisces. René Merting lists it on the *Faint Fuzzies* website and describes it as “4 stars form a flat star arc moving north-south- on closer inspection three more faint stars can be seen to the north-east of the arc, which… represent the dipper.” Size 15’ X 15’. The star at the end of the “handle” is HIP 116816.
- One is in the IAU constellation Sextans and is Corder 1974 on the observing list of American astronomer Jeffrey Corder. Size 40’ X 20’. This is seven 7^{th} – 9^{th} magnitude stars including 21 Sextantis, HIP 50055, and 50029.
- One is in the IAU constellation Sagittarius and is Corder 3530 on the observing list of American astronomer Jeffrey Corder. Size 20’. This is five 8^{th} – 9^{th} magnitude stars.

Ladon:

This Greek asterism is the IAU constellation Draco and appears in the *Argonauticae* of Apollonius of Rhodes (b. 295 B.C.E.). Ladon is a prominent river in Arcadia and the estuary bounding the Garden of the Hesperides, which Draco guarded. Compare this to Guardian of the Hesperides, below.

Lady Gaga:

This **telescopic** asterism is made up of dust clouds in the IAU constellation Cepheus. Her “head” and “torso” is the dust clouds in front of galaxy PGC 65053 (ESO 528-25). Her raised left arm is the dust clouds stretching up towards galaxy PGC 65150 (UGC 11618). Her “knees and lower legs” are formed by dust clouds LDN 1094 and LDN 1100. Her “cape” is LDN 1089. This is Ennis 95 on the asterism list of Canadian astronomer Charles Ennis, who spotted in in an photo of this part of the sky by Benoit de Mulder on the Astrophotography page on Facebook on 19 August 2025.

Lady in the Chair:

This Arabic asterism “Sayidat Ladayha Kursiun” سيدة لديها كرسي) or the “Dhāt al-Kursīy” listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (also translated as “Lady Has Chair” and “Who Has Chair”) is the IAU constellation Cassiopeia (Hafez 2010):

- Persian astronomer Ulugh Beg Mirza (1394 – 1449) listed “Al Dhāt al Kursiyy”.
- John Chilmead listed it as “Dhath Alcursi” in his *A Learned Treatise of Globes* in 1889, which he derived from Robert Hues’ *A Learned Treatise of Globes* (1659), where Hues listed “Dhath Aleursi”.
- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) as “Dath Elkarti”.

- English Admiral Henry William Smyth lists it as “Dhát-al-Kursa, the Lady of the Throne” in his *Bedford Catalogue* in 1844.

Lady Liberty:

This asterism is NGC 6996 in the IAU constellation Cygnus. This was discovered by French astronomer Guillaume Bigourdan (1851 – 1932). It is GC 4619 in the *General Catalogue* of 1864. German astronomer Robert Zebahl writes that “the German-American Udo Schlegel noted this star island surrounded by dark nebulae regularly since 1990… [and] named it “Lady Liberty” because of its location in [the] North America [nebula]”. It is also known as the “Bird’s Nest” (see above).

Lady of Heaven:

See Hippopotamus, above.

Lady of the Flame:

This Latin asterism “Domina Flammae” is the IAU constellation Cepheus. Compare this to the Arabic asterism On Fire (below).

This Hebrew asterism “Baalath Halab” is the IAU constellation Cepheus. John Hill lists it as “Baalath” in his *Urania* in 1754.

Lady’s Footstool:

This **telescopic** asterism is in the IAU constellation Cassiopeia. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 mentions the “Lady’s footstool” and suggests that it is near Gamma (γ) Cassiopeiae: I believe this to be the open cluster NGC 225, which is also known as the Broken Heart, the Igloo, and the Sailboat.

Lady’s Wain:

This Old Icelandic asterism “kvenna-vagn” (**“**Lady’s Wagon” or “Lady’s Wain”) is the Little Dipper asterism in the IAU constellation Ursa Minor (see Little Dipper below) as listed by Cleasby and Vigfusson in 1874. Compare this to the Norse asterism “Woman’s Wagon” (see below).

Laelaps:

This asterism is the IAU constellation Canis Major. This name is listed in Johann Bayer’s *Uranometria* (1603). The Greeks associated this constellation with Laelaps, a dog which was a gift to Europa from the God Zeus.

Lafitte’s Grand Isle:

This **telescopic** asterism is emission nebula NGC 281 (SH 2-184, LBN 616, Ced 3) in the IAU constellation Cassiopeia. It was discovered in 1883 by American astronomer Edward Emerson Barnard. Size 35’ X 35’. It is number 3 in astronomer Stephen James O’Meara’s *Hidden Treasures Catalogue* (2007). It is also known as the “Pacman Nebula” (see below).

Lagoon Nebula:

This asterism is the emission nebula and HII region Messier 8 (NGC 6523), discovered by Italian astronomer Giovanni Hodierna before 1654 in the IAU constellation Sagittarius. It is listed in John Herschel’s *General Catalogue* of 1864 as GC 4361. It is one of two nebulae visible to the unaided eye in

the northern hemisphere (the other being the Orion Nebula). It is also known as the Hourglass Nebula (see above), the Dragon Nebula (see above), and the Oyster (with Mignonette Dressing). *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) simply describes it as "Sagittarius, Nebula". The 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) lists this as the "Lagoon Nebula". *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this as the "Lagoon Nebula".

Láheci:

This Kaykavian asterism is the Pleiades cluster in the IAU constellation Taurus.

Lalande 21185:

This **telescopic** star is HIP 54035 (HD 95735) in the IAU constellation Ursa Major (magnitude 10.49). It was listed in 1801 by French astronomer Jérôme Lalande in the star catalog *Histoire céleste française*. It is the brightest red dwarf star in the northern hemisphere.

Lamb:

This Arabic asterism "al-hamal" (الحمل) is made up of the stars of the IAU constellations Aries, Perseus, and Triangulum:

- The "head" is the triangle of stars Alpha (α) Arietis (Hamal), Beta (β) Arietis (Sheratan) and Lambda (λ) Arietis with a line running from Sheratan to Gamma (γ) 1 Arietis forming a "horn". NOTE: Hamal and Sheratan are the Arabic manzil Two Signs (see below), also known as Horns of the Lamb (see below), Butting (see above), or Sign (see below).
- The "body" of starts at the "neck" at Hamal and runs around through Delta (δ) Arietis, Zeta (ζ) Arietis, 64 Arietis, HIP 15549, 39 Arietis, and 21 Arietis.
- The "little belly" is the triangle of stars 39, 35, and 41 Arietis (although there are two other versions of this (see Little Belly of the Lamb, below),
- The "back leg" is a line running from HIP 15549 to a "hoof" of the two stars Rho (ρ) Persei and Beta (β) Persei (Algol).
- The "Two Forelegs" are two lines of stars running out from 21 Arietis:
    - One goes to Beta (β) Trianguli, and
    - One goes to Alpha (α) Trianguli.

"Al-Hamal" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 as a name for Aries (Hafez 2010).

NOTE: The Arabic word "hamal" refers to a first-year lamb but is sometimes translated as "ram" or "sheep" by people assuming it was influenced by the Greek constellation Aries, the ram.

This Hebrew asterism "T'leh" or "Taleh" ("lamb" or "lamb of the world") is the IAU constellation Aries and is related to their month Nisan and to Simeon or Gad.

Lambda:

There are seven **telescopic** "Lambda" asterisms:

- One is Corder 338 in the IAU constellation Cassiopeia and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. It includes the star HIP 10141. Size 20'.

- One is Corder 1110 in the IAU constellation Gemini and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Corder describes it as "four 8th and 9th magnitude stars in the shape of a Greek letter Lambda [λ]. The letter has its top to the NW. It includes the double star Otto Struve 141 at the southern end." Size 15'.
- One is in the IAU constellation Antlia and is Corder 2047 on the observing list of American astronomer Jeffrey Corder. Size 40'. This is four 6th – 9th magnitude stars including HIP 51977 and 51924.
- One is in the IAU constellation Hercules and is Corder 3205 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is four 8th – 9th magnitude stars including HIP 83771 and 83705.
- One is in the IAU constellation Hercules and is Corder 3427 on the observing list of American astronomer Jeffrey Corder. Size 30'. This is five 6th – 8th magnitude stars including 97 Herculis, HIP 88261 and 88208.
- One is the open cluster IC 4665 in the IAU constellation Ophiuchus. It was discovered in 1745 by Swiss astronomer Phillipe Loys de Chéseaux. Despite its brightness, it was not catalogued by Charles Messier or William Herschel. American astronomer Edward Emerson Barnard (1857 – 1923) recorded it, which resulted in it becoming IC 4665 in the *Index Catalogue*. This was listed by American astronomer Lew Gramer (1997), who described it as "a tiny 'Grus-like' or Lambda shaped asterism". It is also known as the Summer Beehive, Poseidon's Trident, Mini Grus, "Q", or the Black Swallowtail Butterfly.
- One is the Hyades cluster (Caldwell 41, Collinder 50, Melotte 25, see above) in the IAU constellation Taurus. This is an ancient Greek asterism.

Lambda-Lambda Cluster:

This **telescopic** asterism, also known as the "Lambda (λ) Ori Cluster" and "Orion Cluster", Lambda (λ) Orionis (Meissa), and Phi (ϕ) 1 and 2 Orionis in the IAU constellation Orion, now known as star cluster Collinder 69. It is called this because it contains the star Lambda (λ) Orionis, and the asterism resembles the Greek letter Lambda (λ), which was first noted by 13th century Persian polymath Nasir al-Din al-Tusi and Persian astronomer Ulugh Beg Mirza (1394 – 1449), indicating that this was originally an unaided eye asterism and not telescopic.

Lambs:

This Latin asterism "Agni" is the Haedi asterism (see Kids above).

Lame:

This Shona asterism "Chirema" ("lame" or "abnormal") is the Pleiades cluster in the IAU constellation Taurus.

Lame Hut:

This Hungarian asterism "Sánta búdús" is likely the stars of the IAU constellation Crater. The celestial map of Hungarian uranographer Sandor Nagy (1915) depicts this asterism as a man with a wooden leg pulling a small, covered cart full of belongings. NOTE: Nagy's 1915 chart is beautifully illustrated, but some of the labels are hard to make out and I find it difficult to match the hand drawn stars on his chart with actual star patterns in the sky.

Lamma:

This Seleucid star from the MUL.APIN tablets is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra and is part of their asterism She-Goat (see below). It is named for their Goddess Lamma, the "Lady of Life", who appears in earlier Akkadian culture as Lama, Lamma, or Lamassu. Compare this to the Babylonian asterism Lamssatu, below.

Lamont's Star:

This is a peculiar star near the nucleus of the Andromeda Galaxy (Messier 31) in the IAU constellation Andromeda.

Lamp:

This "Euphratian" asterism is the IAU constellation Libra as listed in R. H. Allen's *Star Names* in 1899. Allen writes that J. N. Strassmaier, an expert in Babylonian culture, translated "an inscription as die Lampe als Nuru, the Solar Lamp".

Lamp Holder:

This telescopic asterism is in the IAU constellation Lacerta. Brazilian astronomer Bruno Alessi lists it on his BDCC 7.6 list. It is made up of the stars HIP 111627, 111567, 111307, 111041, and 111032. Size 36'.

Lamp of the North:

This star is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes (Pinard 2022) as described by Scottish author William Sharp (writing under the pseudonym Fiona MacLeod (1855 – 1905)).

Lamplightus:

This American asterism is the IAU constellation Lyra and was created by Brad and Kathryn Templeton for *The Vault of Heaven* star map for the 2004 Burning Man event held in Black Rock Desert in Nevada (Kuperjanov 2006).

Lamp Stand:

This Inuit asterism "Pituaq" ("stones supporting lamp" or "three-legged pot stand"), also known as "Uqsuutaattiaq" (see Blubber Container, above), is the stars Alpha (α) Cassiopeiae (Shedar), Beta (β) Cassiopeiae (Caph) and Gamma (γ) Cassiopeiae (Navi) in the IAU constellation Cassiopeia (MacDonald 1998).

Lamssatu:

This Babylonian star from the MUL.APIN tablets is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra and is part of their asterism She-Goat (see below). She appears in earlier Akkadian culture as Lama, Lamma, or Lamassu. It is named for their Goddess Lamassu. Compare this to Lamma, above. Lamassu is a protective deity.

Lance of Christ Crucified:

This German asterism "Lance of Christ Crucified" is the IAU constellation Sagitta and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures. It later appears in

John Hill's *Urania* in 1754 under the name "Lance and Nails", and as "the Nails and Lance that Wounded our Saviour" in Edward Sherburne's *Sphere of Marcus Manilius* in 1675.

Lance of the Lance Bearer:

See Spear of the Spear Bearer, below.

Lancer:

This asterism "Lanceator" is the IAU constellation Boötes. This name is listed in Johann Bayer's *Uranometria* (1603). This is probably derived from "Uplifted One of the Lancer" (see below).

Land Crab:

This Kiribati asterism "Manai" or "Nei te M'anai" is made up of the stars of the IAU constellation Cancer (Trussel and Groves 1978). This crab is of the species Cardisoma.

Land of Windows:

This Chumash asterism is the "W" asterism in the IAU constellation Cassiopeia (see W below).

Land Tortoise:

This Bororo asterism "Geriguigui" is the IAU constellation Corvus (Green and Green 2011).

This Palikur asterism "Wayam" is made up of stars of the IAU constellations Vela and Carina (Green and Green 2011). Wayam's "head" is near Omicron (o) and Delta (δ) Velorum, his left foot near Kappa (κ) Velorum, and his right foot near Epsilon (ε) Carinae.

Landing Eagle:

This Arabic asterism is a triangle of stars in the IAU constellation Lyra: Alpha (α) Lyra (Vega- see Falling Eagle, above), Zeta (ζ) 1 Lyrae, and Epsilon (ε) 2 Lyrae. Next to this is the stars Landing Eagle Claws (see below).

Landing Eagle Claws:

This Arabic asterism is stars in the IAU constellation Lyra: Kappa (κ) and Mu (μ) Lyrae.

Landlord:

This Estonian asterism is the IAU constellation Orion (Kuperjanov 2006). It was first recorded by Robert Livländer in 1923.

Lang:

See Long, below.

Languid of Puppis:

This **telescopic** asterism "Hébes Púppis" is the intermediate Magellanic spiral galaxy NGC 2427 in the IAU constellation Puppis. It was discovered in 1835 by John Herschel who listed it as 3091 and later as GC 1555 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as it "does not demonstrate much activity".

Laocoön:

This Greek asterism is the IAU constellation Ophiuchus. In Greek much Laocoön was a Trojan priest. He and his sons were attacked by serpents. This is an alternate name for the IAU constellation Ophiuchus listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch. Bartsch attributes this to Kepler, who Bartsch claims in turn was citing 1st century B.C.E. Roman poet Virgil.

Lap Dog:

This Latin asterism "Catellus" is the IAU constellation Canis Minor.

Lapilalaxachi:

This Mocoví asterism is the Pleiades cluster in the IAU constellation Taurus (Lopez 2021). Lapilalaxachi is a powerful ancestor of the Mocoví who challenges the Mañic (see Rhea, below).

Larawag:

See Clear Sighting, above.

Larder:

This Palawa asterism is the Coal Sack Nebula in the IAU constellation Crux (Gantevoort et al 2016).

Large Candle:

This Tzotzil (of Chamula) star is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor.

Large Cart:

This Estonian asterism "Suur Vanker" is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above).

This Belarussian asterism "Vialiki Voz" is the Big Dipper asterism in the IAU constellation Ursa Major (Avilin 2009). Compare this to "Voz" (see Cart, above), and "Voz Faraonski" (see Pharaoh's Cart, below).

Large Cloud:

This French asterism "le Grande Nuage" is the Large Magellanic Cloud as listed by French astronomer Nicolas Louis de Lacaille (1713 – 1762). The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) lists it as "le Gd Nuage".

Large Clouds:

This German asterism "nubecula major" is the Large Magellanic Cloud as listed by German astronomer Johann Bayer (1572-1625) in his *Uranometria* in 1603:

- "Nubecula major" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
- Gores for a celestial globe Bibliothèque Nationale de France, Department Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts a cloud labelled "Nubecula Maior".
- Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) labels this "Nubecula Major" and depicts it as a cloud.
- The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts "Nubecula Major" as a cloud.

- It is listed as “Nubecula Major” in the third edition of Rev. Thomas William Webb’s *Celestial Objects for Common Telescopes* in 1873.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists this as “Nebula Major” in his *Celestial Atlas* in 1822.
- This asterism is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) with the abbreviated title “Nubec Major”: He indicates the borders of this constellation on the chart but offers no illustration of it.
- “Nubecula Major” appears as a name for the Large Magellanic Cloud in Johan Dreyer’s 1888 *New General Catalogue*.
- William Denning’s *Telescopic Work for Starlight Evenings* (1891) lists “Nubecula Major” as a name “marked…on celestial globes and charts”, but lists it himself as a Magellanic Cloud.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists “Nubecula Major” as an alternate name for the LMC.

Large Cluster:

This Kaykavian asterism “Vélka Kola” is the IAU constellation Ursa Major.

Large Cross:

There are two versions of this Quechua asterism “Hatun Cruz” (Urton 1981):

- One found in Misminay is made up of stars of the IAU constellations Canis Major, Canis Minor, and Orion: Alpha (α) Orionis (Betelgeuse), Beta (β) Orionis (Rigel), Alpha (α) Canis Majoris (Sirius), Alpha (α) Canis Minoris (Procyon). This is also known as the “Northern Cross” in the Quechua community of Misminay. The star Sirius is called “Hatun Collyur” (see Large Star, below).
- One found in Sonqo is made up of stars of the IAU constellations Canis Minor and Gemini: Alpha (α) Canis Minoris (Procyon), Alpha (α) Geminorum (Castor), and Beta (β) Geminorum (Pollux).

Large Cup:

This Latin asterism “Poculum Magnum” is the IAU constellation Crater.

Large Horned Oxen:

This Welsh asterism is the IAU constellation Gemini as listed by Victorian folklorist Marie Trevelyan (1852 – 1922) in her *Folk-lore and Folk-stories of Wales* (1909).

Large Magellanic Cloud:

This dwarf galaxy is located in the IAU constellation Dorado. Persian astronomer ‘Abd al Rahman al Sufi recorded this in 964. Italian merchant explorer Amerigo Vespucci recorded it in 1504. Portuguese explorer Ferdinand Magellan recorded it in 1519, and it now bears his name. It is also known as Nubecula Major. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010) as “Nímbus Magellánicus Dorádus”.

Large Male Animal:

This Venda star "Mhobo" is Alpha (α) Carinae (Canopus) in the IAU constellation Carina. The term Mhobo can be used to refer to a boar, bull, or stallion.

Large Star:

This Quechua star "Hatun Collyur" is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Urton 1981). It is part of their asterism "Hatun Cruz" (see Large Cross, above).

Large Umari Fruit Fence:

This Barasana asterism "Wamu Saniro Haigu" is the line of stars Gamma (γ), Lambda (λ), and Omicron (ο) Tauri in the IAU constellation Taurus. Hugh-Jones (2006) describes this as "a cluster on the other side of the Hyades near [Pi] π of Taurus and also circular in shape".

Larger Cart:

This Latin asterism "Plaustrum Majus" is the Big Dipper asterism in the IAU constellation Ursa Major: 5th century writer Martianus Capella called it "Plaustriluca". The Gallo-Roman historian and Bishop Gregory of Tours (538 – 594) lists the name "Plaustrum" ("cart") for this asterism. NOTE: A plaustrum was originally a two-wheeled cart, a plaustrum maius" or "plaustrum Majus" a four-wheeled cart.

- Edward Sherburne's *Sphere of Marcus Manilius* (1675) lists "Plaustrum Magnus".
- English alchemist and translator Richard Eden (c.1520 – 1576) called it "Plastrum" and "Charles' Wayne".
- German astronomer Petrus Apianus in his *Cosmographicus Liber* ("cosmographic book") in 1524 listed it as "Plaustrum".
- The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) lists the names "Plaustrum" and "Ursa Major" for this constellation.
- German astronomer Jacob Bartsh (1600 - 1633) lists the names "Plaustrum" and "Ursa Major".
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Plaustrum Majus".
- Johann Bayer's *Uranometria* (1603) lists the names "Plaustriluca" and "Plaustrum seu Plostrum Maius" for Ursa Major.
- "Plaustrum Majus" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch. On Bartsch's polar chart this asterism is labelled "Plaustrum".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Plaustrum".
- R. H. Allen lists it as "Plaustrum Magnum" or "Plostrum Magnum" in his *Star Names* in 1899.

Larger Horse:

This Arabic asterism "Al faras al a'dham" is the IAU constellation Pegasus as listed by English Admiral Henry William Smyth's *Bedford Catalogue* in 1844.

Larks:

This Arabic asterism is a line of stars in the IAU constellation Eridanus, Grus, and Phoenix: Chi (χ) Eridani, Delta (δ) Phoenicis, Beta (β) Phoenicis, Epsilon (ε) Phoenicis, HIP 116602, and Iota (ι) Gruis.

Lasso Loop:

This **telescopic** asterism Leiter 11 from the list of American astronomer Frank Leiter is a loop of 9 – 10th magnitude stars in the IAU constellation Gemini. A line of faint stars between this loop and Epsilon (ε) Geminorum is the "rope". Its size is 223' X 21'.

Lasso Thrower of Cetus:

This **telescopic** asterism "Laqueária Céti" is the interacting galaxies NGC 1142 and 1144 (Arp 118) in the IAU constellation Cetus. They were discovered by German astronomer Albert Marth in 1864. They became GC 5289 and GC 5290 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Last of the Mohicans:

This **telescopic** asterism is made up of stars of the IAU constellation Puppis. It is Lorenzin 22 on Tom Lorenzin's list of asterisms. This is a group of stars around HIP 31962.

Last Star:

This Hawaiian star **"**Nanahope", also translated as "looking back", is Beta (β) Geminorum (Pollux) in the IAU constellation Gemini.

Last Tent:

This Arabic star "akhir al-khibāʾ", later latinized to "Achr al Achbiya" is Zeta (ζ) Aquarii in the IAU constellation Aquarius listed in the *Calendarium* of Mohammad Al Achasasi Al Mouakket in 1650.

Last Year's Theme:

This American asterism is made up of stars of the IAU constellation Cygnus and was created by Brad and Kathryn Templeton for *The Vault of Heaven* star map for the 2004 Burning Man event held in Black Rock Desert in Nevada (Kuperjanov 2006). It is basically the Northern Cross asterism repurposed.

Late:

This Belarussian asterism "Poznia" is one of the stars in the belt of Orion asterism in the IAU constellation Orion (Avilin 2009). The other two stars are known as "Zahodnia" (see Western, below) and "Svetovaia" (see World below). I believe this to be Zeta (ζ) Orionis, as this would be the one of those three stars that rises last.

Latent of Ursa Major:

This **telescopic** asterism "Adélus Úrsae Majóris" is the lenticular galaxy NGC 5473 in the IAU constellation Ursa Major. It was discovered in 1789 by William Herschel who listed it as "I 231". It became GC 3782 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). They called it this because of "the obscure semi-visible bar in the central region".

Later:

This Bedouin asterism "al-Ḫilj al-Tuwalī" (الخلج الاولات) is the stars Gamma (γ) Ursae Majoris and Delta (δ) Ursae Majoris in the IAU constellation Ursa Major.

Latham's Planet:

This small red dwarf star or massive brown dwarf star is HD 114762 b in the IAU constellation Coma Berenices. It was unofficially named “Latham's planet” in 1989 after its discoverer astronomer David Latham: It was originally thought to be a massive exoplanet.

Latter:

The Bedouin star “al-Twailī” (التويلي), which means “the latter”, is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus.

Latter Footstool:

This Vedic asterism “Úttarā Prósthapadā is a line of two stars in the IAU constellations Andromeda and Pegasus: Gamma (γ) Pegasi and Alpha (α) Andromedae (Alpheratz) and appears in the *Taittiriya Samhita* (Ivanković 2021). It appears in the *Taittiriya Brahmana* as “Úttare” (Ivanković 2021). It is an older name for their nakshatra Uttara Bhadrapada (see Second of the Blessed Feet, below).

Latter Fruitful:

This Vedic moon station consists of the stars Beta (β) Leonis (Denebola) and 93 Leonis in the IAU constellation Leo.

Latter Invincible One:

This Vedic asterism, also known as “Latter Victory” or “Latter Unconquered” is made up of stars of the IAU constellation Sagittarius:

- The main part is a triangle of stars: Tau (τ), Rho (ρ) 1, and b Sagittarii,
- From b Sagittarii a short line runs out to c Sagittarii,
- From Tau (τ) Sagittarii a line runs out to Omicron (ο) Sagittarii, where it splits into another two lines:
- One going to Eta (η) Sagittarii, and
- One going to Xi (ξ) 2 Sagittarii.

Laughing Cyclops:

This **telescopic** asterism Zürn 1 is in the IAU constellation Perseus. It was discovered by German astronomer Katharina Zürn in the middle of the open cluster NGC 869, which is part of the Double Cluster (see above). Robert Zebahl lists it on his *Faint Fuzzies* website and writes "In the center of this cluster a small, fine star pattern is visible. Around the 6m5 bright star V520 Per five stars with magnitudes from 8 mag form a narrow, outward (resp. southeast) curved arc.” V520 Persei is the “eye” and the curve is the “smile”. This is also known as the Parachutist (see below). Compare this to the Glum Cyclops (see above).

Laughing Skull:

This **telescopic** asterism is the HII region LBN 406 in the IAU constellation Draco.

Launched Bolas:

This Mapuche asterism “Lükay” (“bolas”) or “Xana Lükay” (“launched bolas”) is the stars Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus (Menares 2008). Compare this to the Mapuche asterism Melipal (see Bolas, above).

Law:

This Chinese star “Fa” from the Three Kingdoms to the Ming Dynasty is Beta (β) Ursae Majoris (Merak) in the IAU constellation Ursa Major.

This Chinese Chenzhuo xing guan “Fa” is the star Beta (β) Ursae Majoris (Merak) in the IAU constellation Ursa Major. It is part of their xing guan Northern Dipper.

This Bedouin star “Al Kanooon” or “aal-Kanūn” (الكانون) or “Al Kanoon”, mentioned in the poetry of al-Ḫalāwī, is Alpha (α) Aquilae (Altair) in the IAU constellation Aquila.

Lawman:

This Wardaman asterism is the Coal Sack Nebula in the IAU constellation Crux (see Coal Sack, above). This represents the head of their lawman.

Lawn Sprinkler:

There are three “Lawn Sprinkler” asterisms:

- One is Streicher 49 in the IAU constellation Aquila. It was discovered by South African astronomer Magda Streicher. René Merting lists it on the *Faint Fuzzies* website as the “Rasensprenger” (“lawn sprinkler”).
- One, the Lawn Sprinkler Nebula, is the planetary nebula NGC 4361 in the IAU constellation Corvus. This was discovered by English astronomer William Herschel in 1785 who listed it as “I 65”. It is GC 2917 in the *General Catalogue* of 1864. Stephen James O’Meara’s *Hidden Treasures Catalogue* (2007) lists this nebula but does not name it.
- One is NGC 7479 (Caldwell 44) which is a barred spiral galaxy in the IAU constellation Pegasus. It was discovered by English astronomer William Herschel in 1784 who listed it as “I 55”. It is GC 4892 in the *General Catalogue* of 1864. It is also known as the Superman Galaxy (see below), “V” (see below), and the Propeller (see below). American astronomer Steve Coe (1949 – 2018) wrote that it “looks like a two-armed garden sprinkler in action”.

Lawnmower:

There are two **telescopic** “Lawnmower” asterisms:

- One is the open cluster NGC 663 (Caldwell 10), located in the IAU constellation Cassiopeia. It was discovered by English astronomer William Herschel in 1787, who listed it as “VI 31”. It is GC 392 in the *General Catalogue* of 1864. It resembles a letter “S” (see S below) and contains about 400 stars and spans about a quarter of a degree of sky. Note: The lawnmower was invented and patented in 1830 in Gloucestershire, England, by Edwin Budding, so the name cannot precede this date.
- One is made up of stars of the IAU constellation Sculptor. It is Ennis 90 on the asterism list of Canadian astronomer Charles Ennis and Dezsi 1 on the list of Hungarian astronomer Attila Dezsi. Ennis posted it in July 2025. Size 9’. A wedge of 6 stars forms the “mower” and a line of three stars the “handle”.

Lawway:

This Nuenone star is Beta (β) Geminorum (Pollux) in the IAU constellation Gemini (Gantevoort 2015).

Lazy One:

This Kokatha and Ngalea star “Mumba” is Alpha (α) Geminorum (Castor) in the IAU constellation Gemini (Leaman and Hamacher 2014). It is part of their asterism “Wati Kutjera” (see below), the other part being Kuruka’di (“the Wise One”, see below).

Lazy Team:

This asterism is the IAU constellation Ursa Minor as listed by R. H. Allen in his *Star Names* in 1899.

L.E. Cluster:

This **telescopic** asterism resembling the letters “LE”, also known as the 37 Cluster (see above), the Shopping Cart Cluster (see below), or the Little Pleiades (see below), is in the open cluster NGC 2169 in the IAU constellation Orion. This was discovered by William Herschel in 1784 who listed it as “VIII 24” in his catalogue. It is GC 1361 in the General Catalogue of 1864. It includes the stars HIP 29106, 29126A and B, 29127, and 29121.

Leader:

This Kamilaroi asterism “Beraiberai” is the IAU constellation Orion. Beraiberai is the leader of the Miyay Miyay (see Seven Young Women (Sisters) below). His belt is “ghutur” (see Belt, above) and his boomerang is “burran” (see Boomerang, above).

This Sogdian asterism “Sarwa” is the stars Iota (ι), Kappa (κ), and Theta (θ) Virginis in the IAU constellation Virgo as listed by R. H. Allen in his *Star Names* in 1899.

This Khorasmian asterism “Shushak” is the stars Iota (ι), Kappa (κ), and Theta (θ) Virginis in the IAU constellation Virgo as listed by R. H. Allen in his *Star Names* in 1899.

Leader of a Wealthy Flock:

This Latin asterism “Dux opulenti gregis” is the IAU constellation Aries. Johann Bayer’s *Uranometria* (1603) lists “Dux Gregis” for this constellation.

Leader of Boötes:

This **telescopic** asterism “Hégemon Boótis” is the spiral galaxy IC 4566 in the IAU constellation Boötes. It was discovered by American astronomer Edward Barnard in 1890. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it is “an exemplary spiral system,… situated at the head of a small row of galaxies and could be considered the leader or guide of the group”.

Leader of Cranes:

This Hungarian asterism “Darvak veze’re” appears on the celestial map of Hungarian uranographer Sandor Nagy (1915), which depicts this as three cranes in flight. This is related to their asterism “Crane’s Nest” (see above). NOTE: Nagy’s 1915 chart is beautifully illustrated, but some of the labels are hard to make out and I find it difficult to match the hand drawn stars on his chart with actual star patterns in the sky. The stars are currently unidentified.

Leader of Five of Telescopium:

This **telescopic** asterism “Pentadarchúsa Telescópii” is the barred elliptical galaxy IC 4797 in the IAU constellation Telescopium. It was discovered by American astronomer Royal Harwood Frost in 1903. This

name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "IC 4797 is the brightest galaxy in a linear group of five containing, from north to south, NGC 6708, NGC 6707, IC 4769, IC 4797, and ESO183-30."

Leader of Leo:

This **telescopic** asterism "Coryphaéus Leónis" is the spiral galaxy NGC 3800 (Arp 83) in the IAU constellation Leo. It was discovered in 1784 by William Herschel who listed it as "II 103". John Herschel listed it as h 936 and h 3356 and later as GC 2488 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "NGC 3800 and NGC 3799… are comparable to a pair of dancers… Being the largest, NGC 3800 can be considered to be the leader of the dance".

Leader of the Herd:

This Latin asterism "Princeps Armenti" is the IAU constellation Taurus.

Leader of the Mourning Maidens:

This Arabic star "al-Qā'id (banāt naʿash)" (القائد بنات نعش) or "Ḳāʾid Banāt al Naʿash" is Eta (η) Ursae Majoris in the IAU constellation Ursa Major This is part of the Bedouin asterism Daughters of Na'sh (see above) and "Benetnasch" (see Daughters of the Bier, above) and sometimes given this name:

- "al-Qāīd" is listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- "Sābi' banāt na'sh yusammā al-qā'id" ("the seventh of banāt na'sh, called the leader" appears on the star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003).
- This was later latinized to "Al Ḳā'id", "Alcaid", "Alkaid", "Alchayr", "Akiar", and "Alcaide".
- Dorn (1829) lists it as "Alcaïd" and "Alcaide", translates it as "leader" or "governor", and describes it as appearing on on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283).
- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists "al-qā'id huwa sābi' banāt na'sh" ("the leader, the seventh of the banāt na'sh").
- The *Alfonsine Tables* list "Elkeid" (Kuntisch 1986).
- The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists "bennenatz".
- German astronomer Johann Bayer (1572-1625) lists "El Keid" or "Elekeid".
- Johann Bayer's *Uranometria* (1603) lists "Elkeid" as a name for this star.
- Catholic librarian Giuseppe Simone Assemani (1687 - 1768) listed it as "Alcatel", translating this as "destroying".
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Benetnasch".
- French astronomer Dominique François Jean Arago (1786 – 1853) listed "Ackaïr".
- English Admiral Henry William Smyth's *Prolegomena* of 1844 lists "Alkaid" and his *Bedford Catalogue* in 1844 lists "Alkaid, or Benetnasch, both of which are from its Arabian denomination, Al Káyid al benát al na'sh, the governor of the mourners".

- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Alkaid" and "Benetnasch".
- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Alcaid" and describes it as "the chief".
- R. H. Allen lists it as "ʿAnāḳ al Banāt" and translates it as "Chief One" in his *Star Names* in 1899.
- The 1st edition (1910) and the 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) list "Alkaid" and "Benetnasch" for this star.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists "Alcaid" and "Benatnasch" for this star.
- The IAU approved the name Alkaid for Eta (η) Ursae Majoris.

Leader of the Zodiac:

This Latin asterism "Ductor exercitus zodiaci" is the IAU constellation Aries. This relates to its position as the indicator of the vernal equinox thousands of years ago. Around 420 C.E. this moved into Pisces.

Leader of Three Villages of Leo:

This **telescopic** asterism "Tricomárchus Leónis" is the barred spiral galaxy NGC 2964 in the IAU constellation Leo. It was discovered in 1785 by William Herschel who listed it as "I 114". It became GC 1896 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as "NGC 2964 is the brightest member of a trio of galaxies."

Leading Ox:

This Chinese Chenzhuo xing guan is made up of stars of the IAU constellation Capricornus. The "body" is a diamond of the stars Beta (β) Capricorni (Dabih, which forms the "head"), Pi (π) Capricorni, Omicron (ο) Capricorni, and Rho (ρ) Capricorni. From Beta (β) Capricorni two lines run out to Alpha (α) Capricorni (Algedi) and Nu (ν) Capricorni, forming the "horns".

Leaf:

This **telescopic** asterism is the open cluster NGC 7050 in the IAU constellation Cygnus. René Merting describes it on the Faint Fuzzies website: "At 45x, the pattern looks a bit like the Arrowhead Cluster NGC 7510 - some faint stars form a condensation with a tip to the southwest - directly, the area appears foggy, in averted, the faint stars twinkle beautifully - at 103x, eight stars form a beautiful leaf oval, which is pointed to the southwest and appears more rounded to the northeast - in the northeast, three more stars are in a row, the stem to the leaf".

Leaflike of Aries:

This **telescopic** asterism "Foliácea Aríetis" is the spiral galaxy NGC 697 (and 674) in the IAU constellation Aries. It was discovered in 1786 by English astronomer William Herschel who listed it as "III 179". It became GC 416 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Lean number of stars

This Hungarian asterism “Leán szömü csillaq” appears on the celestial map of Hungarian uranographer Sandor Nagy (1915), who depicts it as the upper half of a possibly female figure facing us who appears to have a knife in her right hand. NOTE: Nagy’s 1915 chart is beautifully illustrated, but some of the labels are hard to make out and I find it difficult to match the hand drawn stars on his chart with actual star patterns in the sky. The stars are currently unidentified.

Lean One of Boötes:

This **telescopic** asterism “Mácer Boótis” is the edge-on galaxy UGC 9242 in the IAU constellation Boötes. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Leaning:

See Efforts, above.

Leaper:

This Vedic asterism is the IAU constellation Pisces.

Leapers:

This Latin asterism “Ludentes” or “Ludiones” is a group of stars in the IAU constellation Ursa Minor: Alpha (α) Ursae Minoris (Polaris), Beta (β) Ursae Minoris (Kochab), Gamma (γ) 1 and 2 Ursae Minoris, Delta (δ) Ursae Minoris, and Epsilon (ε) Ursae Minoris. This is listed in the 11th century *De signis caeli (“of the signs of heaven*”). This is listed in English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 and in R. H. Allen’s *Star Names* in 1899. Smyth translates it as “dancers”.

The Uppsala Archaeoastronomical Project proposed the IAU constellation Gemini for this Minoan asterism. This asterism was passed on to me by Dana Corby of Ariadne’s Tribe in Tacoma, Washington in November 2023. The Leapers are Thaena (“wisdom”) and Sydaili (“joy”), represented by Alpha (α) and Beta (β) Geminorum; Eshuumna (the Unseen Rainbow) is the dark space between them.

Leaping Dolphin:

This **telescopic** asterism “Émbole Dracónis” is the interacting galaxies NGC 6670 in the IAU constellation Draco. This name appeared in *Amazingspace* in November 2017. It was discovered by Lewis Swift in 1886. It is also known as “Ramming Ships of Draco” (see below) and the “Poster Girl”.

Leaping Minnow:

See Mini Delphinus, below.

Leashed a Gracious Antelope and its Milk:

This Hittite asterism is the IAU constellation Virgo as listed in the KUB XII 62 tablets (Boutet 2014).

Leashed a Leopard in a Lost Land:

This Hittite asterism is the IAU constellation Gemini as listed in the KUB XII 62 tablets (Boutet 2014).

Leashed a Proud Lion:

This Hittite asterism is the IAU constellation Leo as listed in the KUB XII 62 tablets (Boutet 2014).

Leashed a Wolf in a High Place:

This Hittite asterism is the IAU constellation Cancer as listed in the KUB XII 62 tablets (Boutet 2014).

Leashed the Bearded Serpents Intertwined:

This Hittite asterism is the IAU constellation Pisces as listed in the I KUB 1, KBO III 8 and 14/KUB XXV tablets (Boutet 2014)

Leashed the Throne of the Tutelary Divinity:

This Hittite asterism is the IAU constellation Libra as listed in the KUB XII 62 tablets (Boutet 2014).

Leashed the Wings of the Eagle:

This Hittite asterism is the IAU constellation Aquarius as listed in the I KUB 1, KBO III 8 and 14/KUB XXV tablets (Boutet 2014)

Leashed were the Fish in Position:

This Hittite asterism is the IAU constellation Sagittarius as listed in the I KUB 1, KBO III 8 and 14/KUB XXV tablets (Boutet 2014)

Leather Bucket:

This Arabic star "Salm", "Sagma", or "Salma", is Tau (τ) Pegasi in the IAU constellation Pegasus:

- R. H. Allen translates this as "leathern bucket" in his *Star Names* in 1899.
- The IAU approved the name Salm for Tau (τ) Pegasi in 2016.

Leavitt's of Centaurus:

This **telescopic** asterism "Leavíttius Centaúri" is the spiral galaxy NGC 4603 in the IAU constellation Centaurus. John Herschel listed it as h 3406 and later as GC 3141 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this to honor "Henrietta Leavitt (1868 – 1921)".

Leda Brothers:

This Latin asterism "Ledaei Fratres" is the IAU constellation Gemini. Castor and Pollux were the sons of Leda.

Ledaean Stars:

This Latin asterism "Ledaeum Sidus" is the IAU constellation Gemini. Castor and Pollux were the sons of Leda. Johann Bayer's *Uranometria* (1603) lists the name "Ledaeum Sidus". English poet Abraham Cowley (1618 - 1667) called them "Ledaean Stars", English author Robert Bulwer-Lytton (1831 – 1891, writing as Owen Meredith) called them "Ledaean Lights", and English author William Morris (1834 – 1896) called them "Twin Laconian Stars".

Ledarri:

This Wardaman star is Zeta (ζ) Scorpii in the IAU constellation Scorpius (Cairns and Harney 2003).

Leda's Bird:

This Latin asterism "Ales Ledaeus" is the IAU constellation Cygnus. This is a reference to Leda, Queen of Sparta, who was said to have been raped by the God Zeus in the form of a swan.

- Johann Bayer's *Uranometria* (1603) lists the name "Ledae Adulter".
- R. H. Allen's *Star Names* in 1899 lists name "Ales Ledaeus".

Leech:

This English asterism "Hirudo" was created in 1754 by British botanist and natural philosopher John Hill and published in his *Urania: Or a Complete View of the Heavens* in 1754. It is a bent horn-shaped group of the stars of the IAU constellation Taurus: 111, 122, 126, 133, 134, 130, 119, and 115 Tauri.

Left Conductor:

This Chinese xing guan Zuǒshètí (左攝提) is a triangle of stars in the IAU constellation Boötes: Zeta (ζ), n Boötis, and Omicron (ο) Boötis. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan "Zuǒshètí" is a triangle of stars in the IAU constellation Boötes: Omicron (ο) Boötis, Pi (π) 1 Boötis, and Zeta (ζ) Boötis.

Left Crown:

This Hebrew asterism "Kir Schetall" is the IAU constellation Corona Borealis as listed in John Hill's *Urania* in 1754. He provides the translation "left crown".

Left Dog:

This Latin asterism "Canis Sinister" is the IAU constellation Canis Minor, so called as it is north of Canis Major, so called as it rises before Canis Major, so called as it appears to the left of Canis Major. This name is listed in Johann Bayer's *Uranometria* (1603).

Left Elm:

This Korean asterism "Neuleubnamu" (느릅나무) is a diamond of stars with a line running off one end in the IAU constellation Aries:

- The "diamond" is the four stars Eta (η), 15, 19, and Theta (θ) Arietis.
- From Eta (η) Arietis a line runs off to Nu (ν) Arietis.

Next to this is the similar Korean asterism Right Elm (see below).

Left Eye:

This Spanish star" is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus as listed by 12th century Spanish Rabbi Abraham ibn Ezra. R. H. Allen writes in his *Star Names* in 1899 that he derived this from the name "Oculus Tauri" (see Eye of Taurus, above).

Left Flag:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a jagged line of stars in the IAU constellations Aquila and Sagitta: Starting at HIP 100256 it runs through Rho (ρ) Aquilae, HIP 100276, Theta (θ) Sagittae, Eta (η) Sagittae, Gamma (γ) Sagittae (the determinative star), Delta (δ) Sagittae, 11 Sagittae, and 14 Sagittae.

This Chinese xing guan Zuǒqí (左旗) is a jagged line of stars in the IAU constellations Boötes and Sagitta: Alpha (α) Sagittae (Sham), Beta (β), Delta (δ), Zeta (ζ), Gamma (γ), 13, 11, 14, and Rho (ρ) Sagittae.

This Chinese Chenzhuo xing guan "Zuǒqí" is three lines of stars radiating out of a central star in the IAU constellations Aquila and Sagitta: The central star is Delta (δ) Sagittae, from which three lines run out:

- One to Beta (β) Sagittae,
- One to Alpha (α) Sagittae (Sham), and
- One through Gamma (γ) Sagittae, HIP 98738, 13 Sagittae, 15 Sagittae, and 14 Sagittae to Rho (ρ) Aquilae.

Left Foot:

This Chinese star "Zuozu" from the 3 Kingdoms and Ming Dynasty Period is Kappa (κ) Orionis in the IAU constellation Orion and is part of their xing guan Send Armed Forces to Suppress (see below).

This Chinese Chenzhuo xing guan "Zuozu" is the star Kappa (κ) Orionis in the IAU constellation Orion.

Left Foot of al Jauzah:

This Arabic star "Rijl Jauzah al Yusrā", later latinized to "Rigel" is Beta (β) Orionis in the IAU constellation Orion, which is known to the Arabs as "Jauzah":

- This star is listed on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992) as "Rijl al-jawzā al-yusrà".
- The star list of Abraham Bar Hiyya in 1104 (Goldstein 1985) lists this star as "rijl jawzā".
- The rete of the 14th century Spanish astrolabe NMM AST0570 lists "Rigel" (Dekker 2000).
- This star is listed on the 14th century astrolabe #4560 from Christian Spain as "Rigel" (King 2002).
- The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.170v-171r lists this star as "Rigil".
- The celestial globe (1480) of German mechanic Hans Dorn (c 1430 – 1506) lists "Rigel".
- Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) lists this star as "Rigel".
- The name Rigel appears in the *Alfonsine Tables* of 1521.
- The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) lists "Rigel".
- The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) lists this star as "Rigel".
- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) listed this star as "Regel".
- German astronomer Wilhelm Schickard (1592 – 1635) listed it as "Riglori".
- Gores for a celestial globe Bibliothèque Nationale de France, Département Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius labels this star "Rigel Algebar".
- Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) lists "Rigel".
- A wooden precession globe (1730) by German uranographer Johann Georg Puschner (Dekker 2003) labels this star "Orion Riegel" (this being a Dutch spelling of Rigel).
- The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) lists this star as "Rigel".
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Rigel".

- Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this star as "Rigel" in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).
- German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this star as "Rigel".
- American uranographer William Croswell (1760 – 1834) lists "Rigel" on his *Mercator Map of the Starry Heavens* in 1810.
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich lists this star as "Rigel".
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as "Rigel".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Rigel".
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as "Rigel".
- German astronomer Hermann Joseph Klein (1844 – 1914) lists "Rigel" in his *Star Atlas* (1893).
- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Rigel" and translates it as "foot".
- In his *Star Names* in 1899, R. H. Allen reports that it is listed it as "Rigel Algeuze" by John Chilmead in his *A Learned Treatise on Globes*, 1889, which was a translation of the Latin work by English geographer and mathematician Robert Hues (1553 – 1632).
- The 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) lists "Rigel" for this star.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists "Rigel" for this star.
- The IAU approved the name Rigel for Beta (β) Orionis.

Left Foot of Kambugudha:

This Kokatha and Ngalea star is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus. Kambugudha is the Hyades (see Eldest Mingarri Sister, above and Hyades, above) and is guarding her sisters "Yugarilya", the Pleiades cluster (see Thorny Devil Lizard, below).

Left General:

This Chinese star "Zuojiangjun" from the Three Kingdoms to the Ming Dynasty is Beta (β) Aquilae (Alshain) in the IAU constellation Aquila and is part of their asterism Drum at the River (see above).

Left Hand of Al Jawza:

This Arabic star "Yad al-jawzā' al yusrà" is Gamma (γ) Orionis (Bellatrix) in the IAU constellation Orion as listed on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992).

Left-Handed Brother:

This Kokatha and Ngalea asterism "Oimbu" or "Kurulba" is the Small Magellanic Cloud, which is part of their asterism "Boolbarradu" or "Balbaradu" (See Brothers, above) which is both Magellanic Clouds. The "right-handed brother" is "Mugaru" or "Badhu-Wudha" the Large Magellanic Cloud.

Left Law Administrator:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty “Zuozhifa” is the star Eta (η) Virginis in the IAU constellation Virgo and is part of their xing guan Supreme Palace Left Wall (see below).

This Chinese Chenzhuo xing guan “Zuozhifa” is the star Eta (η) Virginis in the IAU constellation Virgo. It is part of the Supreme Palace Left Wall.

Left Linchpin (Adjunct to Chariot):

This Chinese Chenzhuo xing guan “Zuoxia” is the star Eta (η) Corvi in the IAU constellation Corvus. It is part of their xing guan “Chariot”.

Left Linchpin (Vassal of Chariot):

This Chinese xing guan Zuǒxiá (**左**辖(附轺宿)) is a line of two stars in the IAU constellation Corvus: In one corner of the xing guan Chariot (see above) you find these two stars: Delta (δ) and Eta (η) Corvi. This is also known as Vassal of Chariot. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

Left Pivot:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty “Zuoshu” is the star Iota (ι) Draconis in the IAU constellation Draco and is part of their xing guan Purple Forbidden Left Wall (see below).

Left Shoulder:

This Chinese star “Zuojian” from the Three Kingdoms and Ming Dynasty is Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion.

This Chinese Chenzhuo xing guan “Zuojian” is the star Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion.

Left Shoulder of the Barking Dog:

This Persian star “mankibu lʿawwaaʾi lʾaysar” (منكب العواء الأيسر –), later latinized to Menkib al Aoua al Aisr”, is Gamma (γ) Boötis in the IAU constellation Boötes, as listed in the *Calendarium* of Al Achsasi al Mouakket in 1650.

Left Shoulder of the Kneeler:

This Arabic star “Menkib al Jathi al Aisr”, later latinized to “Humeris Sinister Ingeniculi” is Delta (δ) Herculis in the IAU constellation Hercules as listed by Persian astronomer Al Achsasi al Mouakket in his *Calendarium* in 1650.

Left Side:

This star “Sinistra” is Nu (ν) Ophiuchi in the IAU constellation Ophiuchus. The IAU is considering this as an official name for the star.

Leftward of Canes Venatici:

This **telescopic** asterism “Scaévus Cánum Venaticórum” is the one-armed Magellanic Spiral galaxy NGC 4618 (Arp 23) in the IAU constellation Ursa Major. William Herschel listed this as “I 178” and “I 179”.

John Herschel originally listed it as h 1385 but later as GC 3151 and 3152 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the eastern arm of this galaxy is much more developed than the western one". It is also sometimes called the "Magellanic Spiral Galaxy" (see below).

Leg:

This Arabic star "as-Sāq" (الساق) or "Al Ṣāk" ("leg" or "shin bone") is Delta (δ) Aquarii in the IAU constellation Aquarius:

- It was later latinized to "Al Sak", "Saak", or "Skat".
- The Sloane astrolabe BM SL 54 in the British Museum which dates to 1290 – 1300 lists "Sceac" (Dekker 2000).
- German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this star as "Scheat".
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich list this star as "Skat".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Skat".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists this star as "Skat", "Sheat", and "Scheat", but the 14th edition (1959) only lists this star as "Skat".
- NOTE: An alternate derivation of "Skat" is "Wish" (see below).
- The IAU approved the name Skat for the star Delta (δ) Aquarii A.

The Kalinago see the Pleiades cluster in the IAU constellation Taurus as a woman who cuts off her husband's leg, which is the belt and sword of Orion and runs away with a tapir, which is the Hyades cluster in the IAU constellation Taurus.

The Amahuaca see the Hyades cluster in the IAU constellation Taurus as the jaw of a caiman that bit off the leg of a man who mistook it for a canoe. His leg is the Pleiades cluster in the IAU constellation Taurus and the belt and sword of Orion is the man's brother holding a spear to kill the caiman.

Leg of Set:

This ancient Egyptian asterism "Meskhetyu" or "Meskhetiu" is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper above). Krupp (1983) translates this as "leg of Set", though others have translated it as "Bull's Foreleg" (see above). It appears as the "Foreleg of Set" in the *Papyrus Jumilhac* (Hardy 2003).

Legs:

This Chinese xiù (lunar mansion) "Kuíxiù" (奎宿) is made up of stars in the IAU constellations Andromeda and Pisces. One side of this oblong starts at the star Chi (χ) Piscium and runs through Phi (ϕ), 90, 91, 83, 76, and Beta (β) Piscium (Fumalsamakah) and Mu (μ) Piscium, ending at 35 Andromedae . The other side runs from 84 Piscium through Psi (ψ) 1 Piscium, Eta (η) and Zeta (ζ) Andromedae, 65 Piscium, Epsilon (ε), Delta (δ), and Eta (η) Andromedae, ending at Nu (ν) Andromedae. In the *Han shu*, a history of the early Han dynasty that was finished in 111 C.E. this xiù "Kui" was associated to matters concerning the Xuzhou territory. This xiù appears in the Tang Dynasty (618 – 907 C.E.) as "Kuí" (奎) and is compared to the

Vedic nakshatra Revati (Kotyk 2017, see Wealthy, below). This xing guan was used in the Three Kingdoms to Ming Dynasty period.

This Chinese Chenzhuo xing guan "Kuíxiù" is an oval of stars in the IAU constellations Andromeda and Pisces: Beta (β) Andromedae (Mirach), Mu (μ) Andromedae, Nu (ν) Andromedae, Messier 31, 32 Andromedae, HIP 2942, Pi (π) Andromedae, Delta (δ) Andromedae, Epsilon (ε) Andromedae, Zeta (ζ) Andromedae, Eta (η) Andromedae, Psi (ψ) Piscium, Phi (φ) Piscium, 90 Piscium, Tau (τ) Piscium, and 82 Piscium.

Legs Added XXI:

This Chinese xing guan Kuíxiù Zēng XXI (奎宿增廿一) is the Andromeda Galaxy (Messier 31, NGC 224).

Lemon Galaxy:

This **telescopic** asterism VV 786 is a galaxy in the IAU constellation Centaurus.

Lemon Slice Nebula:

This **telescopic** asterism is planetary nebula IC 3568 in the IAU constellation Camelopardalis. It was discovered in 1900 by American astronomer Robert Grant Aitken at the Lick Observatory. It was given this name by American astronomer and science writer Jim Kaler due to its appearance in one false-color image from the Hubble Space Telescope. It is also known as the Theoretician's Nebula and the Sliced Lime Nebula. Size 0.2' X 0.2'. Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) lists it without a name.

Lemraxi:

This Ayt Xebbac star (Arabic: eddxinat) is Gamma (γ) Leonis (Algieba) in the IAU constellation Leo (Souag 2019).

Length of the River:

This Arabic star "Masāfat al-nahr" is Gamma (γ) Eridani in the IAU constellation Eridanus as listed on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992).

Lens of Indus:

This **telescopic** asterism "Phacoïdes Índi" is the lenticular galaxy NGC 7041 in the IAU constellation Indus. It was discovered in 1834 by John Herschel who listed it as h 3859 and later as GC 4647 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "this edge-on galaxy looks like a biconcave lens". It is part of the Indus Triplet (see above).

Lens of Leo Minor:

This **telescopic** asterism "Léns Leónis Minóris" is the lenticular galaxy NGC 3245 in the IAU constellation Leo Minor. It was discovered in 1785 by English astronomer William Herschel who listed it as "I 86". It became GC 2104 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Lenticular of Lynx:

This **telescopic** asterism "Lentifórmis Lýncis" is the lenticular galaxy NGC 2549 in the IAU constellation Lynx. It was discovered in 1831 by John Herschel who listed it as h 495 and later as GC 1638 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Lentil of Virgo:

This **telescopic** asterism "Phácus Virginis" is the lenticular galaxy NGC 4442 in the IAU constellation Virgo. It was discovered in 1784 by William Herschel who listed it as "II 156. It became GC 2999 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Leo:

The brightest stars of Leo are Regulus (1st magnitude) and three of 3rd magnitude. The stars of Leo appear in 456 asterisms of the sky cultures of the world. The Romanians do call this "Leul" ("lion") but more commonly refer to it as the Horse (see above).

The IAU constellation Leo (IAU abbreviation Leo), the lion, was mentioned by Aratus in his poem *Phaenomena* (270 B.C.E.) and Ptolemy (c.100 – c.170) listed as one of his 48 original constellations: In the *Almagest* he calls it "Λέων" ("Léon" -see Lion, below). Greek mythology tells of the hero Hercules slaying the Nemean lion and this is commemorated in this constellation.

The Temple of Khnum at Esna has a Latopolitan zodiac on the ceiling of the pronaos dating to the age of Ptolemy II Euergetes (246 – 221 B.C.E.) depicts Leo as a lion walking to our right (Bullinger 1882, Seiss 1882).

The Mainz Globe from the eastern end of the Roman empire (c. 150 – 220 C.E.) depicts Leo facing to our left.

This constellation appears in the 8th century *Revised Aratus Latinus*:

- In several editions (Dresden DC 183, Paris BN 12957, Prague IX. C. 6) Leo is shown walking to the left,
- In two editions (St Gall 250, St Gall 902) Leo's tongue is hanging out.

The 9th century Berlin 130, Madrid 3307, Monza F.9/176 and Vat lat 645 manuscripts of the *De ordine ac positione stellarum in signis* depict Leo leaping to the left with his tail raised. The Vat Reg lat 309 manuscript of the *De ordine ac positione stellarum in signis* depicts Leo facing left with his head lowered. The Paris BN, 12117 manuscript of the *De ordine ac positione stellarum in signis* depicts his head and left paw raised.

Leo appears in the Leiden *Aratea* (816) as a lion leaping to our left (Katzenstein & Savage-Smith, 1988).

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi's son depicts Leo as a lion in profile: One page shows the left profile and the other the right.

The Oxford Laud 644, Padua 27, Montecassino 3, and Venice VIII 22 manuscripts of the 11th century *De signis caeli ("of the signs of heaven*") depicts Leo rushing to the left. The Klosterneuberg 685 and Zwettl 296 manuscripts of *De signis caeli* depict a ivy leaf at the tip of Leo's tail. The Laon 422 and

Rouen 26 manuscripts of *De signis caeli* depict Leo walking to the right with his left paw raised. The Freiburg im Breisgau 35 manuscript of *De signis caeli* depicts Leo walking to the left.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Leo as a lion walking to our left.

Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) depicts Leo as a lion.

A Hebrew translation of the Almagest from Catalonia (c1361), Philadelphia (USA), University of Pennsylvania Libraries, Lawrence Schoenberg Collection, ms. ljs057 (old Ms.Sassoon 823), ff.56v, 57r, depicts Leo as a lion running to our left.

A quadrans novus found at the House of Agnes site in Canterbury in 2005 in soil dated to c 1375-1425 lists "LEO" (Dekker 2007).

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Leo as a lion facing to our right.

The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.168v-169r depicts "Leo" as a lion facing to our left who appears to be ready to spring upon its prey. Its tail is curled under its left rear leg.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.70v-71r depicts "Leo" as a lion running to our left whose tail is coiled under its left rear leg.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Leo as a lion facing to our left. It is not labelled.

The vault of the Old Sacristy of the Basilica di S. Lorenzo in Firenze, Italy (1442) depicts Leo as a snarling lion walking to our right. His tail is curled under his right rear leg.

De Astronomica ("the astronomy"), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This depicts "Leo" as a lion walking to our left looking over its left shoulder.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Leo as a long-tailed lion walking to our left. Its tail is raised up across its back.

A translation of The *Liber de signis* of Scottish polyglot Michael Scot (1175 – c.1232) in the second half of the 15th century, Darmstadt, Hessische Hochschulebibliothek, Ms 266, depicts "Leo" as a long-tailed lion walking to our left. Its tail is raised up across its back.

The *Germanicus Aratea* (Siciliensis, c. 1469) and the *Germanicus Aratea* with scholia Strozziana (c. 1475) depicts "Leonem" ("a lion") running to our left. His tail is curved like the "sickle" of stars above Regulus in Leo.

Leo appears on the *Imagines constellationum Australium* chart of Romanian theologian Johannes Honter (1498 – 1549) as a lion walking to our right with his tail curled to overlap his rear quarters and is labelled with the astrological sign for Leo.

The Constance Celestial Globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts "Leo" as a lion standing on its hind legs as if jumping.

The "Nuremburg Maps" *(Die Karte des Nördlichen Sternenhimmels* inv.-Nr. Hz 5576), a pair of celestial hemispheres made in 1503 by Conrad Heinfogel, depicts "Leo" as a lion facing to our left, crouching as if ready to spring on something. Its tail is curved behind its left rear leg.

The early 16th century Real Academia de Historia, manuscript D-97, f.102v – 103r depicts Leo as a lion walking to our right. It is not labelled.

The *imagines coeli septentrionales cum duodecint imaginibus zodiaci* ("images of the northern sky with twelve images of the zodiac"), commonly known as the *Northern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius (Dekker & Lippincott, 1999) depicts "Leo" as a lion facing to our left, crouching as if ready to spring on something. Its tail is curved behind its left rear leg.

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts "Leo" as a lion crouching as if about to leap, facing towards our left. The lion's tail is coiled under and around his left rear leg.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts Leo as a lion running to our left.

The *Horoscopion generale* (1533) of Petrus Apianus (1495 – 1552) depicts Leo as a lion laying down facing to our right.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts Leo in the same manner as Dürer et al.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts "Leo" as a lion running to our left.

Dele Stelle Fisse ("Of the Fixed Stars") by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as "Del Leone". The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as the "Lion".

The Northern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Leo as a lion about to jump to our left. His tail is wrapped under his left rear leg.

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists Leo in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts Leo as a lion running to our left and only labels it with the astrological symbol for Leo.

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicts "Leo" as a lion laying down facing to our left with its tail curled around its left rear leg.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts “le Lion” as a roaring lion running to our right.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts “Leo” as a roaring lion facing to our left. His tail is wound under his left rear leg.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts “Leo” as a lion running to our left.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) depicts “Leo” as a lion leaping to our left. His tail curls under his left rear leg.

“Leo” is depicted on the *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) as a lion running to our left.

Leo is listed in Danish astronomer Tycho Brahe’s *Astronomiae Instauratae Progymnasmata* (1602).

German uranographer Johann Bayer (1572 – 1625) depicts this constellation as a lion running to our right in his *Uranometria* in 1603. Bayer lists these names for Leo: “Leo, Herculeius, Cleonaeus, Nemeaeus, Löw, Alezet, Alasid, Asitvel Asid”.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Leo” and “Leo Herculeus” and depicts it as a roaring lion facing to our left.

“Leo” is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and depicted as a lion leaping to our right. Batsch gives the name “Der Lōw” (“the lion”)

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the name “Leo” for this constellation”.

The *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) depicts “Leo” as a lion running to our right.

Dutch cartographer Frederik de Wit’s *Planisphaerium Coeleste* (1670) depicts Leo as a roaring lion.

The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678 by English uranographer James Clerk depicts “Leo” as a lion walking to our right.

English uranographer John Seller’s *A coelestiall planisphere* (1678) depicts “Leo” as a lion running to the left.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts “Leo Major” as a lion running to our left.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this “Le Lion”, “Leo”, and “Λέων” and depicts it as a lion running to our left.

A celestial pocket globe created by British uranographer Herman Moll in 1719 depicts “Leo” as a lion running to our left.

Leo is listed in English astronomer John Flamsteed’s *Atlas Coelestis* in 1729.

A wooden precession globe (1730) by German uranographer Johann Georg Puschner (Dekker 2003) lists this constellation as “Leo”.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts Leo as a lion running to our right.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts “Leo” as a lion running to our right.

German engraver and cartographer Tobias Conrad Lotter’s *Planisphaerium Coeleste* (1750) depicts Leo as a lion walking to our left.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Leo as a lion running to our right.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts “Leo” as a lion walking to our left.

Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists this constellation as “Der Lōwe“.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as “Leone” in his *Della Specola Astronomica De’ Regj Studj Di Palermo* (1792).

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts “Leo” as a running lion.

French uranographer Gabriel Phillipe de la Hire’s *Planisphere Celeste* (1760) depicts “Le Lion” as a roaring lion.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts “le Lion” as a lion running to our right, as does the 1778 edition.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts “Leo” as a lion running to our left.

German astronomer Johann Elert Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as “Löwe”. This name also appears in the various editions of Bode’s *Jahrbuch*.

American uranographer William Croswell (1760 – 1834) depicts “Leo the Lion” on his *Mercator Map of the Starry Heavens* in 1810 as a running lion.

Scottish uranographer Alexander Jameison’s *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822) depicts Leo as a running lion.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depict “Leo” as a lion running to our left.

This constellation is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852 as “Leo Major”: The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822.

"Leo" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as a lion running to our right.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts "Leo" as a lion facing to our right.

"Leo" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It is depicted as a roaring lion running to our right.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) describes "Leo" as a "rampant lion" but labels it "Lion" on the charts.

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Leo, The Lion" as an official constellation "recognized in the catalogue of the British Association".

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as "Leo, the Lion".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Leo" in his *Star Atlas* (1893) and describes it as "The Lion".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Leo" and describes it as a "Lion".

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Leo".

The Normans called this constellation "Leun".

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) redesigned the lines of Leo in his book *The Stars - A New Way to See Them* (1952):

- His "head" is the quadrilateral of the stars Mu (μ), Kappa (κ), Lambda (λ), and Epsilon (ε) Leonis,
- His "mane" is the five stars Epsilon (ε), Eta (η), Gamma (γ) 1 and 2, Zeta (ζ), and Mu (μ) Leonis,
- His "body" is the five stars Eta (η), Theta (θ), Delta (δ), b, and Gamma (γ) 1 and 2 Leonis,
- From Eta (η) Leonis two lines form "front legs":
    - One running to Omicron (ο) Leonis, and
    - One running to Alpha (α) Leonis (Regulus),
- From Theta (θ) Leonis two lines form "back legs":
    - One running to Rho (ρ) Leonis, and
    - One running through Iota (ι) Leonis to Sigma () Leonis, and
- From Delta (δ) Leonis a line runs to Beta (β) Leonis (Denebola) forming a "tail".

Sky and Telescope Magazine, founded in 1941, depicts Leo in their magazine and publications in the same manner as Reyersbach.

Leo Minor:

None of the stars of this constellation are brighter than 4th magnitude and they show up in 46 of the asterisms in this handbook. This IAU constellation (IAU abbreviation LMi) was noted by Ptolemy (c.100 – c.170) as an "undefined region".

Polish astronomer Johannes Hevelius (1611 – 1687) created this constellation. In his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*. It is depicted as a lion lying down, facing to our left.

A celestial pocket globe created by British uranographer Herman Moll in 1719 depicts “Leo Minor” as a lion facing to our right.

Leo Minor is listed in English astronomer John Flamsteed’s *Atlas Coelestis* in 1729.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts Leo Minor as a lion running to our right.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts “Leo Minor” as a lion running to our right above Leo.

German engraver and cartographer Tobias Conrad Lotter’s *Planisphaerium Coeleste* (1750) depicts Leo Minor as a lion walking to the left.

French uranographer Gabriel Phillipe de la Hire’s *Planisphere Celeste* (1760) does not show Leo Minor on his chart.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts “Leonis Minor” as a lion facing to our left.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts “le petit Lion” as a lion running to our right in the northern hemisphere chart, and as a lion laying down in a later close up chart. The 1778 version depicts the lion running to our right.

Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists this constellation as “der Kleine Löwe” and depicts it as a roaring lion laying down facing to our right.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as “Leon Minore” in his *Della Specola Astronomica De’ Regj Studj Di Palermo* (1792).

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts “Leo Minor” as a lion reclining facing to our left.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists “Leo Minor” in his *Celestial Atlas* in 1822. Jameison’s *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822) depicts it as a running lion.

German astronomer Johann Elert Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this with the abbreviated label “Kl. Löwe”.

“Leo Minor” is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as a lion lying down facing to our right.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts “Leo Minor” as a lion facing down facing to our left.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts "Leo Minor" as a lion running to our right.

Leo Minor is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on Jamieson's *Celestial Atlas*.

"Leo Minor" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It is depicted as a lion lying down facing to our right.

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Leo Minor, The Lesser Lion" as an official constellation "recognized in the catalogue of the British Association".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Leo Minor" in his *Star Atlas* (1893) and describes it as "The Little Lion".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Leo Minor" and describes it as the "Lesser Lion".

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Leo Minor".

Leo Minor is depicted on standard IAU charts as a triangle of the stars Omicron (o) Leonis Minoris, Beta (β) Leonis Minoris, and 21 Leonis Minoris, with a line running out from this last star to 10 Leonis Minoris.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depicts Leo Minor in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* as a single bending line of the stars Omicron (o) Leonis Minoris, Beta (β) Leonis Minoris, 21 Leonis Minoris, and 10 Leonis Minoris.

Sky and Telescope Magazine, founded in 1941, depicts Leo Minor in their magazine and publications as a quadrilateral of the stars 30, Omicron (o), Beta (β), and 21 Leonis Minoris with a line running out from this last star to 10 Leonis Minoris.

It is known to the French as "Petit Lion" and the Italians as "Leoncino". English astronomer Richard A. Proctor changed the name of this constellation to "Leana" in 1870 (see Lioness, below).

Leo Triplet:

This **telescopic** asterism is three galaxies in the IAU constellation Leo:

- Spiral galaxy NGC 3628,
- Intermediate spiral galaxy M 65
- Intermediate spiral galaxy M 66

Leo Quartet:

This **telescopic** asterism, the "Leo Quartet" or "Hickson 44" is a quartet of galaxies in the IAU constellation Leo:

- Edge-on spiral galaxy with distinctive dust lanes NGC 3190,
- S-shaped galaxy NGC 3187
- Elliptical galaxy NGC 3193, and
- Spiral galaxy NGC 3185.

Hickson 44 was listed by Canadian astronomer Paul Hickson. It is also known as the Gamma Leonis Group.

Leopard:

This Latin asterism "Leopardis" is the IAU constellation Lupus as listed by Italian astronomer Giovanni Battista Riccioli (1598 – 1671).

This Greek lunar mansion is listed in the Magical Papyrus 121, preserved in the British Museum, and dated to the 3rd century C.E. (Mosenkis, date n/k). Mosenkis describes this as "Camelopardalis or rather Leo Minor, cf. the goddess with a lion and a leopard."

This Tupi asterism "Jauareté" is the IAU constellation Ursa Major (De Freita Mourão 2009).

Leopold's Orb:

This German asterism "Globus Cruciger" ("the orb and the cross"), "Pompum Imperiale" ("imperial pomp"), "Reichsapfel", ("orb") or "Leopold's Orb" was created by German astronomer Gottfried Kirch and appeared in the scientific journal *Acta Eruditorum* in 1688 to honor the Holy Roman Emperor Leopold I. This was made up of stars of the IAU constellation Aquarius: 1, 3, 4, 69, 70, and 71 Aquarii and HIP 100672.

Lepis:

This Palawan star is Beta (β) Orionis (Rigel) in the IAU constellation Orion. This is a name from the 1831 journals of George Augustus Robinson, a missionary.

Leprous Hand:

This Arabic asterism is part of their asterism Al-Thurayya (see Little Abundant One, below) and is made up of stars of the IAU constellation Cetus.

- From a "wrist" at the star Alpha (α) Ceti (Menkar), a "thumb" is the line of stars Lambda (λ) Ceti and Mu (μ) Ceti.
- From Menkar the "fingers" are two lines running out to the "knuckles" at Gamma (γ) and Delta (δ) Ceti, then coming together at "fingertips" at Xi (ξ) 2 Ceti.

Compare this to their asterism Cut Short Hand (see above), which is another version of this.

Lepu:

This Bukidnon asterism "Lepu" is an unidentified creature, or a "kite" made up of the stars of the IAU constellation Aquila (Santos et al 2019). Santos suggests that it may be a hare, derived from the name of the IAU constellation Lepus, but there is no agreement on this:

- A diamond of stars forms the main part, with the stars on the corners being Gamma (γ), Zeta (ζ), Delta (δ), and Theta (θ) Aquilae, and
- A "tail" runs down from Delta (δ) Aquilae to Lambda (λ) Aquilae.

Lepus:

None of the stars of this constellation are brighter than 2nd magnitude and they show up in 74 asterisms in this handbook.

This IAU constellation (IAU abbreviation Lep), the hare, is one of Ptolemy's 48 original constellations, although it does not represent any particular identifiable figure in Greek mythology. Ptolemy (c.100 – c.170) listed it as "Λαγῶς" ("Lagõs"- see Hare, above) in his *Almagest*. Its Sicilian name was "Λέπορις" ("Léporis") which became the Latin name "Lepus" or "Lepus Auritus" ("eared hare"), "Lepus Dăsypus" ("rough-footed hare"), "Lepus Levipes" ("light-footed hare"), and "Lepus Velox" ("swift hare"). Aratus (315 – 240 B.C.E) described it with the adjective "γλαυκός" ("glafkós") which means "glaucous" by which he meant "powdery" as it had few faint stars.

The Temple of Khnum at Esna has a Latopolitan zodiac on the ceiling of the pronaos dating to the age of Ptolemy II Euergetes (246 – 221 B.C.E.) depicts Lepus as a rabbit (Bullinger 1882, Seiss 1882).

The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) depicts this constellation as a hare running to the left as does the Mainz Globe from the eastern end of the Roman empire (c. 150 – 220 C.E.).

This constellation is depicted in editions of the 8th century *Revised Aratus Latinus* (Dresden DC 183, Paris BN 12957, Prague IX. C. 6) leaping to the left. The Los Angeles, Getty Ludwig XII, 5 manuscript of the *De ordine ac positione stellarum in signis* depicts Lepus as a lion.

Lepus appears in the Leiden *Aratea* (816) as a rabbit leaping to our left, looking over its left shoulder (Katzenstein & Savage-Smith, 1988)

The Oxford Laud 644, Padua 27 and Venice VIII 22 manuscripts of the 11th century *De signis caeli ("of the signs of heaven*") depict Lepus leaping to the left.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Lepus as a hare leaping to our left.

Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) depicts Lepus as a hare.

A Hebrew translation of the Almagest from Catalonia (c1361), Philadelphia (USA), University of Pennsylvania Libraries, Lawrence Schoenberg Collection, ms. ljs057 (old Ms.Sassoon 823), ff.56v, 57r, depicts Lepus as a hare running to our left.

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Lepus as a hare running to our right.

The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.170v-171r depicts "Lepus" as a hare running to our left.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.72v-73r depicts Lepus as some sort of four legged animal running to our left. It is not labelled and poorly drawn.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Lepus as a hare leaping to our left.

The vault of the Old Sacristy of the Basilica di S. Lorenzo in Firenze, Italy (1442) depicts Lepus as a hare leaping to our right.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Lepus as a hare running to our left.

The *Germanicus Aratea* (Siciliensis, c. 1469) and the *Germanicus Aratea* with scholia Strozziana (c. 1475) depict Lepus as a hare running to our left.

Lepus appears on the *Imagines constellationum Australium* chart of Romanian theologian Johannes Honter (1498 – 1549) as a hare leaping to our right.

De Astronomica ("the astronomy"), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This depicts "Lepus" as a rabbit running to our left.

The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts "Lepus" as a hare running to our left.

The early 16th century Real Academia de Historia, manuscript D-97, f.104v – 105r depicts Lepus as a hare leaping to our right.

The "Nuremburg Maps", a pair of celestial hemispheres made in 1503 by Conrad Heinfogel depicts Lepus as a rabbit running to our left.

The *Southern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius depicts Lepus as a hare running to our left.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts "LEPVS" as a hare running to our left.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts "Lepus" as a hare running to our left.

Dele Stelle Fisse ("Of the Fixed Stars") by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as "de la Lepre". The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as the "Hare".

The Southern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Lepus as a hare running to our left, looking over its left shoulder.

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists Lepus in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts "Lepus" as a rabbit running to our left.

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicts "Lepus" as a hare running to our left.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts “le Lievre” as a hare standing facing to our right under Orion’s feet.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts Lepus as a hare between the legs of Orion, running to our left. It is not labelled.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts “Lepus” as a hare jumping to our left.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) depicts Lepus as a rabbit running to the left. NOTE: It also depicts Lepus as a rabbit running to our right between Orion’s legs and looking over its right shoulder in his depiction of Orion but does not label it in that picture.

“Lepus” is listed on the *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) and depicted as a hare leaping to our left.

Lepus is listed in Danish astronomer Tycho Brahe’s *Astronomiae Instauratae Progymnasmata* (1602).

German astronomer and uranographer Johann Bayer (1572-1625) depicts this in his *Uranometria* in 1603 as a hare leaping to our right. Bayer lists these names for this constellation: “Lepus, Leuipes, apertis oculis dormiens, Harneb, Elarneb”.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts “Lepus” as a rabbit leaping to our left.

“Lepus” is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and depicted as a rabbit lying down facing to our right.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the name “Lepus” for this constellation.

“Lepus” is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a rabbit running to our right.

Gores for a celestial globe Bibliothèque Nationale de France, Département Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts “Lepus” as a hare leaping to our left.

This constellation is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as “Lepus Alias nebet”.

Dutch cartographer Frederik de Wit’s *Planisphaerium Coeleste* (1670) depicts Lepus as a running hare.

English astronomer Edmund Halley’s chart of 1678 depicts Lepus as a hare running to our left.

English uranographer John Seller’s *A coelestiall planisphere* (1678) depicts “Lepus” as a hare running to our left.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts “Lepus” as a hare which is prone facing to our left.

Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) depicts "Lepus" as a running hare.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this "Le Lievre", "Lepus", and "Λαγῶς" and depicts it as a hare running to our left.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, depicts Lepus as a hare running to our right.

Lepus is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729: It is depicted as a rabbit running to our right.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts "Lepus" as a hare running to our right.

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) depicts Lepus as a rabbit crouching facing to our left.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Lepus as a hare getting ready to leap to our right.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "le Lievre" ("the hare") as a hare running to our right.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as "Lepre" in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts "Lepus" as a jumping hare.

Lepus is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801) as "Haas" ("hare") and depicted as a hare running to our right.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts "Lepus" as a rabbit running to our left.

American uranographer William Croswell (1760 – 1834) depicts "Lepus the Hare" on his *Mercator Map of the Starry Heavens* in 1810 as a running rabbit.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as "Haase" ("rabbit"). Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Der Haase".

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Lepus in his *Celestial Atlas* in 1822.

"Lepus" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as a hare running to our right.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts "Lepus" as a rabbit running to our left.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts "Lepus" as a hare running to the right.

Lepus is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on Jamieson's *Celestial Atlas*.

"Lepus" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): as a hare running to our right.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this constellation as "the Hare".

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Lepus, The Hare" as an official constellation "recognized in the catalogue of the British Association".

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as "Lepus, the Hare".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Lepus" in his *Star Atlas* (1893) and describes it as "The Hare".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Lepus" and describes it as a "Hare".

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Lepus" as "the Hare".

Standard IAU charts depict Lepus as follows:

- His "body" is two interconnecting quadrilaterals made up of the stars Alpha (α) Leporis (Arneb), Mu (μ) Leporis, Epsilon (ε) Leporis, Beta (β) Leporis (Nihal), Gamma (γ) Leporis, and Delta (δ) Leporis,
- His "tail" is a line of stars running from Arneb through Zeta (ζ) and Eta (η) Leporis to Theta (θ) Leporis, and
- His "ears" are two lines running from Mu (μ) Leporis:
- One through Lambda (λ) Leporis to Nu (ν) Leporis, and
- One through Kappa (κ) Leonis to Iota (ι) Leporis.

Sky and Telescope Magazine, founded in 1941, depicts Lepus in their magazine and publications in this fashion:

- Its "head" is the quadrilateral of stars Alpha (α) Leporis (Arneb), Mu (μ) Leporis, Epsilon (ε) Leporis and Beta (β) Leporis (Nihal),
- Its "ears" are two lines running out from Mu (μ) Leporis:
    - One to Lambda (λ) Leporis, and
    - One to Kappa (κ) Leporis,
- Its "body" is the loop of stars formed by Arneb, Nihal, Gamma (γ) Leporis, Delta (δ) Leporis, Theta (θ) Leporis, Eta (η) Leporis, and Zeta (ζ) Leporis.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Lepus in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* as four star lines radiating out of Mu (μ) Leporis:

- One running to Lambda (λ) Leporis,
- One running to Kappa (κ) Leporis,
- One running through Alpha (α) Leporis (Arneb) and Zeta (ζ) Leporis to Eta (η) Leporis, and
- One running through Epsilon (ε) Leporis, Beta (β) Leporis (Nihal), and Gamma (γ) Leporis to Delta (δ) Leporis.

This constellation is known to the Germans as “Hase” and the French as “Lièvre”.

Lerna:

This **telescopic** Greek star is HAT-P-42 in the IAU constellation Hydra (magnitude 12.2). It was given this name in the IAU NameExoWorlds campaign. Lerna is the lake where the mythical Hydra lived. It has an exoplanet named Iolaus: Iolaus was the nephew of Heracles.

Lernaeus:

This Latin asterism is the IAU constellation Cancer as described by Roman writer Lucius Junius Columella.

Lesath:

See Sting, below

Lesser Bear:

This Arabic asterism “Aldubu Al'asghar” (الدب الأصغر) or “Al Dubb al Aṣghar” is the IAU constellation Ursa Minor:

- “Al-Dub al-Asghar” was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his Book of the Fixed Stars in 964 (Hafez 2010).
- Robert Hues (1659) listed it as “Dub Alasgar”.
- German astronomer Johann Bayer (1572-1625) listed it as “Dhub Elezguar” in his *Uranometria* (1603).
- John Chilmead (1899) listed it as “Dub Alasgar”.

This Italian asterism “Orsa Minore” is the IAU constellation Ursa Minor

This French asterism “Petite Ourse” is the IAU constellation Ursa Minor

This German asterism “Kleine Bar” is the IAU constellation Ursa Minor

Lesser Bier:

John Hill lists the Latin name “Feretrum Minor” for the IAU constellation Ursa Minor in his *Urania* in 1754. This is probably influenced by the Arabic asterism Daughters of the Bier (see above).

Lesser Cross:

This French asterism is the IAU constellation Delphinus and appears in *De cursu stellarum* of Saint Gregory of Tours (573).

Lesser Dog:

This Arabic asterism “Alkalb Alsaghir” (الكلب الصغير) or “Al Kalb al Asghar” is the IAU constellation Canis Minor:

- “Al Kalb al-Asghar” was listed for this constellation by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- Johann Bayer’s *Uranometria* (1603) lists it as “Kelbelazguar”.
- Robert Hues *A Learned Treatise of Globes* in 1659 lists it as “Alcheleb Alasgar”.
- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) lists it as “Kelbelazguar”.
- John Hill lists it as “Kelbasgher” in his *Urania* in 1754, which Hill translates as “little dog”.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Al kelb al asghar, the lesser dog”.
- John Chilmead (1899) lists it as “Alcheleb Alasgar”.
- NOTE: Arabic astronomers called Alpha (α) Canis Minoris (Procyon) “the Northern Shining One” (“Alsaatie Alshamaliu”, الساطع الشمالي).

Lesser Seven Bulls:

This Persian asterism “Hafturengh Kihin”, “Heft Averengh Kihin”, or “Heft Rengh Kihin” is the Little Dipper asterism in the IAU constellation Ursa Minor as listed by R. H. Allen in his *Star Names* in 1899.

Letter Pi (π) Cluster:

This **telescopic** asterism, also known as the Starfish (see below) and the Oblique Cross (see below) is the open cluster Messier 38, discovered by the Italian astronomer Giovanni Battista Hodierna before 1654 in the IAU constellation Auriga. This was listed in the General Catalogue of 1864 as GC 1119. American astronomer Sherburne Wesley Burnham (1838 – 1921) noted in *Burnham’s Celestial Handbook* that cluster’s brightest stars form what is known as the Letter Pi Cluster, as they resemble the Greek letter π. The cluster’s brightest stars resemble the Greek letter π.

Level:

This German asterism “Libella” is the IAU constellation Triangulum Australe. German uranographer Johann Bayer (1572-1625) gave it this name in his *Uranographia* in 1603.

This French asterism “Niveau” is the IAU constellation Norma as listed in the French edition of English astronomer John Flamsteed's *Atlas* of 1776. Belgian astronomer Jean-Charles Houzeau (1820 – 1888) listed it as “Libella”.

Leviathan:

This German asterism is the IAU constellation Delphinus as listed by German astronomer Wilhelm Schickard (1592 – 1635) and German poet Philipp von Zesen (1619 – 1689). Edward Sherburne lists this in his Sphere of Marcus Manilius in 1675, attributing it to German poet, jurist, and translator Georg Philipp Harsdörffer (1607 – 1658). John Hill lists this asterism in his *Urania* in 1754.

Leya:

This Hindu asterism “Leya” or “Leyaya” is the IAU constellation Leo as listed in R. H. Allen’s *Star Names* in 1899.

Liáng:

This Chinese star “Liáng” from the 3 Kingdoms and Ming Dynasty Period is the star Delta (δ) Ophiuchi in the IAU constellation Ophiuchus and is part of their xing guan Heavenly Market West Wall (see above).

Liar:

See Sting, below.

Libertas:

See Liberty, below.

Liberty:

This Latin star "Libertas" is Epsilon (ε) Aquilae A in the IAU constellation Aquila. The IAU approved the name Libertas for Epsilon (ε) Aquilae A in 2015. This has an exoplanet named "Fortitudo" ("fortitude").

Libra:

None of Libra's stars are brighter than 2nd magnitude, but the stars of this constellation do appear in 192 of the asterisms listed in this handbook.

This IAU constellation (IAU abbreviation Lib), the balance or scales, originated with the Babylonian asterism "the Scales" (see below). It was actually the Romans that gave this constellation its current name "the scales" because at the time they named it, it was the constellation in which the Sun entered this part of the ecliptic at the autumnal equinox, when days and nights were equal in length: However, it ceased to be the location of the autumnal equinox in 730 B.C.E. Ptolemy (c.100 – c.170) listed it in his *Almagest* as "Χηλαί" ("Chilaí") which means claws of the scorpion (see Claws of the Scorpion, above) and became the Latin "Chelae" and this is reflected in the Arabic names of its two brightest stars:

- Zubenelgenubi (Alpha (α) Librae) "southern claw", and
- Zubeneschamali (Beta (β) Librae) "northern claw".

This constellation first appeared under the name Libra in Julius Caesar's calendar in 46 B.C.E. which was created by Flavius and the astronomer Sosigenes. 4th century scholar Theon of Alexandria listed it under the Sicilian dialect as "Λίτρα" ("Lítra") and "Λίτραι" ("Lítrai"). It appears in the *Daressy Zodiac* of the Roman Imperial Period as a man carrying scales next to a goat or gazelle.

The Temple of Khnum at Esna has a Latopolitan zodiac on the ceiling of the pronaos dating to the age of Ptolemy II Euergetes (246 – 221 B.C.E.) depicts Libra as a figure holding a set of scales (Bullinger 1882, Seiss 1882).

Libra and Virgo are merged in editions of the 8th century *Revised Aratus Latinus*.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi's son depicts Libra as a set of scales. There are two views, basically the same, representing views from the earth and the sky.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Libra as a set of scales.

Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) depicts Libra as a set of scales.

A Hebrew translation of the Almagest from Catalonia (c1361), Philadelphia (USA), University of Pennsylvania Libraries, Lawrence Schoenberg Collection, ms. ljs057 (old Ms.Sassoon 823), ff.56v, 57r, depicts Libra as a set of scales. One of the claws of Scorpius overlaps the scales.

A quadrans novus found at the House of Agnes site in Canterbury in 2005 in soil dated to c 1375-1425 lists “LIBRA” (Dekker 2007).

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Libra as a set of scales.

The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.168v-169r depicts “Libra” as a set of scales.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.70v-71r depicts “Libra” as a set of scales.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Libra as a set of scales. It is not labelled.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Libra as a set of scales in one place but in another as a male in an ankle length robe and skull cap holding a set of scales in front of him in his right hand.

A translation of The *Liber de signis* of Scottish polyglot Michael Scot (1175 – c.1232) in the second half of the 15th century, Darmstadt, Hessische Hochschulebibliothek, Ms 266, depicts Libra as a naked boy, turned slightly to our right, holding scales in his right hand and pointing at something ahead of him with his left hand.

Libra appears on the *Imagines constellationum Australium* chart of Romanian theologian Johannes Honter (1498 – 1549) as the lower half of a set of scales (the upper half being out of the projection) and labelled with the astrological sign for Libra.

The *Germanicus Aratea* with scholia Strozziana (c. 1475) omits Libra.

The Constance Celestial Globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts “Libra” as a set of scales.

The early 16th century Real Academia de Historia, manuscript D-97, f.102v – 103r depicts Libra as a set of scales. It is not labelled.

The “Nuremburg Maps” *(Die Karte des Nördlichen Sternenhimmels* inv.-Nr. Hz 5576), a pair of celestial hemispheres made in 1503 by Conrad Heinfogel, depicts “Libra” as a set of loose scales. The claws of Scorpius bracket the scales.

The *imagines coeli septentrionales cum duodecint imaginibus zodiaci* (“images of the northern sky with twelve images of the zodiac”), commonly known as the *Northern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius (Dekker & Lippincott, 1999) depicts Libra as a set of loose scales.

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts “Libra” as a set of scales.

The *Horoscopion generale* (1533) of Petrus Apianus (1495 – 1552) depicts Libra as a set of loose scales.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts Libra in the same manner as Dürer et al.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts “Libra” as a set of loose scales.

Dele Stelle Fisse (“Of the Fixed Stars”) by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as “Del la Libra”. The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

The Northern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Libra as a set of loose scales.

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists Libra in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts Libra as a set of loose scales but only labels this with the astrological sign for this constellation.

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicts “Libra” as a set of loose scales.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts “le Balance” as a set of scales.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts “Libra” as a set of scales.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts “Libra” as a set of loose scales.

“Libra” is listed on the *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) as a set of scales.

“Libra” was depicted on gores of the globe of Petrus Plancius published in 1598 by Jodocus Hondius as a set of scales with the subtitle “Chelae”.

Libra is listed in Danish astronomer Tycho Brahe’s *Astronomiae Instauratae Progymnasmata* (1602).

German astronomer Johann Bayer (1572-1625) listed this constellation in his *Uranometria* in 1603 as a set of loose scales. Bayer lists these names for Libra: “Libra, Iugum Ciceroni, Chelae, Noctipares, Azubene, Wag (“scales”), Mizan, Zubeneschemali, Zubenelgenubi”.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts “Libra” as a set of scales.

“Libra” is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as a set of scales. Bartsch lists the name “dei Wag” (“the scales”).

Libra is listed by German astronomer Johannes Kepler (1571 – 1630) in his *Tabulae Rudolphinae*, a new edition of Brahe’s catalogue, in 1627.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the name "Libra" for this constellation.

"Libra" is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a set of loose scales.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts "Libra" as a set of loose scales.

Libra is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661.

Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) depicts Libra as a set of scales.

The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678 by English uranographer James Clerk depicts "Libra" as a set of loose scales.

English uranographer John Seller's *A coelestiall planisphere* (1678) depicts "Libra" as a set of loose scales.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts "Libra" as a set of loose scales.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this "Le Balance", "Libra", and "Χηλαί" ("claws") and depicts it as a loose set of scales.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, depicts Libra as a set of scales.

Libra is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729: It is depicted as a set of loose scales.

A wooden precession globe (1730) by German uranographer Johann Georg Puschner (Dekker 2003) lists this constellation as "Libra".

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts "Libra" as a set of scales.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts "Libra" as a loose set of scales.

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) depicts Libra as a set of scales.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Libra as a loose set of scales.

John Hill lists this constellation as "Litra" in his *Urania* in 1754.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) depicts "La Balance" as a set of scales.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as "Bilancia" in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).

American uranographer William Croswell (1760 – 1834) depicts “Libra the Balance or Scales” on his *Mercator Map of the Starry Heavens* in 1810 as a set of loose scales.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts “la Balance” as a set of loose scales, as does the 1778 edition.

Libra is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801) as “Balans”: It is depicted as a set of loose scales.

German astronomer Johann Elert Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as “Waage”, as does the various editions of his *Jahrbuch*. Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists this constellation as “die Waage“ and depicts it as a set of loose scales.

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts “Lybra” as a set of loose scales.

“Libra” is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as a set of loose scales.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts “Libra” as a loose set of scales.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Libra in his *Celestial Atlas* in 1822: It is depicted as a set of loose scales.

Libra is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852: The author is unknown, but it is based on Jamieson’s *Celestial Atlas*.

“Libra” is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It is depicted as a set of loose scales.

English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists “Libra, The Balance” as an official constellation “recognized in the catalogue of the British Association”.

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as “Libra, the Balance”.

German astronomer Hermann Joseph Klein (1844 – 1914) lists “Libra” in his *Star Atlas* (1893) and describes it as “The Balance”.

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists “Libra”.

Libra is known in Germany as “Wage”. The old Saxon name was “Wæge” or “Pund” and the Norman name was “Peise”.

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children’s book *Curious George* (1941) redesigned the lines of Libra in his book *The Stars - A New Way to See Them* (1952). The standard IAU chart shows this constellation as a quadrilateral of the stars Alpha (α) Librae (Zubenelgenubi), Beta (β) Librae (Zubeneschamali), Gamma (γ) Librae, and Sigma (σ) Librae, with a

line running out from Gamma (γ) Librae to Theta (θ) Librae. Rey depicts this as the triangle of stars Zubenelgenubi, Zubeneschamali, and Gamma (γ) Librae forming a "balance bar". Two lines run out to form the scales:

- One from Gamma (γ) Librae through Upsilon (υ) Librae to Tau (τ) Librae, and
- One from Zubenelgenubi to Sigma (σ) Librae.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Libra in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik*, in the same way as Rey as does *Sky and Telescope Magazine* publications.

Lich:

This **telescopic** IAU star is the neutron star PSR B1257+12 in the constellation Virgo. A lich is a fictional undead creature who controls other undead creatures with magic, first appearing in Old English but more recently in Clark Aston Smith's *The Empire of the Necromancers* in 1932. This has three exoplanets named Draugr (a undead creature from Norse mythology), Poltergeist ("noisy ghost"), and Phobetor (a character from Ovid's *Metamorphoses*, one of the sons of Sleep).

Lid of Coma Berenices:

This **telescopic** asterism "Opérculum Cómae Bereníces" is the Magellanic spiral galaxy NGC 4173 in the IAU constellation Coma Berenices. It was discovered by William Herschel in 1785. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). This galaxy is part of Hickson 61, also known as "the Box" (see above) and Bodifee and Berger consider it to be the "lid" of this box.

Liesma:

See Fire, above.

Life of Heaven:

This Akkadian star "Tir-anna" or "Tir-An-na" is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra. Compare this to Judge of Heaven (above). This refers to it being the pole star around 11,000 B.C.E. This is listed as "man-za-tu[um]" in the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015).

This Sumerian star "multir-an-na" is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra as listed as in the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015).

Ligedaner:

This Micronesian (Marshall Islands) star Alpha (α) Aurigae (Capella) in the IAU constellation Auriga and is part of their asterism Creation of the Sky (see above). Ligedaner was the mother of the stars, and her sons were Dümur (see above) and the King of the Stars (see above).

Light Bearer of Cetus:

This **telescopic** asterism "Phósphorus Céti" is the galaxy merger IC 1623 (Arp 236) in the IAU constellation Cetus. It was discovered by Lewis Swift in 1897. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this

because “this system consists of two galaxies in the final stage of a merger. At the southern side a dark, infrared emitting regions seems to embrace a brighter region in the north”.

Light Bearer of Ursa Major:

This **telescopic** asterism “Lucífera Úrsae Majóris” is the lenticular galaxy NGC 2681 in the IAU constellation Ursa Major. William Herschel listed this as “I 242”, John Herschel as “h 530” and it is GC 1711 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Light of the Hero:

This Sumerian asterism “mul ĝišgán-ùr” from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is the stars Delta (δ) Scorpii, Beta (β) Scorpii (Acrab), and Pi (π) Scorpii in the IAU constellation Scorpius. R. H. Allen lists this in his *Star Names* in 1899 as “Gis-gan-gu-tur”, translated as “light of the hero” or “tree of the garden of light” and calls it a “Euphratian” asterism.

This Akkadian asterism “maš-ka-ka-tum” from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is the stars Delta (δ) Scorpii, Beta (β) Scorpii (Acrab), and Pi (π) Scorpii in the IAU constellation Scorpius.

Lighthouse:

This Greek asterism “Farus” is the IAU constellation Ara. This is the name of the famous lighthouse in Alexandria:

- “Farus” is listed in the 11th century *De signis caeli (“of the signs of heaven*”).
- Johann Bayer’s *Uranometria* (1603) lists “Capellae Pharus”.
- “Phares” is listed in the *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638).
- “Pharos” and “Pharus” are listed in John Hill’s *Urania* in 1754.
- “Pharos” and “Pharus” are listed in R. H. Allen’s *Star Names* in 1899.

Lightless of Virgo:

This **telescopic** asterism “Aphénges Vírginis” is the barred spiral galaxy NGC 5334 (IC 4338) in the IAU constellation Virgo. It was discovered in 1787 by William Herschel who listed it as “III 665”. It became GC 3680 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “the surface brightness of this galaxy is very low”. NOTE: Lewis Swift recorded it as IC 4338 in 1897.

Lightening of Grus:

This **telescopic** asterism “Astrápticus Grúis” is the spiral galaxy IC 5179 in the IAU constellation Grus. It was discovered by Lewis Swift in 1897. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this “refers to the two supernovae that were observed in this galaxy… from October to November 1999.”

Lightning:

This Korean asterism “Beongae” (번개) is a line of three stars with a fork at the end in the IAU constellation Pegasus. The three stars are Sigma (σ), Rho (ρ), and 55 Pegasi. At 55 Pegasi two lines run off to 59 and 58 Pegasi.

This Greek lunar mansion is possibly the IAU constellation Serpens and is listed in the Magical Papyrus 121, preserved in the British Museum, and dated to the 3rd century C.E. (Mosenkis, date n/k).

Lightning Bolt:

This Western asterism spans the IAU constellations Aquarius, Pegasus, and Capricornus. It is made up of the stars Epsilon (ε) Pegasi, Alpha (α) Aquarii (Sadalmelik), Beta (β) Aquarii (Sadalsuud), and Delta (δ) Capricorni.

Lightning Hurler of Draco:

This **telescopic** asterism “Fulgurátor Dracónis” is the interacting spiral galaxies NGC 6621 and 6622 (Arp 81) in the IAU constellation Draco. It is named “Edward’s Galaxy” after American astronomer Edward D. Swift, who with Lewis A. Swift discovered this in June 1885. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to “large arcing structures… surrounding this galaxy”.

Lightning Men:

This Walpiri asterism is the stars Alpha (α) Centauri (Rigel Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Taurus (Fuller and Bursill 2021). These men make lightning and thunder when they fight with their stone axes.

Lights of the Two Calves:

See Brighter of the Two Calves (above).

Lightsome:

This star with the Arabic name “Munir” (منير) or “al-Munīr Min al-Fakka” is Alpha (α) Coronae Borealis (Alphecca) in the IAU constellation Corona Borealis:

- “al-Munīr Min al-Fakka” It was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists “munīr al-fakka”.
- “Munir” and “Mumir” are listed by German astronomer Johann Bayer (1572-1625) in his *Uranometria* (1603).
- It is listed by John Chilmead as “Munic” in 1899, which he derived from Robert Hues’ *A Learned Treatise of Globes* in 1659.

Like a Lion of Leo:

This **telescopic** asterism “Leónidas Leónis” is the dwarf spheroidal galaxy UGC 6253 (Leo II) in the IAU constellation Leo. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They named “Leo A, Leo B, and Leo I” with related names (see Lion’s Son, below, and Belonging to a Lion, above).

Likla Saphaba:

This Meitei asterism “Likla Saphaba” is the IAU constellation Orion.

Lilac Garden:

This Lithuanian asterism “Alyvų darželis” is the IAU constellation Corona Borealis.

Lilith:

This asterism is the Medusa’s Head (see below) in the IAU constellation Perseus and is listed in R. H. *Allen’s Star Names* in 1899 and by Robert Burnham in his *Burnham’s Celestial Handbook* in 1978.

Liller's Star:

This is a star near the pulsar Centaurus X-3 in the IAU constellation Centaurus. It is after American astronomer William Liller (1927 – 2021).

Lily:

This asterism “Lilium” (the full title being “quasi Rosa redolens Lilium” or “resembling a rose like a lily”) is the IAU constellation Cygnus as described by German astronomer Johann Bayer (1572-1625) in his Uranometria (1603). Dekker and Lippincott (1999) write that this name appears in the Latin West in Arabic translations.

Lily of Carina:

This **telescopic** asterism “Lilium Carinae” is the barred spiral galaxy NGC 3059 in the IAU constellation Carina. It was discovered by John Herschel in 1835. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as “this pair of galaxies has the appearance of an animal and its newborn whelp”.

Limpet:

This English asterism “Patella” was created in 1754 by British botanist and natural philosopher John Hill and published in his *Urania: Or a Complete View of the Heavens* in 1754 and is made up of stars in the IAU constellation Ophiuchus: 66, 67, 68 and 70 Ophiuchi. Compare this to the asterism Poniatovii’s Bull (see below).

Limping Kata:

This Horotbágy Hungarian “Sánta Kata” star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major. The celestial map of Hungarian uranographer Sandor Nagy (1915) lists this asterism. This is a female hurrying to feed the Reapers (see above), but no matter how fast she hobbles, she cannot catch up to them. The twinkling of Sirius is associated with limping.

Limping of Ara:

This **telescopic** asterism “Claúdus Árae” is the barred spiral galaxy NGC 6221 in the IAU constellation Ara. It was discovered in 1835 by John Herschel who listed it as h 3649 and later as GC 4239 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of “the eastern arms in particular look like being crippled”.

Lindsay-Shapley Ring:

See Ring, below.

Line:

This Arabic asterism “Al Nasak” is the Belt of Orion in the IAU constellation Orion:

- Iranian lexicographer Fairuzabadi (1329 – 1414) lists the name “Al Nusuḳ”.
- R. H. Allen lists “Al Nasak” and “Al Nusuk” in his *Star Names* in 1899.

Line of Fish:

In 1590 English mathematician, physician, and astronomer Thomas Hood (1556 – 1620) named the cord connecting the two “fish” in the IAU constellation Pisces “Linum Piscium”. Later the Polish astronomer Johannes Hevelius (1611 – 1687) expanded this and divided the constellation of Pisces into 4 sectors (see Pisces, below).

Line of Ramparts:

This rather complex Chinese xing guan Lěibìzhèn (垒壁阵) is a star line in the IAU constellations Aquarius, Capricornus, and Pisces with a rectangle at one end and a quadrilateral at the other:

- The quadrilateral is the stars 27, 29, 30, and 33 Piscium, and
- The line runs from 27 Piscium through Phi (ϕ), Lambda (λ), Sigma (σ), and Iota (ι) Aquarii to a quadrilateral of stars: Delta (δ), Gamma (γ), Epsilon (ε), and Kappa (κ) Capricorni (with Epsilon Capricorni being the determinative star).

This Chinese Chenzhuo xing guan “Lěibìzhèn” is a bent line of stars with diamond formations at each end in the IAU constellations Aquarius, Cetus, and Pisces:

- The line of stars runs from HIP 1421 through HIP 417, 2 Piscium, HIP 115106, 96 Aquarii, and Lambda (λ) Aquarii to Sigma (σ) Aquarii.
- The “diamond” shape at one end is Sigma (σ) Aquarii, 42 Aquarii, 39 Aquarii, and 45 Aquarii.
- The “diamond” shape at the other end is HIP 1421, 44 Piscium, 14 Ceti, and 10 Ceti.

This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

Lines of the Clinging Ones:

This Hawaiian asterism “Na-lalani-a-Pili-lua”, also known as “Na Mahoe”, “Mahau”, “Mahana”, or “Na Hoku-Mahana” (“the twins”) is two stars in the IAU constellation Gemini:

- “Nanamua” (“First Star” or “Look Forward”), the star Alpha (α) Geminorum (Castor) and
- “Nanahope” (“Last Star” or “Looking Back”), the star Beta (β) Geminorum (Pollux).

The Hawaiians gave these two stars these names because “Nanamua” is the first of the pair of stars to appear in the sky as “Na Mohe” rises, and “Nanahope” always follows.

Link:

This Greek asterism "Syndesmus" is the IAU constellation Pisces as listed in John Hill's *Urania* in 1754. Elsewhere in *Urania* Hill lists the term "Knot" as an old name of this constellation, which is clearly a reference to the Arabic "al-'Uqdah" (see Knot, above) which is the star Alpha (α) Piscium.

Link of Fishes:

This Greek star "Σύνδεσμος τῶν Ἰχθύων" ("Sýndesmos tón Ichthýon") or "τῶν Λίνων" ("tón Línon") is Alpha (α) Piscium (Alrescha) in the IAU constellation Pisces. John Hill lists this as "Linon" in his *Urania* in 1754.

Linus Exodus:

This American asterism is the IAU constellation Scorpius and was created by Brad and Kathryn Templeton for *The Vault of Heaven* star map for the 2004 Burning Man event held in Black Rock Desert in Nevada (Kuperjanov 2006).

Lion:

This Greek asterism "Λέων" ("Léon") is the IAU constellation Leo as originally described by Ptolemy (c.100 – c.170) in his *Almagest*:

- The "head" starts in the "neck" with the star Gamma (γ) 1 Leo and runs around through Zeta (ζ) Leo, Mu (μ) Leo, Epsilon (ε) Leo, and Eta (η) Leo before running back to Zeta (ζ) Leo,
- The "body" runs from Zeta (ζ) Leo to a backside at Delta (δ) Leo, then down to Theta (θ) Leo, across the "belly" to Alpha (α) Leo (Regulus) then up to Eta (η) Leo,
- A "tail" runs from Delta (δ) Leo to Beta (β) Leo,
- One "leg" runs from Theta (θ) Leo to a "knee" at Iota (ι) Leo and a "foot" at Sigma (σ) Leo,
- One "leg" runs from Regulus to a "knee" at 29 Leo and a "foot" at Omicron (ο) Leo,
- From Mu (μ) Leo an "ear" is a line out to Kappa (κ) Leo, and
- From Epsilon (ε) Leo an "ear" is a line out to Lambda (λ) Leo.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists ""Λέων" ("Léon") as a name for Leo.

NOTE: This is listed as a Greek lunar mansion in the *Magical Papyrus 121*, preserved in the British Museum, and dated to the 3rd century C.E. (Mosenkis, date n/k). This Greek asterism also appears on the Daressy Zodiac of the Roman Imperial Period next to a donkey or ass. On the *Daressy Zodiac* the Greek asterism Maiden (see below) appears next to a walking lion.

This Egyptian asterism "Mai" ("the (divine) lion between them") is the IAU constellation Leo.

This Egyptian Dendera asterism is the IAU constellations Leo and Coma Berenices (Hoffman 2017). The lion is Leo, with a woman standing behind with her head at Coma Berenices.

This large Arabic asterism "al Asad" (أسد) is made up of stars of the IAU constellations Canis Major, Coma Berenices, Gemini, Leo, Lynx, Ursa Major, and Virgo. This Arabic asterism has the body of the lion laid out as viewed from above:

- The "body" starts at the "nostrils", Gamma (γ) and Delta (δ) Leonis and the "mouth" at open cluster Messier 44 and runs around through Omicron (ο) Leonis to "the Bend" at Gamma (γ), Delta (δ), and Epsilon (ε) Virginis, then back through 93 Leonis and Mu (μ) Leonis to the "nostrils".

- The “tail” starts at Delta (δ) Virginis and runs through Sigma (σ) Virginis, 59 Virginis, 42 Coma Berenices and 35 Comae Berenices to their asterism “Tassel” (see below).
- The “mane” is their manzil “Al-Zubrah” (see Mane, below).
- The “forehead” is their manzil “Al-Ğabhah” (see Forehead of the Lion , above).
- The “eyes” are the stars Epsilon (ε) and Omicron (ο) Leonis.
- One “front leg” runs from Omicron (ο) Leonis to a “paw” at Alpha (α) Canis Majoris (Sirius) and Beta (β) Canis Majoris (Mirzam) and is called “The Retracted Arm”.
- One “front leg” runs from Mu (μ) Leonis to a “paw” at Beta (β) Geminorum (Pollux) and Alpha (α) Geminorum (Castor) and is called “The Extended Forearm” or “Extended Arm”.
- One “back leg” runs from 93 Leonis through 54 Leonis, Alpha (α) Lyncis, and HIP 44700, ending at 10 Ursae Majoris.

Variations of “al-Asad” (“the Lion”) appear throughout history:

- “al-Asad” was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- Variations include the names include “Alasid”, “Aleser”, “Asis”, and “Assid”.
- “Al asad” is listed on a 14th century Christian Spanish astrolabe #4560 (King 2002).
- German astronomer Wilhelm Schickard (1592 – 1635) listed it as “Alasado” and “Asedaton”.
- Johann Bayer’s *Uranometria* (1603) lists “Alezet”, “Alasid”, “Astivel”, and “Asid”.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Aleset vel Alasid” and “Asit vel Asid”.
- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) listed “Asid” and “Ellesed” and cautioned his readers against the erroneous “Alatid” and “Alezet”.
- “Alesid”, “Alezet”, and Alasado” are listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as names for the constellation Leo.
- This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as “Leo Alased” and is used as a name for the constellation Leo.
- Robert Hues lists it as “Alased” in his *A Learned Treatise of Globes* in 1659.
- NOTE: R. H. Allen in his *Star Names* in 1899 claimed that the legs of this Arabic asterism included the stars Alpha (α) Boötis (Arcturus) and Alpha (α) Virginis (Spica), describing these as “Arcturus as the second calf of the lion… Spica being the first calf”, citing the Iranian astronomer Abu Rayhan Muhammad ibn Ahmad al-Biruni (973 – c. 1050).

This Seleucid asterism from as “UR” (see Urgulu Demon, below) or “UR.MAH” (“lion”) from tablet SBTU II No 43 (W 22646) from the Seleucid (Hellenistic) period (275 B.C.E. – 116 C.E.) is the IAU constellation Leo (Foxvog 1993).

This Persian asterism “Ser” or “Sher” is the IAU constellation Leo. John Hill lists the name as “Shir” in his *Urania* in 1754.

This Turkish asterism “Artān”, “Artan” or “Arslan” is the IAU constellation Leo.

This Syrian asterism “Aryō” or “Aryo” is the IAU constellation Leo.

This Hebrew asterism “Aryē”, “Arye”, “Aryeh”, or “Ari” is the IAU constellation Leo as listed in their list of constellations of the zodiac (mazzaroth) in their Talmud and is related to their month Av.

This Babylonian asterism “Arū” is the IAU constellation Leo as listed in R. H. Allen’s *Star Names* in 1899. This is listed in the BM 78161 tablet under the name “ur-a” (Liechty 1988, Leitz 2019). Allen describes the following parts:

- Two stars of the head (ziqpu 21): Mu (μ) Leonis and Epsilon (ε) Leonis,
- Four stars of the chest (ziqpu 22): Zeta (ζ) Leonis, Gamma (γ) Leonis, Eta (η) Leonis and Alpha (α) Leonis (Regulus).
- Two stars of the rump (ziqpu 23): Delta (δ) Leonis and Theta (θ) Leonis,
- Single star of the tail (ziqpu 24): Beta (β) Leonis (Denebola).

This Vedic rashi "Simha" is the IAU constellation Leo as listed in the Vedic *Candragarbha-parivarta* (Kotyk 2017, Rath 2022). R. H. Allen lists it as "Sinha" in his *Star Names* in 1899, as does W. Brennan in his *Hindu Astronomy* in 1896. The Chinese phonetically translated "Simha" from the Vedic *Candragarbha-parivarta* in 566 as "Xinghe" (Kotyk 2017). Bhagwath (2019) lists it as "Shimha" and writes that it represents the energy of the God Indra.

This Tamil zodiac asterism "Simham" is the IAU constellation Leo. R. H. Allen lists it as "Sinha" in his *Star Names* in 1899.

This German asterism "Löwe" is the IAU constellation Leo as depicted in the *Nördliche Sternhimmel* sky map of O. S. Reuters based on the work of German astronomer Johann Elert Bode (1747 – 1826).

In Nama sky lore the star Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus represents the husband of the daughters of the sky god (the Pleiades cluster in the IAU constellation Taurus). When the husband shot his arrow (Orion's sword) at three zebras (the belt of Orion) it fell short. He didn't recover his arrow as a lion (Alpha (α) Orionis (Betelgeuse)) was watching in ambush.

Lion Being:

The stars of this Gwich'in asterism "ɔemǫ́ǫhdzí" are unidentified at present (Cannon 2021). This is a malevolent being only partially controlled by Yahdii (see Traveler, below).

Lion Deity:

The Chinese translation of the Sūryagarbha-parivarta from 585 describes the IAU constellation Cancer as "Shīzi shén" (師子之神) or "lion deity" (Kotyk 2017).

Lion Nebula:

This HII region is SH 2-132 (LBN 473) in the IAU constellation Cepheus.

Lioness:

This Arabic asterism "Al Asadah" is the IAU constellation Lupus and appears on a Turkish planisphere:

- German astronomer Johann Bayer (1572-1625) lists this as "Asida" and gives the Latin name "Leaena" in his Uranometria (1603).
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Asida" and "Leana".
- The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch lists "Asida" and "Leaena".
- Robert Hues lists it as "Fera" and "Asida" in his *A Learned Treatise of Globes* in 1659 and describes it as "the Wild Beast" or "a Lionesse".

This asterism "Leaena" is the IAU constellation Leo Minor and was given this name by English astronomer Richard A. Proctor in 1870 as he believed that shortening the name would make more room

on astronomical charts. However, it is listed as “Leo Minor” in Proctor’s *A New Star Atlas* (1887) as an official constellation “recognized in the catalogue of the British Association”.

Lionrock:

This **telescopic** Hong Kong star is HIP 110813 (HD 212771) in the IAU constellation Aquarius (magnitude 7.60). It was given this name in the IAU NameExoWorlds campaign. It is named for a culturally important peak in Hong Kong. It has an exoplanet named Victoriapeak, which is a peak overlooking Victoria Harbour.

Lions:

This is one of the asterisms found on the cave ceiling in Armintxe, Spain, estimated to be between 12,000 and 14,000 years old. It is made up of stars in the IAU constellation Cepheus: The central star is 16 Cephei, from which three lines of stars emerge:

- One bending line runs through Xi (ξ) Cephei to Alpha (α) Cephei (Alderamin),
- One runs to Beta (β) Cephei, and
- One runs to Eta (η) Cephei.

This San asterism is the Pointers (see Pointers, below). It is two brothers who were turned into lions. R. H. Allen mentions this asterism in *Star Names* in 1899.

Lion’s Back:

This Arabic star “Al Ṭhahr al Asad” is Delta (δ) Leonis in the IAU constellation Leo as listed by Persian astronomer Ulugh Beg Mirza (1394 – 1449). “Al Thahr al Asad” is listed in R. H. Allen’s *Star Names* in 1899. Allen writes that this became “Duhr and Dhur of modern catalogues”, but “Dhur” (ظهر) or “Back” is another name for this star (see Back, above).

Lion’s Haunches:

This Arabic star “Warak al Asad” is Beta (α) Virginis (Zavijava) in the IAU constellation Virgo as listed by R. H. Allen in his *Star Names* in 1899. It is part of the Arabic asterism Two Haunches (see below).

Lion’s Heart:

This Babylonian star “MUL.LI.SI” (Hunger 1992) and Akkadian star “Lisi” (Hunger 1992) from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius.

This Persian star “Us.si” from the list of Masu stars from the lists K 250 and VAT 9418 from the Persian (Achaemenid) Period (539 – 331 B.C.E.) is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius (Boll 1918). Hermann Hunger lists it as “lisi” in his *Astronomical Diaries and Related Texts from Babylonia* in 1988.

This English star is Alpha (α) Leonis (Regulus) in the IAU constellation Leo as listed by Wyllyam Salysbury in 1552: “The Lyon’s herte is called of some men, the Royall Starre”:

- Johann Bayer’s *Uranometria* (1603) lists “Cor Leonis” (“Lion’s Heart”) and “Pectus Leonis” (“Lion’s Chest”) for this star.

- Gores for a celestial globe Bibliothèque Nationale de France, Département Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius labels this star "Cor Leonis".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Cor Leonis".
- "Cor Leonis" is listed under this name in the third edition of Rev. Thomas William Webb's *Celestial Objects for Common Telescopes* in 1873.
- The 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) lists "Cor Leonis" for this star.
- R. H. Allen's *Star Names* in 1899 lists the Lion's Heart.

Lion's Nose:

This Arabic star "Al-minħar al-asad" is the double star Kappa (κ) 1 & 2 Leonis in the IAU constellation Leo:

- This was later latinized to "Al Minhar al Asad" or "Al Minlear al Asad" as listed by Persian astronomer Ulugh Beg Mirza (1394 – 1449).
- Frank Schlesinger's *Yale Bright Star Catalogue* of 1930 corrupted this to "Al Minliar al Asad".
- NOTE: Al Minliar al Asad is not approved by the IAU.

Lion's Skin:

This Arabic asterism is the stars Omicron (ο) 1 and 2 Orionis, Pi (π) 1, 2, 3, 4, 5, and 6 Orionis and 6 Orionis according to R. H. Allen's *Star Names*.

Lion's Son of Leo:

This **telescopic** asterism "Leónidas Leónis" is the irregular galaxy UGC 5364 (Leo A or Leo III) in the IAU constellation Leo. It was discovered by Fritz Zwicky in 1942. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They named "Leo A, Leo B, and Leo I" with related names (see Belonging to the Lion, above, and Like a Lion, above).

Lion's Testicles:

This Khoikhoi asterism "xam ≠kxarakxa" is the Magellanic Clouds (Alcock 2014).

Lion's Tongue:

This asterism is the barred spiral galaxy NGC 2903 in the IAU constellation Leo. It was discovered by English astronomer John Herschel in 1784, who listed it as "604.1" in his catalogue. It is GC 1861 in the *General Catalogue* of 1864. Herschel mistook it for a double nebula, listing the other part as "604.2". It was the William Parsons, the Third Earl of Rosse, that determined that it was a single spiral. It was given this name by Canadian astronomer and RASC member Chris Vaughan due to its position in relation to Leo: Vaughn reported this in 2023. This is O'Meara 51 in astronomer Stephen James O'Meara's *Hidden Treasures Catalogue* (2007), who does not assign a name to it.

Lip:

This Arabic star "Al Jaḥfalah" is Epsilon (ε) Pegasi in the IAU constellation Pegasus as listed in R. H. Allen's *Star Names* in 1899. Allen reports that this asterism is "found on one of their globes" but doesn't

specify which one. Later in *Star Names* Allen lists it as a name for Nu (ν) Pegasi without providing a translation.

Lipstick Marks on a Mirror:

This is an alternate name for the Incredible Shrinking Nebula, NGC 6804, (see Incredible Shrinking Nebula, above). This was discovered by English astronomer William Herschel in 1791 who listed it as "VI 38". It is GC 4499 in the *General Catalogue* of 1864. It was given this name by Stephen O'Meara in his 2011 book *The Secret Deep.* It is also known as the Snowball (see below).

Literary Star:

This Chinese star "Wenqu" from the Three Kingdoms to the Ming Dynasty is Delta (δ) Ursae Majoris in the IAU constellation Ursa Major.

This Chinese Chenzhuo xing guan "Wenqu" is the star Delta (δ) Ursae Majoris in the IAU constellation Ursa Major. It is part of their xing guan Northern Dipper.

Little Abdomen:

This Arabic manzil is the stars 35, 39, and 41 Arietis in the IAU constellation Aries, which matches the Vedic nakshatra Bearer (see above), and which was the stars listed by Ibn Qutayba. This is part of the Arabic asterism Lamb (see above). Compare to Little Belly of the Lamb (below). The oldest known Islamic celestial glove, made between 1080 – 1085 by Ibrahim ibn Sa'id al-Wazzan and his son Mohammad, depicts these three stars connected to Delta (δ) Arietis, and the illustration resembles a penis with testicles. Dorn (1829) lists this as the "Little Belly" which appears on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283).

Little Abundant One:

This Arabic manzil "ʾAth-Thurayyā" (اَلثُّرَيَّا) or "Al-Thrayyā" (الثريا) is the Pleiades cluster in the IAU constellation Taurus. The Arabic name "Thuraya" is ancient, and is a diminutive, so its meaning would be akin to "the Little Abundant One". This is clearly a term of endearment, and in Arabic legends it is anthropomorphized as female. It is also associated with moisture, and this is because it was an indicator of the rainy season al-wasmi. This asterism is part of a larger asterism by this name, made up of stars of the IAU constellations Cetus, Perseus, and Taurus: The poet Dhu r-Rumma (d. 735 C.E.) wrote of the hands of Al Thurayya, as did philologist Ibn Qutayba (d. 889 C.E.). This is how it is viewed:

- From the Pleiades one "arm" runs out through "The Shoulder of Al-Thurayya", which is the stars Omicron (ο) and Xi (ξ) Persei with Zeta (ζ) Persei being the "Shoulder Blade",
- From this "shoulder" this "Arm" runs up through Epsilon (ε) Persei "The Arm" and Nu (ν) Persei,
- The "Elbow" is the star Alpha (α) Persei (Mirfak) with the "Tip of the Elbow" being Delta (δ) Persei,
- The "Forearm" is the star Gamma (γ) Persei,
- From Gamma (γ) Persei a line runs through Eta (η) Persei to "The Wrist" or "Tattoo on the Wrist" which is the Double Cluster, which is the pair of open clusters NGC 869 and 884 (see Double Cluster, above). The end of this arm is the Arabic asterism "Tinted Hand" (see below).
- From the Pleiades another "arm" runs out through the stars 5 Tauri, Xi (ξ) Tauri and Omicron (ο) Tauri to a "wrist" at Alpha (α) Ceti. At the end of the arm is their asterism "Leprous Hand" (see above) or Cut Short Hand (see above).

The Tinted Hand and Leprous Hand were referred to as the Two Hands ("yada al-jawza'"). The arc of Thuraya's arms encompass the "auspicious" or "lucky" stars and asterisms of the Arabs and represent her role as a mediator between east and west, with the middle finger of the "Leprous Hand" pointing to the star Antares, and the middle finger of the "Henna Hand" pointing to the star "Aldebaran" (Steiner 2017).

Here is how it appeared in other cultures:

- "al-Thurayyā" is listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- This appears on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283).
- Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) labels "al-thurayyā" in silver.
- An anonymous Hebrew star list from 1392 (Goldstein 1985) lists the Arabic name "al-thurayyā" and Hebrew name "zenav benot 'ayish" for Eta (η) Ursae Majoris.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Athoray".
- German astronomer Johann Bayer (1572-1625) lists it as "Athoraie".
- The Spencer manuscript Pers. 6 (c1630) of al-Sufi's *Book of Fixed Stars* depicts her as the top half of a female. Both of her arms are raised skyward, but there is no hand on one of the arms.
- Robert Hues (1659) lists "Atauria"
- Italian astronomer Giovanni Batista Riccioli (1598 – 1671) lists it as "Athoraiae", "Atarage", "Altorieh", "Athorace", and "Altorich"
- The 15th century *Alfonsine Tables* list "Atorage", and still another variation is "Turanyā".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Al Thuraiyá" as originally being a name for "Cassiopeia's chair" and goes on to explain that it is "a name more exclusively appropriated by the Pleiades" and also lists "Ath-thurayya, or the little ones".
- W. Brennand lists this as "Al-Thuraiya" in his *Hindu Astronomy* in 1896.
- John Chilmead (1899) and Robert Hues (1659) as "Atauria".

This Yemeni manzil "Thurayyā" is the Pleiades cluster in the IAU constellation Taurus (Varisco 1995). This appears in the *Kitāb al-Tabşira Fī'ilm al-Nujūm* of 13th century Rasulid ruler al-Malik al-Ashraf 'Umar ibn Yūsuf (d 1296

Little and Disturbed of Centaurus:

This **telescopic** asterism "Turbídulus Centaúri" is the galaxy ESO 383-87 (PGC 49050) in the IAU constellation Centaurus. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Little Auger:

There are two Romanian "Sfredelul Mic" or "Burghiul" asterisms:

- One is in the IAU constellation Canis Minor (Ottescu 2009). Alpha (α) Canis Minoris (Procyon) is the "handle" and Beta (β) Canis Minoris (Gomeisa) is the "point".
- One is the three stars Epsilon (ε), Eta (η), and Zeta (ζ) Aurigae in the IAU constellation Auriga (Ottescu 2009). Compare this to Earth's Auger, above.

Little Bear:

This asterism is the IAU constellation Ursa Minor:

- *The safegarde of saylers*, of Cornelius Antoniszoon (b. ca. 1499) translated out of Dutch into English by Robert Norman hydrographer in 1605 lists "Little Bear" for this constellation.
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Little Bear" for this constellation.

This German asterism "Kleine Beer" is the IAU constellation Ursa Minor as listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

This Basque asterism "Harzkume" is the IAU constellation Ursa Minor and is part of their Bear Son saga which has parallels such as the John Bear or John Little Bear in other sky cultures. Harzkume is the son of the Great Bear (see above) which is Ursa Major (Frank 2021).

This Romanian asterism "Ursul Mic" is the IAU constellation Ursa Minor (Ottescu 2009).

Little Beaver:

This Tse'khene asterism "Dzauya" is cognate with the Gwich'in asterism "Yahdii" (see Traveller, below (Cannon 2021)).

Little Beehive:

See Beehive, above.

Little Belly of the Lamb:

There are two Arabic manzils with the name "al-Buṭayn" (بطين) which means "belly" or "batn al-hamal", a diminutive which means "little belly of the lamb". 16th century Arabic astronomer Al Tizini listed the name "Nāʾir al Buṭain):

- One, later latinized to "Al Butain", is the stars Epsilon (ε), Zeta (ζ), Pi (π), and Rho (ρ) Arietis in the IAU constellation Aries (Al Butain I, II, III, and IV).
- One is the stars Delta (δ), Epsilon (ε), and Rho (ρ) Arietis in the IAU constellation Aries.
    - This was later latinized to "Botein".
    - This group of stars was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) as he felt they were located closer to the path of the moon across the sky.
    - Scottish uranographer Alexander Jamieson (1782 – 1850) lists this asterism as "Botenim" in his *Celestial Atlas* in 1822.
    - English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists this manzil as "Botein, from al-botaïn, the little belly".
    - W. Brennand lists this in his Hindu Astronomy in 1896 as Al-Botein and attributes it to Persian astronomer Ulugh Beg Mirza (1394 – 1449).
    - The IAU has approved the name Botein for the star Delta (δ) Arietis.
    - NOTE: This is part of their Asterism Al-Hamal (see Lamb below), hamal being the name for a first-year lamb, not a ram or sheep (as some have translated it). Compare this to Little Abdomen of the Lamb (above).

Little Bison:

This is one of the asterisms found on the cave ceiling in Armintxe, Spain, estimated to be between 12,000 and 14,000 years old. It is a spiral of stars made up of the stars of the IAU constellations Cepheus and Lacerta: It starts at Nu (ν) Cephei and runs through Mu (μ) Cephei, Beta (β) Lacertae, and HIP 115990, ending at Delta (δ) Cephei.

Little Bitch:

This Romanian star "Căţelusa" is 80 Ursae Majoris in the IAU constellation Ursa Major (Ottescu 2009). Ottescu writes that the Slavic term "Paloșchiţa" (which has the same meaning" is also used. Ottescu reports that some Romanians use this name for Epsilon (ε) Ursae Majoris or 78 Ursae Majoris.

Little Book of Head:

This French asterism "Orbiculus Capitis" was a name given to the IAU constellation Corona Australis by the 18th-century French astronomer Joseph Jérôme Lefrançois de Lalande (1732 –1807).

Little Bull:

"Torito" is an unidentified Quechua zenith star (Urton 1981).

Little Camels:

See Female Camel, above.

Little Canoe:

This Chinook asterism is the sword of Orion in the IAU constellation Orion. It is in a race with the Big Canoe (see above). The river is the Milky Way, and the fish is the star Alpha (α) Canis Majoris (Sirius).

Little Cart:

This Serbian asterism "Mala kola" is the Little Dipper asterism in the IAU constellation Ursa Minor.

Little Castle:

The IAU assigned the Latin name "Castula" to the star Upsilon (υ) 2 Cassiopeiae in the IAU constellation Cassiopeia in 2016. R.H. Allen writes in his *Star Names* in 1899 that this name is "from Nonius", which would be 5th century grammarian Nonius Marcellus.

Little Chariot:

This Romanian asterism "Mic Car" or "Carul Mic" is the Little Dipper asterism (see below) in the IAU constellation Ursa Minor (Ottescu 2009, Lite, Lodina, and Ignat 2018). One Romanian legend describe this as Yahweh's chariot.

Little Cloud:

This Greek asterism "Νεφέλιον", "Nephelion" or "Nefélion" is the open cluster Messier 44 (Beehive Cluster- see Beehive above) in the IAU constellation Cancer. This is the name that Hipparchus (190 – 120 B.C.E.) gave to this open cluster.

This German asterism "Nubecula Minor" is the Small Magellanic Cloud (NGC 292) in the IAU constellation Tucana. This is listed as GC 165 in the 1846 *General Catalogue*:

- "Nubecula Minor" was listed by German astronomer Johann Bayer (1572 – 1603) in his *Uranometria* 1603. Nubecula is Latin for "little cloud", so this name seems to translate as "minor little cloud" (see Nubecula Minor, above).

- "Nubecula Minor" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
- Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts a cloud labelled "Nubecula Minor".
- Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) depicts "Nubecula Minor" on his chart as a cloud.
- English astronomer John Herschel listed it under this name in his observations.
- The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts "Nubecula Minor" as a cloud.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists it as "Nebula Minor" in his *Celestial Atlas* in 1822.
- This is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) with the abbreviated label "Nubec Minor": He indicates the borders of this constellation on the chart but offers no illustration of it.
- "Nubecula Minor" appears as a name for the Small Magellanic Cloud in Johan Dreyer's 1888 *New General Catalogue*.
- William Denning's *Telescopic Work for Starlight Evenings* (1891) lists "Nubecula Minor" as a name "marked… on celestial globes and charts", but lists it himself as a Magellanic Cloud.
- The 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) lists "Nubecula Minor".
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists "Nubecula Minor" as an alternate name for the SMC.
- *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010) lists this as "Nímbulus Magellánicus Túcanae".

Little Cloud of Pirates:

This **telescopic** asterism is the open cluster Melotte 20/Collinder 39, the Alpha Perseus Cluster in the IAU constellation Perseus, a cluster of 50 bright stars to one side of the star Alpha (α) Persei (Mirfak). It is also known as the Saxophone, the Secret Garden Cluster and the Royal Council of Stars.

Little Cock:

See Little Cocoon Nebula.

Little Cocoon Nebula:

This **telescopic** asterism is HII region is SH 2-82 (LBN 129) in the IAU constellation Sagitta. Astrophotographer Jose Francisco Hernandez listed it on Facebookon 18 July 2024 as "the Little Cock".

Little Crab:

This Ikoots asterism "Pilaw" is the stars Gamma (γ) and Delta (δ) Cancri in the IAU constellation Cancer.

This is also an alternate name for the asterism Cancer Minor (see above).

Little Cross:

This Romanian asterism "Cruce Mică" or "Crucea Mică" is the IAU constellation Delphinus (Ottescu 2009, Lite, Lodina, and Ignat 2018).

Little Crown:

This German asterism "Corolla" was a name given to the IAU constellation Corona Australis by the 18th-century German poet Philipp von Zesen (1619 – 1689).

Little Daughter:

This Khoikhoi star "/gõaros" is currently unidentified (Alcock 2014).

Little Dipper:

The Little Dipper asterism is a dipper made up of stars in the northern IAU constellation Ursa Minor. Alpha (α) Ursae Minoris (Polaris- 48th brightest star) is the end of the dipper handle. From there it runs through the stars Lambda (λ), Delta (δ), and Epsilon (ε) Ursae Minoris, reaching the edge of the dipper at Zeta (ζ) Ursae Minoris. The four stars of the "dipper" are Zeta (ζ) Ursae Minoris, Eta (η) Ursae Minoris, Gamma (γ) Ursae Minoris (Pherkad) and Beta (β) Ursae Minoris (Kochab- 58th brightest star).

There is also a Chinese xing guan by this name in the southern IAU constellation Chamaeleon, "Xiǎodǒu" (小斗):

- The bent handle starts at the star HIP 36982 and runs through Theta (θ) Chamaeleontis, HIP 43012, Iota (ι) and Zeta (ζ) Chamaeleontis and reaches the "dipper" at Delta (δ) Chamaeleontis.
- The "dipper" is the four stars Delta (δ), Gamma (γ), Epsilon (ε), and Beta (β) Chamaeleontis.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists the name "Little Dipper" for this asterism.

Little Dog:

This asterism "Canicula" is the IAU constellation Canis Major. Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts "Canicula" as a collared dog walking to our left. This name is listed in Johann Bayer's *Uranometria* (1603).

This asterism "Canis Parus" is the IAU constellation Canis Minor. "Canis Parus" is listed in Johann Bayer's *Uranometria* (1603). "Kleiner Hund" is listed in the *Nördliche Sternhimmel* sky map of O. S. Reuters based on the work of German astronomer Johann Elert Bode (1747 – 1826).

This Romanian asterism "Caine Mic" or "Căţelul" is the IAU constellation Canis Minor (Ottescu 2009, Lite, Lodina, and Ignat 2018).

This Latin star "Canicula" is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major:

- A variation of this name is "Canicula Cadens" ("shining little dog").
- The *De ordine ac positione stellarum in signis* ("*On the order and position of the stars in the signs*") in the Salzburg compilation (810 – 818) of Abbot Arno of Salzburg (785 – 821) lists "Canicula".
- The 11th century *De signis caeli ("of the signs of heaven*") lists "Canicula"
- The Klosterneuberg 685, Paris BN 5239, Paris BN 5543, Vat lat 643, and Zwettl 296 manuscripts of *De signis caeli* depict a halo and rays around it.
- It is listed as "Canicula" in the *Palladium of Husbandry* in 1420.
- *Dele Stelle Fisse* ("Of the Fixed Stars") by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists "Canicula" as a name for Canis

Minor. The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Canicula" as a name for Canis Minor and as a name for Alpha (α) Canis Majoris.
- The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch lists "Canicula" as a name for Sirius.
- John Hill lists "Canicula" in his *Urania* in 1754.
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Canicula" as a name for Sirius.

This Latin asterism "Canicula" is the IAU constellation Canis Minor. Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) labels this constellation "Canicula". English astronomer Edmund Halley's chart of 1678 labels this constellation "Canicula" and depicts it as a dog. English uranographer John Seller's *A coelestiall planisphere* (1678) depicts this constellation as a dog and labels it "Canicula". This constellation is listed as "Canicula" by Edward Sherburne in his *Sphere of Marcus Manilius* in 1675. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Litel Dogge" and attributes this to the English Mathematician Leonard Digges (1515 – 1559).

Little Dogs:

This **telescopic** asterism is Ennis 4 in the IAU constellations Sculptor and Piscis Austrinus, listed by Canadian astronomer Charles Ennis. It has two parts:

- Little Dog 1: This part is in Sculptor. Ennis observed it while looking for the cluster Simonic 34. The brightest star, which forms the "dog's ear" is magnitude 12.9. A small triangle of stars nearby, the brightest being magnitude 13.4 is the "nose". To one side a rectangular formation of 13th to 14th magnitude stars forms the "body" and "feet". A 14.8 magnitude star is the "tail".
- Little Dog 2: This part is in Piscis Austrinus. Ennis observed it while looking for the cluster Simonic 35. The body is a parallelogram of 5 13th magnitude stars, with the "back foot" a 13.1 magnitude star a little further west. The "front foot" is a 13.7 magnitude star at the other end of the parallelogram, and the "head" is a triangle of two 13th magnitude stars and one 15th magnitude star, with a 14th magnitude star for an "ear".

Little Dumbbell Nebula:

This **telescopic** asterism is the planetary nebula Messier 76 (NGC 650/651) in the IAU constellation Perseus. It was discovered by French astronomer Pierre Méchain in 1780 and included in Charles Messier's catalogue. William Hershel listed this as "I 193". It was listed in the General Catalogue of 1864 as GC 385/6. It was first recognized as a planetary nebula in 1918 by American astronomer Heber Doust Curtis. The 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) describes this as "like the Dumb-bell Nebula". Robert Burnham lists this name in his *Burnham's Celestial Handbook* in 1978. This name results from its resemblance to the Dumbbell Nebula, Messier 27. It is also known as the Butterfly Nebula, the Cork Nebula, and the Barbell Nebula.

Little Exuberant of Camelopardalis:

This **telescopic** asterism "Luxuriósulus Camelopardális" is the dwarf irregular galaxy NGC 1569 (Arp 210) in the IAU constellation Camelopardalis. William Herschel listed this as "II 768". It became GC 847 in the

General Catalogue of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Little Eye of Pavo:

This **telescopic** asterism "Ommátium Pavónis" is the barred lenticular galaxy NGC 6684 in the IAU constellation Pavo. It was discovered in 1836 by John Herschel who listed it as h 3757 and later as GC 4431 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "it looks like an eye in the tail of a peacock."

Little Eyes:

This Hawaiian asterism "Makali'i'" ("chief's eyes" or "little eyes" or "little stars") is the Pleiades cluster in the IAU constellation Taurus.

Little Finger of Ursa Major:

This **telescopic** asterism "Digitulátus Úrsae Majóris" is the spiral galaxy NGC 3549 in the IAU constellation Ursa Major. It was discovered in 1789 by William Herschel who listed it as "I 220". It became GC 2317 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to the "extending spiral arm at the northeastern edge" which to them resembles a "little finger".

Little Fish:

This Wardaman star "Wurren" is Zeta (ζ) Phoenicis in the IAU constellation Phoenix (Cairns and Harney 2003). The IAU approved Wurren as a name for the star Zeta (ζ) Phoenicis Aa in 2017. Compare this to Little Fishes, below.

Little Fisher Stars:

This Ininew (Cree) asterism "Ochakatakos-iskewew" is the Little Dipper in the IAU constellation Ursa Minor (Lee et al 2014).

This Anishinaabe asterism "Odjig Anungonse" is the Little Dipper in the IAU constellation Ursa Minor (Lee et al 2014).

Little Fisher's Tail:

This Anishinaabe star "Keewatin Anung" is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Lee et al 2014).

Little Fishes:

This Wardaman asterism is the Hyades cluster in the IAU constellation Taurus. Each star represents a different fish:

- Guamba or Guwamba (Alpha (α) Tauri (Aldebaran)) is the Barramundi,
- Narong (Theta (θ) Tauri) is the Perch (see below),
- Gamakba (Gamma (γ) Tauri) is the Red-tail (see below),
- Ourtba (Delta (δ) 1 Tauri) is the Nailfish (see below),
- Lawara (Delta (δ) 3 Tauri) is the Rival Fish (see below), and
- Galin or Jalin (Epsilon (ε) Tauri) is the Crayfish (see above).

Little Flame Nebula:

This **telescopic** asterism is IC 2087 (LBN 813, Ced 83) in the IAU constellation Taurus.

Little Flame of Centaurus:

This **telescopic** asterism "Ignículus Centaúri" is the intermediate spiral galaxy NGC 5253 in the IAU constellation Centaurus. It was discovered by English astronomer William Herschel in 1787 who listed it as "I 34". It is GC 3615 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it has "the shape of a flame".

Little Flame of Ursa Major:

This **telescopic** asterism "Phlógium Úrsae Majóris" is the irregular dwarf galaxy UGC 4305 (Arp 268) in the IAU constellation Ursa Major. It was discovered by Erik Bertil Holmberg, and is known as Holmberg II. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of its "violent star formation activity".

Little Flower Cluster:

This **telescopic** asterism is the open cluster NGC 3228 in the IAU constellation Vela. It was discovered by French astronomer Nicolas Louis de Lacaille in 1751-2 who listed it as "II 7" in his catalogue. It is GC 2090 in the *General Catalogue* of 1864. This is also known as the Queen's Cache (see below) and "V" (see below). South African astronomer Magda Streicher (2006) listed it as the Little Flower Cluster. Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) lists this without a name.

Little Follower:

The Bedouin star "al-Twaibi'" (التويبع) is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus. It is called this as it is part of their manzil Follower (see above).

Little Gem Nebula:

This **telescopic** asterism is planetary nebula NGC 6818 in the IAU constellation Sagittarius. It was discovered by English astronomer William Herschel in 1787 who listed it as "IV 51". It is GC 4510 in the *General Catalogue* of 1864. American astronomer John Mallas (1927 – 1975) gave it this name in an article in Astronomy Magazine in August 1977. NOTE: Robert Zebahl lists NGC 6445 as the "Little Gem" on his *Faint Fuzzies* website and NGC 6818 as the "Kleiner Edelstein" ("small gem"). It is also known as Faint Uranus (see above). It is also known as the Box Nebula or the Coffin Nebula.

Little Ghost Nebula:

This **telescopic** asterism is planetary nebula NGC 6369 in the IAU constellation Ophiuchus. It was discovered by English astronomer William Herschel in 1784 who listed it as "IV 11". It is GC 4302 in the *General Catalogue* of 1864. American astronomer Mark Friedman listed this name on the *Deep Sky Forum* in July 2017. It is also known as the Ghost of Mars Nebula (see above) and the TIE Fighter (see below).

Little Goat:

This Arabic star is Zeta (ζ) Ursae Majoris (Mizar) in the IAU constellation Ursa Major and is part of their asterism Daughters of Na'sh (see above).

This English star is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga as listed by Robert Hues in his *A Learned Treatise of Globes* in 1659.

Little Heart of Fornax:

This **telescopic** asterism "Córdula Fornácis" is the barred lenticular galaxy NGC 1302 in the IAU constellation Fornax. It was discovered by Edward Barnard in 1885. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Little Heaven:

This Latin asterism "Parvum Coelum" is the IAU constellation Corona Australis.

- Johann Bayer's *Uranometria* (1603) lists "Parvum Coelum".
- Edward Sherburne lists "Parvum Coelum" in his *Sphere of Marcus Manilius* in 1675.

Little Hercules:

This **telescopic** asterism is in the IAU constellation Cassiopeia and is Leiter 13 on astronomer Frank Leiter's list of asterisms. Its size is 19' X 17'.

Little Herdsman:

This Romanian star "Văcarul Mic" is 80 Ursae Majoris in the IAU constellation Ursa Major (Ottescu 2009). He is driving the Seven Oxen (see below).

Little Heron:

This Carib asterism "Savakuyuman" or "Savaku" represents a variety of heron (Ardeidae). A man by the name Savaku was turned into this bird. It appears to be related to when the herons begin to migrate to the coast. Its present location is unknown (Magaña, and Jara, 1982).

Little Horn Star:

This Sotho and Tswana star "Senakane" ("hornlet")is Alpha (α) Eridani (Achernar) in the IAU constellation Eridanus (Slotegraaf 2013).

This Venda star "Tshinanga" or "Tshinananga" is Alpha (α) Eridani (Achernar) in the IAU constellation Eridanus (Slotegraaf 2013).

Little Horse Stud:

This Romanian asterism "Gavădul Mic" is the IAU constellation Pegasus (Ottescu 2009). Compare to Great Horse Stud (above).

Little House of Little Stars:

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) lists the Pleiades cluster in the IAU constellation Taurus the "Plejades" and gives the alternate name "ein Häuslein Kleiner Sterne" ("a little house of little stars").

Little Jewel Box:

This **telescopic** asterism is open cluster NGC 3293, discovered by French astronomer Nicolas Louis de Lacaille in 1751 in the IAU constellation Carina. Lacaille described it in his 1755 catalogue as a "small heap of 4 small stars forming a lozenge." It is GC 2144 in the *General Catalogue* of 1864. It is also

known as the Spider Spit Cluster (see below), Hubbly Bubbly Pipe (see below), "U" (see below), the Horseshoe (see above), and the Gem Cluster (see above).

Little Joe (from Kokomo):

This **telescopic** asterism in the IAU constellation Pisces is a colorful trapezium of the stars 27, 29, 30 and 33 Piscium. It is from a list by American astronomer and musician Stephen Saber. Its size is 120'. The name "Little Joe" is a reference to shooting dice: it is a pair of twos. Saber also refers to it as the "chicklet".

Little Knee:

This Latin asterism "Ingeniculus" is the IAU constellation Hercules (in his original form as the Kneeler, see above) as listed by Edward Sherburne in his *Sphere of Marcus Manlius* in 1675 and by John Hill in his *Urania* in 1754.

Little Leo:

This **telescopic** asterism in the IAU constellation Gemini is also known as Lovett 1 and resembles the IAU constellation Leo: Eight stars close to the star Beta (β) Geminorum (Pollux) in the shape of a number "7" (including HIP 38231, 38261, 38363, and 38101) with two stars in the middle for a body, and two more angled at the end (HIP 38055A and 38101). I believe this is from a catalogue of E. O. Lovett of the Astronomical and Astrophysical Society of America in 1895. Size 60'.

Little Lion:

This **telescopic** Singaporean star "Parumleo" is WASP 32 in the LAU constellation Pisces (magnitude 11.26). It was given this name in the IAU NameExoWorlds campaign. This Latin name represents Singapore's struggle for independence. It has an exoplanet named Viculus, which is a Latin term for "little village".

Little Lips Nebula:

See Albino Butterfly Nebula, above.

Little Lute:

This is a name given to Alpha (α) Lyrae (Vega) in the *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus, who also calls it the "Lyre".

Little Mati:

This Woleaian star "Maishig" is a star in the IAU constellation Hercules (Holton et al 2015). It lends its name to a month in their calendar.

This Chuukese star "Mááchik" is a star in the IAU constellation Hercules (Holton et al 2015). It lends its name to a month in their calendar.

Little Mist:

This Greek asterism "Ἀχλύς", "Achlýs", or "Achius" is the open cluster Messier 44 (see Beehive, above) in the IAU constellation Cancer. It was given this name by Greek poet Aratus (c. 310 – 240 B.C.E.) in his poem *Phaenomena*. In the 16th to 17th centuries, it was often listed as "Nebulosa, in pectore Cancri" ("mist in Cancer's breast").

Little Ones:

This Hungarian asterism “Fiastyúk” (“little ones”) is the Pleiades cluster in the IAU constellation Taurus. R. H. Allen lists it as “Fiastik” in his *Star Names* in 1899 but translates it as “boys”. The celestial map of Hungarian uranographer Sandor Nagy (1915) depicts this asterism as a hen and chicks, which is a very common theme in European skies.

Little Ones Whose Hair is Growing:

This Ukrainian asterism “Volosozhary” (Волосожари) is the Pleiades cluster in the IAU constellation Taurus.

Little Orion:

This **telescopic** asterism Leiter 9 was discovered by American astronomer Frank Leiter in the IAU constellation Cygnus. It consists of seven stars resembling the constellation Orion close to the star Alpha (α) Cygni (Deneb) in the “Mexican Gulf” of the North America Nebula (NGC 7000). Its size is 34’ X 13’. The four brightest stars on the corners are HIP 103341, 103282, 103268 and 103356 and a line of three 8^{th} – 9^{th} magnitude stars form the “belt”. This is listed in *Asterisms: Small Star Patterns for Telescopes and Binoculars* by Dutch astronomer Demelza Ramakers in 2011.

Little Pan of Sculptor:

This **telescopic** asterism “Paníscus Sculptóris” is the barred spiral galaxy NGC 7713 in the IAU constellation Sculptor. This was discovered in 1836 by John Herschel who listed it as h 4000 and later as GC 4992 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of “the two small extensions at the northern side of the galaxy, in combination with the broader shape at the southern side make this little galaxy look like the head of the God Pan with his two horns and beard.

Little People Who Are Dead:

This Ahtna asterism “Dastnaey Ggaay” is the Pleiades cluster in the IAU constellation Taurus (Cannon 2021). They are messengers of Nek’eltaeni (see That Which Moves Over Us, below) which remind their people of the work he did.

Little Pimpled One of Eridanus:

This **telescopic** asterism “Pustulósulus Erídani” is the barred spiral galaxy NGC 1359 in the IAU constellation Eridanus. It was discovered in 1836 by English astronomer John Herschel who listed it in his catalogue as 2550 and later in his *General Catalogue* of 1864 as GC 729. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as “the central region looks like being pimpled due to the many star formation regions”.

Little Pincushion:

See Pincushion, below.

Little Pinwheel:

This **telescopic** asterism NGC 3180 is a spiral galaxy in the IAU constellation Ursa Major. It is GC 2049 in the *General Catalogue* of 1864. It has this name due to its resemblance to the Pinwheel Galaxy, Messier 101. It is also known as the Sower of Ursa Major (see below). NOTE: Due to an error, it appears as both NGC 3180 and 3184 in the NGC Catalogue.

Little Pleiades:

See "37" above.

Little Plough:

This Romanian asterism "Plug Mic", "Rariţa", or "Rariţele" ("little ploughs") is made up of stars of the IAU constellation Orion (Ottescu 2009, Lite, Lodina, and Ignat 2018). The "plough" is a quadrilateral created by Orion's belt and the stars Beta (β) Orionis (Rigel) and Kappa (κ) Orionis (Saiph), with the handle being a line from Delta (δ) Orionis (Mintaka) to Gamma (γ) Orionis (Bellatrix). Sometimes this is just called the Plough (see below) or the Rake (see below).

This Irish asterism is the IAU constellation Ursa Minor. This asterism is found in Julie Ormonde's *Constellation Stories of Ancient Ireland* (2015).

Little Plough Handle:

This Welsh asterism is the Little Dipper Asterism in the IAU constellation Ursa Minor (see Little Dipper, above).

Little Plough Tail:

This Welsh asterism is the Little Dipper asterism in the IAU constellation Ursa Minor (Freer 2004).

Little Ring Nebula:

See Ring (below).

Little Rosette Nebula:

This **telescopic** asterism is HII region is SH 2-170 (LBN 577) in the IAU constellation Cassiopeia.

Little Rudder Stars:

This Vietnamese asterism "Sao Bánh lái nhỏ" is the Little Dipper Asterism in the IAU constellation Ursa Minor (see Little Dipper, above).

Little Sagitta:

This **telescopic** asterism is in the IAU constellation Virgo and is listed on the *Faint Fuzzies* website by German astronomer René Merting. Its size is 8' X 4'. This includes the star HP 61656.

Little Salmon Weir:

This Finnish asterism "Vähä Otawa" or "Pikku Otava" ("little salmon weir") is the IAU constellation Ursa Minor. R. H. Allen lists "Vähä Otawa" in his *Star Names* in 1899. Allen incorrectly translates this as "Little Bear". In Finnish mythology Ilmarinen hung this and the larger net "Otava" (see Salmon Weir, below) on the firmament to dry when the world was just being created. Ilmarinen used these fishnets to drag the shards of eggs from the initial waters so that he could forge the world from a bird's eggs.

Little Scorpion:

See Scorpion, below.

Little Shield of Leo:

This **telescopic** asterism “Aspidíscus Leónis” is the barred lenticular galaxy NGC 3412 in the IAU constellation Leo. It was discovered in 1784 by William Herschel and listed “I 27” in the Herschel 400 catalogue. It became GC 2229 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as “its conspicuous central region looks like an ancient shield with a boss”.

Little Shrimp:

This **telescopic** asterism is NGC 4038 and NGC 4039 (Caldwell 60/61), a pair of colliding galaxies in the IAU constellation Corvus. These galaxies were discovered by English astronomer William Herschel in 1785 who listed them as “IV 28.1” and “IV 28.2”. They are GC 2670 and GC 2671 in the *General Catalogue* of 1864. It was given this name by American astronomer Ronald Morales as recorded by Walter Scott Houston. This is also known as the Antennae Galaxies (see above), the Ring Tail Galaxy (see below), the Snorter (see below), the “Little Shrimp”, the “Celestial Comma” (see above), the “Doughnut with a Bite Taken Out of It” (see above) and the Mosquito Larvae (see below). It is Arp 244 in Arp’s *Atlas of Peculiar Galaxies*. American astronomer Steve Coe (1949 – 2018) also used this name.

Little Sieve:

This Belarussian asterism “Maloe Sita” is the Pleiades cluster in the IAU constellation Taurus (Avilin 2009). It is also known as the Sieve (see below).

This Lithuanian asterism “Sietynėlis”, “Sietinukas”, “Sietelis”, or “Sietukas” is the Pleiades open cluster in the IAU constellation Taurus. Phonemic versions of the diminutive name include: “Sietinėlis”, “Sitinėlis”, “Sėtynėlis”, “Sitelis”, “Sytelis”, and “Sytukas”.

Little Sisters:

This is an alternate name for the **telescopic** asterism Cooling Tower, which is the open cluster Messier 29 (NGC 6913) in the IAU constellation Cygnus (see Cooling Tower, above).

Little Sombrero Galaxy:

This **telescopic** asterism is NGC 7814 (Caldwell 43), an edge-on spiral galaxy in the IAU constellation Pegasus. It was discovered in 1784 by English astronomer William Herschel who listed it as “II 240”. It is GC 5046 in the *General Catalogue* of 1864. It bears this name due to its resemblance to the Sombrero Galaxy, Messier 104 (see Sombrero Galaxy, below). It is also known as the “Electrically Glowing of Pegasus” (see above).

Little Spindle:

This **telescopic** asterism is NGC 584, an elliptical galaxy in the IAU constellation Cetus. It was discovered by English astronomer William Herschel in September 1785 who listed it as “I 100” in his catalogue. It is GC 342 in the *General Catalogue* of 1864. It is also known as the “Bright Belly of Cetus” (see above).

Little Square of Sextans:

This **telescopic** asterism “Zwíckius Úrsae Majóris” is the dwarf irregular galaxy UGCA 205 (Sextans A) in the IAU constellation Ursa Major. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of its square shape.

Little Starry Horseman:

This Latin star “Eques Stellula” is 80 Ursae Majoris in the IAU constellation Ursa Major as listed in English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 and by R. H. Allen in his *Star Names* in 1899.

Little Stars:

This Naron, !Xo, and !Kõ asterism “!xwe” is the Pleiades cluster in the IAU constellation Taurus (Alcock 2014). They see them as people sitting around a fire beside which their God Huwe tells stories.

This G/wi asterism “!xwe” or “xwedzi” is the Pleiades cluster in the IAU constellation Taurus (Alcock 2014). They see it as a group of stars crowded together.

This /Xam asterism “//xwhai” is the Pleiades cluster in the IAU constellation Taurus.

This Hawaiian asterism “Makali’i’” (“chief’s eyes” or “little eyes” or “little stars”) is the Pleiades cluster in the IAU constellation Taurus.

Little Swarm of Sagittarius:

This telescopic **asterism** “Sménium Sagittárii” is the dwarf galaxy PGC 63287 (ESO 594-4) in the IAU constellation Sagittarius. Id was discovered by Cesarsky et al in 1977 and by Longmore et al in 1978. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). It is also known as the Sagittarius Dwarf Irregular Galaxy and as Kowal’s Object.

Little Sword of Cetus:

This **telescopic** asterism “Gladiólus Céti” is the edge-on galaxy IC 18 (Arp 100) in the IAU constellation Cetus. It was discovered by American astronomer Lewis Swift in 1887. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “its long straight tail looks like a little sword, just as the leaf of the well-known gladiolus flower”.

Little Tarantula:

This **telescopic** asterism is HII region NGC 3576 in the IAU constellation Carina. It was discovered by English astronomer John Herschel in 1847, who listed it as h 3324 in his catalogue. It is GC 2333 in the *General Catalogue* of 1864. The name refers to its resemblance to the Tarantula Nebula (see below). It is also known as the Torch Bearer Nebula (see below) and the Statue of Liberty (see below).

Little Teapot:

See Ship (Leiter 10) below.

Little Three Stars:

This Japanese asterism “Ko Mitsu Boshi” is the sword of Orion in the IAU constellation Orion. Since they are seen to “follow” the stars of the belt of Orion, “Mitsu Boshi” (see Three Stars, below), they are sometimes called “Mitsu Boshi no Tomo” (“Mitsu Boshi’s Companions”).

Little Twins:

This Babylonian asterism from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) "Tu'amu Sehrutu", listed in *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period as "mul mas.tab.ba.tur.tur" (Koch-Westenholz 1995), and depicted on the K 8538 planisphere as "mulmaš-tab-ba-tur-tur" is the lower half of the IAU constellation Gemini. It is a box containing the four stars Gamma (γ), Xi (ξ), Lambda (λ), and Zeta (ζ) Geminorum. The upper half is Tu'amu Rabutu (see Great Twins above). In later Seleucid star lore "Tu'amu Rabutu" and "Tu'amu Sehrutu" are combined to form "the Twins" (see Twins, below). NOTE: The BM 78161 tablet (Liechty 1988) lists "mul mas.tab.ba.tur.tur" as just the star Zeta (ζ) Geminorum in the IAU constellation Gemini.

This Babylonian asterism "MASH.TAB.BA.TUR.TUR" as listed in Anthony Hope's *A Guide to Ancient Near Eastern Astronomy* in 1996 is Zeta (ζ) and Lambda (λ) Geminorum in the IAU constellation Gemini.

This Persian asterism "Tu'amu sihruti" from the list of Masu Stars from the K 250 and VAT 9418 lists of the Persian (Achaemenid) Period (539 – 331 B.C.E.) is the lower half of the IAU constellation Gemini (Boll 1918, Jeremias 1929). Ernst Weidner lists it as "mas-tab-ba-tur-tur" in his *Fixsterne* in 1971. It is a box containing the four stars Gamma (γ), Xi (ξ), Lambda (λ), and Zeta (ζ) Geminorum. The Stars Gamma (γ) and Tau (τ) Geminorum were called the "Twin Stars" (see below).

This asterism "Mas-tab-ba-tur-tur" is the stars Lambda (λ) Orionis (Meissa), and Phi (φ) 1 and 2 Orionis in the IAU constellation Orion, which R. H. Allen lists in his *Star Names* in 1899 as a "Euphratian lunar station" and says that it was "also found for [Gamma] γ and [Eta] η Geminorum", indicating that he knows of the Babylonian asterism by this name (see above).

Little Valley:

This Polynesian asterism "Faa-iti" from the Society Islands is the IAU constellation Perseus.

Little Wagon:

This German asterism "Plaustrum vel plostrum minus" or "Kleine Wagen" is the Little Dipper asterism in the IAU constellation Ursa Minor:

- Johann Bayer's *Uranometria* (1603) lists the name "Plaustrum seu Plostrum Minus" as an alternate name for the Little Dipper.
- "Plaustrum vel plostrum minus" and "Kleine Wagen" are listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
- Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius labels this "Plaustrum".
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this asterism as "der kleine Wagen".

This Danish and Icelandic asterism "Litli Vagn" ("little wagon" or "little chariot") is the Little Dipper asterism in the IAU constellation Ursa Minor (Bender in 2020).

This Swedish asterism is the Little Dipper asterism in the IAU constellation Ursa Minor (Bender 2020).

Little Water Jar:

This **telescopic** asterism, “Little Water Jar”, is Corder 4860 in the IAU constellation Pisces and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Corder attributes this asterism to John Raymond. Size 30’. This is a “Y” shaped asterism of four stars, including HIP 115012A, 114914A, and 114864.

Little Wolf’s Jaws:

This Old Icelandic asterism is the Hyades cluster in the IAU constellation Taurus. Compare this to the Icelandic asterism “Mouth of the Wolf” (below).

This Saxon asterism “Kleiner Wolfsrachen” is the Hyades cluster in the IAU constellation Taurus.

Little Woodpecker:

This Lacandon star “Tunsel” is Beta (β) Orionis (Rigel) in the IAU constellation Orion (Milbrath 1999).

Little Worm:

This **telescopic** asterism is Hay-Merting 11 in the IAU constellation Cepheus. Robert Zebahl lists it on his *Faint Fuzzies* website. Its size is 5.2’ X 1.7’. Zebahl lists it as “a prominent group of 11^{th} to 13^{th} magnitude stars looking like a little worm with two antennae” which is “4 arcminutes east of the planetary nebula NGC 7139”.

Little Worm of Columba:

This **telescopic** asterism “Vermículus Colúmbae” is the edge-on barred spiral galaxy NGC 2188 in the IAU constellation Columba. It was discovered by English astronomer John Herschel in 1836, who listed it as 3022 and later as GC 1378 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Little Wreath:

This Belarussian asterism “Venočok” is the Pleiades cluster in the IAU constellation Taurus (Avilin 2018).

Little Wrestler of Ursa Major:

This **telescopic** asterism “Luctatórculus Úrsae Majóris” is the spiral galaxy NGC 5279 (Arp 239) in the IAU constellation Ursa Major. It was discovered in 1789 by William Herschel who listed it as “II 798”. His son John Herschel listed it as h 1665 and h1665a and later as GC 3639 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “NGC 5278 and his partner NGC 5279 seem to be a wrestling pair”.

Little Yida:

This T’atsaol’ine and Wiidiideh star “Yìda tsòa” is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga (Cannon 2021). It is related to their asterism “Yida” (see Traveler, below).

Little Yoke:

This Belarussian asterism “Koromyselko” is the belt and sword of Orion.

Littoral:

This Latin asterism "Litoreus" is the IAU constellation Cancer as described by 1st century Roman poet Marcus Manilius and 1st century Roman poet Publisu Ovidius Naso (Ovid, b. 43 B.C.E.).

Liver of the Lion:

This Arabic star "Al Kabd al Asad" is Alpha (α) 2 Canum Venaticorum in the IAU constellation Canes Venatici:

- "Kabd al-Asad" and "Kibd al-Asad" are listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- "Al Kabd al Asad" is listed by the Persian astronomer Ulugh Beg Mirza (1394 – 1449).
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Kabd al asad, liver of the lion".
- Compare this to Viscera of the Lion (below).

Livestock:

This early Celtic (Gaulish) asterism "Ecu" is made up of stars of the IAU constellations Virgo and Libra (Boutet 2017). This appears as "Ech" in the *Book of Ballymote*. Compare this to their asterism Fawn (see above), Deer (see above), and Livestock Yoke (see below).

Livestock Yoke:

"Eqouos Uedon" or "Aecuon Uedon" ("livestock yoke" or "equal yoke") is a proposed early Celtic name for the IAU constellation Virgo from the Book of Ballymote through an etymological reconstitution (Boutet 2014).

Liwin:

This Wardaman star is Epsilon (ε) Orionis (Alnilam) in the IAU constellation Orion (Cairns and Harney 2003).

Lizard:

This **telescopic** asterism, also known as the Drunken Lizard Cluster, Klingon Battlecruiser, or Star Lizard Cluster is the open cluster NGC 7209 in the IAU constellation Lacerta. It was discovered by William Herschel in 1787 who listed it as "VII 53". It is GC 4755 in the *General Catalogue* of 1864.

This Diné asterism is made up of stars of the IAU constellations Andromeda, Pegasus, Pisces, Perseus, and Triangulum (Childrey 2008):

- The lizard's "nose" is Theta (θ) Persei,
- The "body" runs back to the "tail" at Beta (β) Pegasi (Scheat),
- One "leg" runs from Beta (β) Andromedae (Mirach) to Tau (τ) Piscium,
- One "leg" runs from the double star Gamma (γ) Andromedae to Beta (β) and Gamma (γ) Trianguli,
- One "leg" runs from Upsilon (υ) Persei to 4 Persei, and
- Another "leg" runs from Mu (μ) Andromedae to Theta (θ) Andromedae.

Lizard Head Nebula:

This **telescopic** asterism is part of IC 5067 in the IAU constellation Cygnus. It is located between 57 Cygni and HIP 103144. Canadian astrophotographer Ron Brecher gave it this name on 6 September 2023 on

his astrodoc website. Brecher wrote: “I gave it this nickname after Gail pointed it out in a wide-field image of the North America Nebula region in Cygnus, tucked in to the left of the Pelican’s beak. It has no catalogue number that I am aware of.”

Lizard Pillar:

This **telescopic** asterism is HII region LBN 438 in the IAU constellation Lacerta. It is listed under this name on Astrobin by astronomer Łukaz Zieliński.

Llama Corral:

This Quechua asterism “Llama Cancha” is an unidentified group of 56 stars (Urton 1981, Kemp et al 2022).

Llama Herder:

This Quechua asterism “Llamero” is dark nebulosity in the Milky Way (Ciancia 2018). Alternate names include “Tatalito” (see Father, above) and “Hondero” (see Slinger, below).

Llama Wallows:

This Atacameño asterism is the Magellanic Clouds (Moyano 2011). It refers to muddy places where llamas wallow.

Llew Llaw Gyffes:

This Welsh asterism, named for a mythical hero, is the IAU constellation Perseus.

Lo-an-tuka:

This Kulin Nations star “Lo-an-tuka” is Alpha (α) Carinae (Canopus) in the IAU constellation Carina (Massola 1968, Hamacher 2011).

Loafer:

The stars of this Kiribati asterism “Taumangang” are unidentified at present (Trussel and Groves 1978).

Lobster:

This Latin asterism “Astacus”, “Cammarus”, or “Nepa” is the IAU constellation Cancer. Nepa is a name assigned by Roman statesman Marcus Tullius Cicero (106 – 43 B.C.E.).

- Johann Bayer’s *Uranometria* (1603) lists “Nepa”, “Cammarus”, and “Astacus” as an alternate name for Cancer.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Nepa” as an alternate name for Scorpius.
- “Nepa” is listed in John Hill’s *Urania* in 1754 as an alternate name for Cancer.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Nepa” for Cancer and attributes it to Cicero and Manilius.

This asterism “Homar” is the IAU constellation Cancer. It was given this name by German astronomer Jakob Bartsch (1600 – 1633). Polish astronomer Stanislaus Lubienitzki (1623 – 1675) listed “Homar” in his *Theatrum Cometicum* (1667) and depicted this constellation as a lobster.

Lobster Claw Nebula:

This **telescopic** asterism is HII region is SH 2-157 (LBN 537) in the IAU constellation Cassiopeia. It is also known as the Californietto Nebula.

Lobster Nebula:

There are two **telescopic** lobster nebulae:

- One is the HII region Messier 17 (NGC 6618, SH 2-45, RCW 160, LBN 60, Cr 377, Ced 161) in the IAU constellation Sagittarius. It was discovered in 1745 by Swiss astronomer Philippe Loys de Chéseaux and catalogued by French astronomer Charles Messier in 1764. It is listed in John Herschel's *General Catalogue* of 1864 as GC 4403. It is also known as the Checkmark Nebula, Omega Nebula, Swan Nebula, War and Peace Nebula, and Horseshoe Nebula.
- One is HII region NGC 6357 in the IAU constellation Scorpius. John Herschel listed it as h 3682 and later as GC 4297 in the *General Catalogue* of 1864. It is also known as the War and Peace Nebula.

Loch Ness Monster Cluster:

This **telescopic** asterism is the open cluster Collinder 463, catalogued by Swedish astronomer Per Collinder (1890 1974) in the IAU constellation Cassiopeia. It is listed under this name in *Pattern Asterisms* by American astronomer John A. Chiravalle. The main part of the cluster is the body with a small group of stars off to one side being the "head". Size 35' X 20'.

Loch Ness Monster Nebula:

This **telescopic** asterism is dark nebula LDN 772 in the IAU constellation Vulpecula. This is in the catalogues of American astronomer Beverly Turner Lynds (1929 – 2024)

Loch Ness Monster of Virgo:

This **telescopic** asterism "Nessiteras Vírginis" is the barred spiral galaxy NGC 4536 in the IAU constellation Virgo. William Herschel listed this as "V2". John Herschel listed it as h 1337 and later as GC 3085 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Lock of Hair of Virgo:

This **telescopic** asterism "Plócamus Vírginis" is the intermediate spiral galaxy NGC 4569 (Messier 90, Arp 76) in the IAU constellation Virgo. It was discovered by Charles Messier in 1781. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it "the galaxy… with the soft texture of the spiral arms, looks like a lock of hair".

Lock (Adjunct of Room):

This Chinese Chenzhuo xing guan "Gōuqián" is the stars Omega (ω) 1 & 2 Scorpii in the IAU constellation Scorpius. It is part of their xing guan "Room".

Lock (Vassal of Room):

This Chinese xing guan "Gōuqián" (钩钤(附房宿)) is a line of three stars in the IAU constellation Scorpius: Omega (ω) 1 and 2 Scoprii (the determinative star) and Beta (β) Scorpii (Acrab). This xing

guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

Lode Star:

This Norse star “leiðarstjarna” (“guiding star”) or “leiðar stjarna” is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Cleasby and Vigfusson 1874). In Middle High German it became “leitsterne”. to the Vikings, this star was the pivot that anchored Yggsdrasil (the World Tree) to the heavens.

Around 800 C.E. the star 32 Camelopardalis in the IAU constellation Camelopardalis would have been within 7° of the north celestial pole and was mentioned in 10th century sagas by Oddi Helgason and Einar Eyolfsson, as a faint second lode star. 32 Camelopardalis is mentioned again as a second lode star by Olaus Magnus of Uppsala in 1500.

This Old English star “Lode Sterre” is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor as listed by 14th century author John Mandeville in his *Travels of Sir John Mandeville*. English poet Edmund Spenser (1552 – 1599) called it “Loadstar”, and William Shakespeare (1564 – 1616) called it “Lodestar”.

Log and the Line:

This German asterism “Logleine”, later latinized to “Lochium Funis” is an extension of the IAU constellation Pyxis and was created by the German astronomer Johann Ehlert Bode in 1800 to accompany the constellation Argo Navis (see Ship of Argo, below). English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists it as “Lochium Funis”.

Loins:

This Arabic star “al-maraqq'” (المراق), later latinized to “Mirak” is Epsilon (ε) Boötis in the IAU constellation Boötes. Compare to “al-Mi'zar” (see Apron, above).

Loins of the Bear:

This Arabic star “Al-Maraaqq”, “’al-Marāqq” (المراقّ), or “Al Marāḳḳ” is Beta (β) Ursae Majoris in the IAU constellation Ursa Major:

- “al-Mirāq” was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- This was later latinized to “Merak” or “Mirak”.
- American uranographer Elijah Burritt’s *The Constellations for each Month in the Year* (1835) lists this star as “Merak”.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Merak, from the Arabian Merák al dub al akbar, the loins of the Greater Bear”.
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich lists this star as “Merak”.
- *An Improved Moveable Planisphere* (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, lists this star as “Merak”.

- This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Merak": The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822.
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as "Merak".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Merak".
- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Merak" and describes it as the "Flank".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and the 14th edition (1959) list "Merak" for this star.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this star as "Merak".
- The IAU approved the name Merak for Beta (β) Ursae Majoris.

Loiterer:

This Latin asterism "Emansor" ("one who stays beyond his time") is the IAU constellation Corvus and relates to the myth of Corvus loitering at a fig tree (see Corvus, above).

Loki's Brand:

This Norse and Icelandic star "Lokabrenna" or "Loka Brenna" ("Loki's torch", "Loki's brand", or "burning done by Loki") is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Cleasby and Vigfusson 1874).

This Saxon star is Alpha (α) Canis Majoris in the IAU constellation Canis Major as depicted in the *Nördliche Sternhimmel* sky map of O. S. Reuters based on the work of German astronomer Johann Elert Bode (1747 – 1826).

Lonely One of Microscopium:

This **telescopic** asterism "Solitárius Microscópii" is the spiral galaxy NGC 6925 in the IAU constellation Microscopium. John Herschel listed this as h 3834 and later as GC 4581 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of its "rather isolated position".

Long:

This is a Dutch name "Lang" given to the IAU constellation Tucana on a celestial globe created by Dutch uranographer Willem Jansz Blaeu (1571 – 1638).

Long Arms of Leo:

This **telescopic** asterism "Longibrachiátus Leónis" is the barred spiral galaxy NGC 2903 (2905) in the IAU constellation Leo. It was discovered by William Herschel in 1784: He mistook it as a double nebula, which resulted in it being catalogued as both NGC 2903 and 2905). William Parsons, the 3rd Earl of Rosse, resolved it into a spiral form in his observations in the 19th century. NGC 2905 now refers to a luminous knot in the northeastern spiral arm. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) lists this as O'Meara 51 without these names.

Long Basket:

This Tupi asterism “Panacu” is the belt of Orion plus the stars Alpha (α) Orionis (Betelgeuse) and Beta (β) Orionis (Rigel) in the IAU constellation Orion (De Freita Mourão 2009).

Long Crested Eagle of Pavo:

This **telescopic** asterism “Lopháëtus Pavónis” is the barred spiral galaxy NGC 6943 in the IAU constellation Pavo. It was discovered in 1835 by John Herschel who listed it as h 3838 and later as GC 4593 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “it’s plume like spiral arms somewhat resembles the head of a long-crested eagle.”

Long Hair of Camelopardalis:

This **telescopic** asterism “Capillátus Camelopardális” is the intermediate spiral galaxy NGC 2715 in the IAU constellation Camelopardalis. It was discovered by Alphonse Borrelly in 1871. It became GC 5443 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Long John Silver Cluster:

This **telescopic** asterism is the open cluster NGC 6400 in the IAU constellation Scorpius. It was discovered in 1826 by the Scottish astronomer James Dunlop who listed it as ‘Dunlop 568”. John Herschel listed it as h 3696 and later as GC 4313 in the *General Catalogue* of 1864. The name is a reference to a character in Robert Louis Stevenson’s 1883 novel *Treasure Island*. It is also known as the Phantom Cluster. This is listed in Stephen James O’Meara’s *Hidden Treasures Catalogue* (2007).

Long Legged Spider:

This English asterism “Aranea” was created in 1754 by British botanist and natural philosopher John Hill and published in his *Urania: Or a Complete View of the Heavens* in 1754 and is made up of stars in the IAU constellation Virgo. The central star is 69 Virginis. From this “legs” run out to the stars 87, 83, 75, 68, 53, 61, 57, and Gamma Virginis and HIP 67555.

Long Necked Tortoise:

This Boorong asterism is stars in the IAU constellation Gemini:

- Beta (β) Geminorum (Pollux) is the base of the tortoise’s “neck”,
- The “body” is a quadrilateral of stars with the sides defined by 69 and 83 Geminorum and the “tail” the star Kappa (κ) Geminorum, and
- The “head” is 60 Geminorum at the end of a string of faint stars.

Note: Pollux is also the star Wanjel in the Two Hunters (see below).

Long Pointed Hat:

This **telescopic** asterism is Pothier 8 and is in the IAU constellation Cassiopeia. René Merting lists it on the *Faint Fuzzies* website and describes it as a “long pointed hat” and describes the point on top as an “obelisk”. The hat includes the stars HIP 15983, 15843, 15615, 15135, 14947, 15073, 15009, with the tip of the “cap” being HIP 14862. From this tip a line of stars including HIP 14948 and 14902 runs out and it is this line that Merting refers to as the “obelisk”. Size 41’ X 20’.

Long Shark (Boat):

This Māori asterism is the name of a boat the God Kiho-tumu sailed across the sky and is made up of the dark nebulosity in the Milky Way from the Coal Sack Nebula (see Coal Sack, above) to the galactic bulge in the IAU constellation Scorpius and the stars surrounding these dark nebulae are waves of water around the ship. Compare this to their asterism Māngō (see Shark below).

Long Tail of Boötes:

This **telescopic** asterism "Macrúrus Boótis" is the interacting disk galaxies NGC 5514 in the IAU constellation Boötes. It was discovered by Heinrich d'Arrest in 1865. It became GC 5758 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "this interacting pair is producing a long tidal tail to the east".

Long Tongue of Grus:

This **telescopic** asterism "Macroglóssus Grúis" is the barred spiral galaxy NGC 7412 in the IAU constellation Grus. This was discovered in 1836 by John Herschel who listed it as h 3961 and later as GC 4861 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the eastern spiral arm of this galaxy is split at its end and a long curved arm is extending from it like the tongue from the mouth of a snake."

Long Wall:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of four stars in the IAU constellations Leo and Leo Minor: 53 Leonis (the determinative star), 52 Leonis, 51 Leonis, and 41 Leonis Minoris.

This Chinese xing guan "Chángyuán" (长垣) is a quadrilateral of four stars in the IAU constellation Leo: 46, 48, 52, and 53 Leonis.

This Chinese Chenzhuo xing guan is a line of four stars in the IAU constellation Leo and Leo Minor: 40, 41, and 42 Leonis Minoris and 51 Leonis.

Long Wings of Piscis Austrinus:

This **telescopic** asterism "Macrópterus Píscis Austríni" is the barred spiral galaxy NGC 7214 in the IAU constellation Piscis Austrinus. This was discovered in 1834 by John Herschel who listed it as h 3926 and later as GC 4758 in his *General Catalogue* of 1864. This galaxy is part of a group of interacting galaxies including NGC 7173, 7174, and 7176. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of its "long extending spiral arms."

Long Yoke:

This Netwar asterism "Kasulia Asap" is a quadrilateral formed by the stars Alpha (α) Orionis (Betelgeuse) and Gamma (γ) Orionis (Bellatrix) and the stars of the belt of Orion (Ramík 2019).

This Nahwal asterism "Kasulia Apam" (Ramík 2019) is identical to the Netwar asterism "Kasulia Asap" (see above).

Longtail:

This **telescopic** asterism is the open cluster NGC 4103 in the IAU constellation Crux. It was discovered by Scottish astronomer James Dunlop in 1826. John Herschel listed it as h 3377 and later as GC 2718 in his *General Catalogue* of 1864. It is called this because it resembles the White-tailed Tropicbird (the "Longtail") or Bermuda Longtail (Phaethon Lepturus Catsbyii) of the tropical Atlantic, western Pacific, and Indian Oceans.

Looking Ironically:

See Smiley Face, below.

Loon:

This Ojibwe asterism "Maang" is the Little Dipper asterism in the IAU constellation Ursa Minor (Lee et al 2014).

This Anishinaabe asterism "Maung Anungonse" is the IAU constellation Delphinus (Lee et al 2014).

This Ininew (Cree) asterism "Mokwachak" is the IAU constellation Delphinus (Buck 2016).

Loons:

This Klamath asterism is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above).

Loop of the Wreath:

This Arabic asterism "Al Malf al Khatar" (translated as "loop of the wreath" or "junction of the crown" is the IAU constellation Corona Borealis:

- French scholar Joseph Justus Scaliger (1540 – 1609) lists this as "Al Malif al Kurra".
- German astronomer Johann Bayer (1572-1625) lists it as "Malphecarre", which Bayer describes as "Malphelcarre quod est sertum pupillae" or "Malphelcarre who is the pupil's wreath" (meaning the pupil of the eye) and attributes it to the "Chaldeans".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists it simply as the "Wreath".

Loosen Stars:

This Orang Asli asterism "Bintang Lunga" is the Pleiades cluster in the IAU constellation Taurus (Jaafar and Khairuddin 2014).

Lopsided Leg of Eridanus:

This **telescopic** asterism "Plagióscela Erídani" is the intermediate spiral galaxy NGC 1622 in the IAU constellation Eridanus. It was discovered by astronomer George Stoney in 1850. It became GC 878 and 881 in John Herschel's *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as the galaxy's southern arm has "an asymmetric shape".

Lord:

This Korean asterism "Junim" (주님) is a line of two stars attached to one corner of the asterism "Chariot of Emperor" (see above) in the IAU constellation Corvus: Epsilon (ε) Corvi and Alpha (α) Corvi (Alchiba).

This Islamic star “aš-ši'rā” or “ash-shira” is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major. It is mentioned in Surah, An-Najm ("The Star"), of the *Qur'an*.

Lord Jesus’ Chair:

This Belarussian asterism “Kreselca Pana Jezusa” is the constellation Orion (Avilin 2009). It is also known as “Grabli” (see Rake, below), “Kastsy” (see Mowers, below), “Try Karali” (see Three Kings, below), “Kasar” (see Mower, below), “Karomyselko” (see Small Yoke, below), “Tri Siostry” (see Three Sisters, below), “Prahi” or “Prapradki” (see Yarn Spinners, below), “Traiko” (see Three Times, below), “Asilki” (see above), “Matawila” (see Wheel, below), “Kosy” (see Scythes, below), “Kigachi ragachy” (see Shaft of a Plough, below), Kryzhe (see Cross, above), “Lisa” (see Fox, above), and “Trohkutnaia” (see With Three Corners, below).

Lord of Light:

This Chinese Chenzhuo xing guan “Guangbo” is the star Phi (ϕ) Draconis in the IAU constellation Draco. It is part of their xing guan Purple Forbidden East Wall.

Lord of the Sun:

This Latin asterism “Dominus Solis” is the IAU constellation Cepheus. It probably originated in a Latinization of the Arabic asterism On Fire (see below). Johann Bayer’s *Uranometria* (1603) lists “Dominus Solis”.

Lord Yama:

This Hindu asterism is the IAU constellation Orion (Bhagwath 2019). Compare to the Chinese asterism King Yama (above). Lord Yama was the God of death and ruled the underworld Naraka and it was his task to direct souls to a heaven (Swarga) or return it to Earth (Bhoomi).

Lords:

This Greek asterism “Ἄνακες” (“Ánakes”) is the IAU constellation Gemini as listed by the Greek philosopher Plutarch (c.46 – 119). Roman statesman Marcus Tullius Cicero (106 – 43 B.C.E.) listed them as “Anaces”.

This Vedic asterism “Invakās” from the 4th to 3rd millennium B.C.E. and “Invakā” in the *Taittirīya Brāhmana* is Lambda (λ) Orionis, and Phi (ϕ) 1 and 2 Orionis in the IAU constellation Orion (Ivanković 2021). It is also known as the Deer’s Head (see above).

Lords of the Sun:

This Latin asterism “Dominis Solis” is the IAU constellation Cepheus. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Dominis Solis” for this constellation. Compare this to Domicilium Solis” (Home of the Sun, above).

Lorenepenner:

This Paredarerme star is Beta (β) Geminorum (Pollux) in the IAU constellation Gemini (Gantevoort 2015). Lorenepenner is the wife of Packarnepenne (Mars).

Lorikeet Ashes:

This Kaurna asterism “Ngakallamurro” is the Magellanic clouds (Hamacher 2015). This would be a reference to the Adelaide Crimson Rosella, a form of parakeet. The birds are gathered and roasted there by another asterism not yet unidentified (Teichelman 1841). Compare this to the Boorong asterism Totyarguil (see Purple Crowned Lorikeet, below).

Lost Baby:

This Central Arrernte asterism is the IAU constellation Corona Australis. Eight women were dancing the dooroboree in the stars and one put her baby in a wooden basket while dancing. The baby rolled out of the crib and fell to earth and the wooden basket fell on top of the baby creating what they call Tnorala. The morning and evening star, the baby’s parents, search for the baby to this day. Tnorala (Gosse Bluff) is an enormous meteor impact crater formed millions of years ago. Nearby there is a smaller meteor impact field which was formed 4,500 years ago, and it is believed that the meteor that created this inspired this story.

Lost Children:

This Blackfoot asterism is the Pleiades cluster in the IAU constellation Taurus. These were thought to be orphaned brothers adopted by the Sun.

Lost Galaxy:

This **telescopic** asterism is NGC 4526, a lenticular galaxy with a prominent dusty disk in the IAU constellation Virgo. It is also known as the Hairy Eyebrow Galaxy (see above). It was discovered by English astronomer William Herschel in April 1784 who listed as two objects: “I 31” and “I 38”. It is GC 3075 in the *General Catalogue* of 1864. Stephen James O’Meara’s *Hidden Treasures Catalogue* (2007) lists it without a name.

Lost Galaxy of Copeland:

This **telescopic** asterism is NGC 4535, a barred spiral galaxy in the IAU constellation Virgo. This was discovered by English astronomer William Herschel in 1785 who listed it as “II 500” It is GC 3080 in the General Catalogue of 1864. Amateur astronomer Leland S. Copeland called it his “Lost Galaxy” in the 1950s as it has such a hazy, ghostly appearance.

Lost Hunters:

This Cherokee asterism is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above).

Lost in Space Galaxy:

This **telescopic** asterism is NGC 6503, a field dwarf spiral galaxy in the IAU constellation Draco. It is GC 4351 in the *General Catalogue* of 1864. This was named by O’Meara, who listed it as number 85 on his list. It is also known as the “Wandering Alone of Draco” (see below).

Lost Jewel of Orion:

This **telescopic** asterism is the open cluster and emission nebula NGC 1980 (LBN 977, Cr 72, Ced 55f) in the IAU constellation Orion. It was discovered by English astronomer William Herschel in 1786 who listed it as “V 31”. It is GC 1183 in the *General Catalogue* of 1864. It is located in the sword of Orion asterism. Astronomer Stephen James O’Meara’s *Hidden Treasures Catalogue* (2007) makes it O’Meara 29 on his list but does not refer to any name.

Lost Pearl:

This **telescopic** asterism NGC 404 is a field galaxy in the IAU constellation Andromeda. It was discovered by English astronomer William Herschel in 1784, who recorded it as "II 221". It is listed as GC 218 in the 1864 *General Catalogue*. It is located within 7 arcminutes of Beta (β) Andromedae (Mirach), making it a difficult object to observe, which is why it is also known as "Mirach's Ghost" (see below).

Lost Pleiad:

This asterism is the star double star 23 Tauri (Merope) in the Pleiades cluster in the IAU constellation Taurus. *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) describes this as either the star "Electra [who] left her place in order not to behold the ruin of Troy, which was founded by her son Dardanus…" or that "Other myths relate that the Lost Pleiad was Merope, who married a mortal." Since Electa is magnitude and Merope is magnitude 4.18 and the magnitude of Electra is 3.70, I am guessing that this is more likely to be Merope.

Lotus:

This Yolgnu star is probably Alpha (α) Virginis (Spica) in the IAU constellation Virgo (Clarke 2015). This is the red lily (Nelumbo nucifera).

Lounge Chair:

This telescopic asterism is in the IAU constellation Ursa Major and is Corder 1676 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is six 7^{th} – 9^{th} magnitude stars including HIP 42688, 42731, and 42801.

Love:

This **telescopic** Makua star "Emiw" is HIP 5529 (HD 7199) in the IAU constellation Tucana (magnitude 8.03). It was given to this star in the IAU NameExoWorlds campaign. It has an exoplanet named Hairu ("unity").

Loved One of Canis Major:

This **telescopic** asterism "Erástes Cánis Majóris" is the spiral galaxy IC 2163 in the IAU constellation Canis Major. It was discovered by American astronomer Herbert Alonzo Howe (1858 – 1926). This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as it is colliding with the larger NGC 2207. They named NGC 2207 the "Lover of Canis Major" (see below).

Lover of Canis Major:

This **telescopic** asterism "Erástes Cánis Majóris" is the spiral galaxy NGC 2207 in the IAU constellation Canis Major. It was discovered in 1835 by English astronomer John Herschel who listed it as 3032 and later as GC 1393 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as it is colliding with the smaller IC 2163. They named IC 2163 the "Loved One of Canis Major" (see above).

Lover of Pasiphae:

This Latin asterism “Amasius Pasiphaes” is the IAU constellation Taurus as listed in R. H. Allen’s *Star Names* in 1899. Pasiphae was seduced by the God Zeus, who appeared in the form of a bull.

Lover of the Stars:

This Elvish asterism “Telumendil” is probably the IAU constellation Boötes, appearing in the works of J. R. R. Tolkien (1892 – 1973).

Loving the Dance of Indus:

This **telescopic** asterism “Philóchorus Índi” is the interacting galaxies ESO 077-IG014 in the IAU constellation Indus. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it “resembles an enthusiastically dancing couple.”

Low Fence:

This Korean asterism “Danjang” (단장) is a line of stars in the IAU constellations Leo and Leo Minor: 37 and Beta (β) Leonis Minoris, and 54, and 60 Leonis.

Lower Crossbar of the Bucket:

This Arabic asterism “‘arquwat ad-dalw as-sufla” (عرقوة الدلو السفلى) is two stars in the IAU constellations Andromeda and Pegasus: Alpha (α) Andromedae (Alpheratz) and Gamma (γ) Pegasi. It is also known as the Second Spout (see below) or the Rear Two Crossbars of the Bucket (see below).

Lower Step:

This Chinese xing guan is a line of two stars in the IAU constellation Ursa Major and is part of their xing guan “Sāntái” (see Three Steps, above): Nu (ν) Ursae Majoris and Xi (ξ) Ursae Majoris.

Lower’s Nebula:

This **telescopic** asterism is HII region is SH 2-261 (LBN 863) in the IAU constellation Orion. It is named for American astronomers Harold and Charles Lower who discovered it in 1939.

Lozenge:

This asterism is a small diamond of stars in the IAU constellations Draco and Hercules: Gamma (γ) Draconis (Eltanin), Xi (ξ) Draconis (Grumium), Beta (β) Draconis (Rastaban), and Iota (ι) Herculis. It is also known as the Diamond Head.

Lucillinburhuc:

This **telescopic** Luxembourger star is HIP 30860 (HD 45350) in the IAU constellation Auriga (magnitude 7.88). It was given this name in the IAU NameExoWorlds campaign. It is named after the Fortress of Luxembourg. It has an exoplanet named Peitruss, which is derived from the name of their river Pétrusse, which bends around this fortress.

Luck of Lucks:

See Auspice of Auspices, above.

Luckiest of the Lucky Stars:

See Auspice of Auspices, above.

Lucky Hen:

This asterism is the Pleiades cluster in the IAU constellation Taurus. This is listed as a common name for this cluster in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

Lucky Star of Rain:

See Auspice of Rain, above.

Lucky Star of the Camel Striving to Get Pasture:

This Arabic star "saʿd al-nāziʿ" is the stars Lambda (λ) and Mu (μ) Pegasi in the IAU constellation Pegasus:

- This was later latinized to "Sadalnazi".
- This is also translated as "Lucky Star of the Camel Striving to Get Pasture" or "Good Luck of the Camel Striving to Get Pasture".
- Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283) listed "saʿd al-nāziʿ".
- R. H. Allen's *Star Names* in 1899 lists "saʿd al-nāziʿ".
- Compare this to Lucky Star of the Splendid One, below.
- NOTE: The name "Sadalnazi" is often assigned to the star Lamba (λ) Pegasi alone and appears under this name in Stellarium.

Lucky Star of the Excellent One:

See Auspice of the Exalted One, above.

Lucky Star of the Hero:

See Auspice of the Aspiring One, above.

Lucky Star of the High Minded:

See Auspice of the Aspiring One, above.

Lucky Star of the King:

See Auspice of the King, above.

Lucky Star of the One with Great Endeavor:

See Auspice of the Aspiring One, above.

Lucky Star of the Ostriches:

This Arabic asterism "Saʿd al Naʿamah" is Zeta (ζ) Pegasi in the IAU constellation Pegasus as listed by 16th century Arabic astronomer Al Tizini:

- R. H. Allen lists "Saʿd al Naʿamah" in his *Star Names* in 1899
- Robert Burnham lists "Saʿd al Naʿamah" in his *Burnham's Celestial Handbook* in 1978.
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Sa'd al nu'ám, the ostrich's lucky star".

Lucky Star of the Slaughterer:

This Arabic asterism “Saʿad udh-Dhābiḥ” (سّعد الذّابح) or “Al Saʿd al Dhābiḥ” is a bent line of three stars in the IAU constellation Capricornus: One is the five-star system Beta (β) Capricorni, and the other stars are Nu (ν) and Alpha (α) 2 Capricorni:

- This was later latinized to “Dabih”, “Dahabeh”, and “Dschäbbe”.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Sa’d adh dhábih, the lucky star of the slaughterer”. The name Dabih was approved for the star Beta (β) 1 Capricorni Aa by the IAU.
- NOTE: “Dabih Minor” is the star Beta (β) 2 Capricorni in the five-star system Beta (β) Capricorni. It got this name as Beta (β) 1 Capricorni Aa is “Dabih” or “Dabih Major”. Compare this to the earlier asterism Auspice of the Slaughterer, above.

Lucky Star of the Splendid One:

See Auspice of the Exalted One, above.

Luck of the Young Beasts:

See Auspice of Lambs, above.

Lucky Star of the Young Sheep:

See Auspice of Lambs, above.

Lucky Stars:

This Arabic star “al-suʿūd al-najūm”, later latinized to “Suudalnujum” is Xi (ξ) Pegasi in the IAU constellation Pegasus.

Lucky Stars of the Lucky Ones:

See Auspice of Auspices, above.

Lucky Star of the Tents:

See Auspice of the Wooden Tents, above.

Lucky Stars of the Swallower:

This Arabic manzil “Saad Bulaa”, “Saʿdu ʾl-Bulʿa” (سَعْدُ ٱلْبُلْعَ), or “ʾAl-Bulʿa” (ٱلْبُلْعَ) is in the IAU constellation Aquarius and is translated as “lucky stars of the swallower” or “good fortune of the swallower”. This is the stars Mu (μ) Aquarii, Nu (ν) Aquarii, and Epsilon (ε) Aquarii (Albali):

- “Al Saʿd al Bulaʿ” is the name listed by Persian astronomer Zakariya al-Qazwini (1203 – 1283).
- “Al Sa’d al Bula” is listed in R. H. Allen’s *Star Names* in 1899. Allen reports that Qazwini also called Mu (μ) and Nu (ν) Aquarii “Al Bulāān”.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “sa’d al bula, the fortunate swallower or absorber”.
- W. Brennand lists this as “Sad-Al-Bula” in his *Hindu Astronomy* in 1896.
- Compare this to their earlier asterism Voracious Auspice (see below).

This Yemeni manzil "Sa'd bula'" is the stars Mu (μ) Aquarii and Epsilon (ε) Aquarii in the IAU constellation Aquarius (Varisco 1995). This appears in the *Kitāb al-Tabṣira Fī'ilm al-Nujūm* of 13th century Rasulid ruler al-Malik al-Ashraf 'Umar ibn Yūsuf (d 1296).

Lucky Stars of the Tent Dwellers:

This Arabic and Bedouin manzil "Saad Al-Akhbiah", "Saʿd al-aḫbiyah" (سعد الأخبية), "Saʿdu ʾl-ʾAkhbiyyah" (سَعْدُ ٱلْأَخْبِيَّه), or "ʾAl-ʾAkhbiyyah" (ٱلْأَخْبِيَّه), translated as "lucky stars of the tent dwellers" or "lucky star of the tents", is in the IAU constellation Aquarius and is the stars Gamma (γ) Aquarii (Sadachbia), Pi (π) Aquarii, Zeta (ζ) 2 Aquarii, and Eta (η) Aquarii. This was originally the Auspicious Asterism Auspice of the Wooden Tents (see above).

This Yemeni manzil "Sa'd al-akhbiya" is the stars Gamma (γ) Aquarii, Pi (π) Aquarii, Zeta (ζ) 2 Aquarii, and Eta (η) Aquarii in the IAU constellation Aquarius (Varisco 1995). This appears in the *Kitāb al-Tabṣira Fī'ilm al-Nujūm* of 13th century Rasulid ruler al-Malik al-Ashraf 'Umar ibn Yūsuf (d 1296).

Ludwig's Star:

This star "Sidus Ludovicianum" or "Sidus Ludoviciana" is a 7.55 magnitude star alongside the stars Zeta (ζ) Ursae Majoris (Mizar) and 80 Ursae Majoris (Alcor) listed in 1691 by German engraver Georg Christoph Einmart (who built the first observatory in Nuremburg). English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Sidus Ludovicianum". *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists "Sidus Ludovicianum". R. H. Allen writes in his *Star Names* in 1899 that "another German" (whom he does not identify) in 1723 "thinking that he had discovered a new planet, named it after his sovereign, Ludwig V, Landgrave of Hesse-Darmstadt".

Lugh's Sling:

This Irish asterism is the IAU constellation Draco. This asterism is found in Julie Ormonde's *Constellation Stories of Ancient Ireland* (2015). This is a reference to the myth of the God Lugh Lámhfhada.

Lulal and Latarak:

These two Babylonian stars from MUL.APIN are Pi (π) 3 & 4 Orionis in the IAU constellation Orion. Lulal is a Mesopotamian protective God associated with Inanna, usually as a servant or bodyguard: His name translates as "syrup man". Latarak is a lesser-known protective God often associated with Lulal.

These two Seleucid stars Pi (π) 3 & 4 Orionis in the IAU constellation Orion.

Luminosae:

This **telescopic** asterism, also known as the False Comet, the Northern Jewel Box, Table of Scorpius, and the Crocodile, is the open cluster NGC 6231 (Caldwell 76) in the IAU constellation Scorpius. It is located a half a degree north of Zeta (ζ) Scorpii. It was discovered by Giovanni Battista Hodierna before 1654, who called it "Luminosae" (Italian for "bright"). It is listed in the *General Catalogue* of 1864 as GC 4245 and in John Herschel's catalogue as h 3652. Jeffrey Corder lists it as Corder 3156.

Luminous and Small of Andromeda:

This **telescopic** asterism "Lucídula Andrómedae" is the dwarf galaxy Messier 32 (NGC 211) in the IAU constellation Andromeda. It was discovered by French astronomer Guillaume Le Gentil in 1749. It is GC

5115 in the General Catalogue of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010).

Lump Star:

This **telescopic** asterism is the reflection nebula NGC 2023 (vdB 52, LBN 954, Ced55o) in the IAU constellation Orion. It contains a B star (B1.5) HD 37903. German astronomer Max Wolf observed this in 1909, describing it as the "fuzzy star".

Lunar Star:

This Chinese xing guan "Yuè" (月) is the star 37 Tauri in the IAU constellation Taurus. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan "Yuè" is the star 37 Tauri in the IAU constellation Taurus.

Lüneburg Horse:

This asterism is the IAU constellation Pegasus as listed by German astronomer Erhard Weigel (1625 – 99) who produced his *Astrocopium Orbi Europaeo Sacrum* chart 1661, 1681 and 1688 in which he tried to replace existing constellations a new system based upon the heraldry of the nation states and principalities of seventeenth century Europe, as well as of its principal hierarchies and social classes. This represents the horse of This is labelled "Lüneburg" and represents the horse coat of arms of Lüneburg. This is listed in R. H. Allen's *Star Names* in 1899.

Lupus:

The brightest star of Lupus, Alpha (α) Lupi, is the 75th brightest star on the list of 90 brightest stars and this constellation's stars appear in 110 asterisms listed in this handbook.

This IAU constellation (IAU abbreviation Lup) was originally identified by Eratosthenes (d.194 B.C.E.) as a wineskin held by Centaurus. It was Hipparchus of Bithynia that named it "Therion" (Medieval Latin – "the beast") in the 2nd century B.C.E. It probably originated in the Babylonian asterism "Mad Dog" (see below). Aratus (315 – 240 B.C.E) and Hipparchus (190 – 120 B.C.E.) listed it as "Θηρίον" ("Thiríon" -see Beast, above) and so did Ptolemy (c.100 – c.170) in his *Almagest*.

The Mainz Globe from the eastern end of the Roman empire (c. 150 – 220 C.E.) depicts Lupus as a wolf running to our left.

Sudias, a Greek lexicographer of 970, called it "Κνηκίας" ("Knikías"), which was a Greek term for wolf back then. This constellation appeared as "Lupus" in the 15th century *Alfonsine Tables* and "Fera Lupus" ("wild wolf") in translations of the *Almagest*. It is known to the French as "Loup" and to the Italians as "Lupo".

This constellation appears in a 10th century copy of the Leiden *Aratea* (Boulogne-sur-Mer, Bibliotèque municipal MS 188) but is missing from the 9th century edition.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi's son depicts Lupus as a wolf whose rear leg is being held by Centaurus. One page shows him in left profile and the other page shows him in right profile.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Lupus as a beast resembling a lion. Centaurus has a hold of his left rear leg.

Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) depicts Lupus as a lion.

A Hebrew translation of the Almagest from Catalonia (c1361), Philadelphia (USA), University of Pennsylvania Libraries, Lawrence Schoenberg Collection, ms. ljs057 (old Ms.Sassoon 823), ff.56v, 57r, depicts Lupus as some sort of four-legged animal with spots on its back. Centaurus is holding its left rear leg.

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Lupus as a wolf whose right rear leg is being held by Centaurus.

The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.170v-171r depicts "Lupus" as a wolf being stabbed in the mouth by Centaurus.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.72v-73r depicts Lupus as a four-legged creature being stabbed in the mouth by Centaurus. It is not labelled and poorly drawn.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts only the head and front legs of Lupus: The rest of this constellation is off the edge of the astrolabe. It is not labelled.

The Paris manuscript of al-Sufi's *Book of Fixed Stars* (Bibliothèque nationale de France, Ms. Arabe 5036), from Ulugh Beg's library (c 1430 – 1440) depicts Lupus as a lion. Centaurus the centaur is holding the rear right leg of Lupus in his left hand.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Lupus as a wolf that has been spitted end to end by the spear of Centaurus.

Lupus appears on the *Imagines constellationum Australium* chart of Romanian theologian Johannes Honter (1498 – 1549) as a wolf being speared by Centaurus and is labelled "Fera".

The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts "Lupus" as a wolf being speared by Centaurus.

The early 16th century Real Academia de Historia, manuscript D-97, f.102v – 103r depicts Lupus as a wolf being speared in the abdomen by Centaurus. It is not labelled.

The "Nuremburg Maps", a pair of celestial hemispheres made in 1503 by Conrad Heinfogel depicts Lupus as a wolf being speared by Centaurus.

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts "Lupus" as a wolf being speared in the mouth by Centaurus.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts Lupus as a wolf being speared by Centaurus.

Dele Stelle Fisse ("Of the Fixed Stars") by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as "Del Lupo". The

charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

The Southern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Lupus as a wolf being speared in the mouth by Centaurus.

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts "Lupus" as a wolf being speared by Centaurus.

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicts "Bestia Centauri siue Lupis" as a wolf with a spear point in its jaws. Centaurus is not depicted in this illustration: He appears in another illustration where Lupus is off the edge of the page.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts "le Loup" as a wolf being speared by Centaurus.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius labels this "Fera Lupus" and depicts it as a wolf being speared in the mouth by Centaurus.

"Lupus" is depicted on gores of the globe of Petrus Plancius published in 1598 by Jodocus Hondius as a wolf being speared by Centaurus, having the subtitle "Fera".

Lupus is omitted from Danish astronomer Tycho Brahe's *Astronomiae Instauratae Progymnasmata* (1602).

Dutch navigator Frederick de Houtman's catalogue of fixed stars (1603) lists this constellation as "Lupus, den Wolf".

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts "Lupus" as a wolf being speared by Centaurus.

"Lupus" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as a wolf being speared by Centaurus.

German uranographer Johann Bayer (1572 – 1625) depicts this constellation in his *Uranometria* in 1603 as a wolf being stabbed by a spear carried by Centaurus. Bayer lists these names for this constellation: "Lupus, Bestia, Bestiola, Hostiola, Fera, Ciceroni Quadrupes, Panthera, Equus Masculus, Asida, Laeana, Persis Bridemis".

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the names "Lupus" and "Lupo" for this constellation.

"Lupus" is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a wolf being speared by Centaurus.

"Lupus" is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as well as the alternate name "Fera".

Italian astronomer Giovanni Batista Riccioli (1598 – 1671) listed it as "Lupa" and "Lycisca".

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts “Fera Lupus” as a wolf being speared in the throat by Centaurus.

This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as “Lupus” and “Fera”.

Dutch cartographer Frederik de Wit’s *Planisphaerium Coeleste* (1670) labels this constellation “Fera” with the subtitle “Lupus” and depicts it as a wolf that has been speared by a lance brandished by Centaurus.

English uranographer John Seller’s *A coelestiall planisphere* (1678) lists “Lupus” but it is mostly below the edge of the planisphere.

Lupus is listed by English astronomer Edmond Halley in his *Catalogus Stellarum Australium* in 1679 as a wolf being speared by Centaurus.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts “Lupus” as a wolf running to our left being speared by Centaurus.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this “Le Loup”, “Lupus”, and “ΑΥΚΟΣ” and depicts it as a snarling wolf being speared by Centaurus.

Dutch uranographer Carel Allard’s *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) depicts “Fera al Lupus et Panthera” as a wolf being speared by Centaurus.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley’s pirated catalogue of Flamsteed’s observations of 1712, depicts Lupus as a wolf being speared by Centaurus, but does not label it.

Lupus is listed in English astronomer John Flamsteed’s *Atlas Coelestis* in 1729: It is depicted as a wolf being speared by Centaurus.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts “Lupus” as a wolf being speared by Centaurus.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts “Lupus” as a wolf being speared by Centaurus.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Lupus as a wolf being speared by Centaurus.

French astronomer Abbé Nicolas Louis de Lacaille’s *Planisphère des Étoiles Ausralea* (1756) depicts “le Loup” as a wolf being speared by Centaurus.

German engraver and cartographer Tobias Conrad Lotter’s *Planisphaerium Coeleste* (1750) depicts Lupus as a wolf being speared by Centaurus.

French uranographer Gabriel Phillipe de la Hire’s *Planisphere Celeste* (1760) depicts “Le Loup” as a wolf being speared by Centaurus.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts “Lupus” as a wolf being speared by Centaurus.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts “le Loup” as a wolf being speared by Centaurus, as does the 1778 edition.

Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists this constellation as ”Der Wolff” in the text and “Wollf“ on the charts, depicting it as a wolf being speared by Centaurus.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as “Lupo” in his *Della Specola Astronomica De’ Regj Studj Di Palermo* (1792).

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts “Fera Lupus” as a wolf being speared by Centaurus.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts “Lupus” as a wolf being speared by Centaurus.

Lupus is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801) as “Wolf”: It is depicted as a wolf being speared by Centaurus.

American uranographer William Croswell (1760 – 1834) depicts “Lupus the Wolf” on his *Mercator Map of the Starry Heavens* in 1810 as a wolf being speared by Centaurus.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Lupus it in his *Celestial Atlas* in 1822.

German astronomer Johann Elert Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as “Wolf”.

American uranographer Elijah Burritt’s *Southern Circumpolar Map for each Month in the Year* (1835) depicts Lupus as a wolf being speared by Centaurus.

“Lupus” is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875): He indicates the borders of this constellation on the chart but offers no illustration of it.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts “Lupus” as a wolf being speared by Centaurus.

“Lupus” is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It is depicted as a wolf.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this constellation on the chart as “Wolf”.

English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists “Lupus, The Wolf” as an official constellation “recognized in the catalogue of the British Association”.

German astronomer Hermann Joseph Klein (1844 – 1914) lists “Lupus” in his *Star Atlas* (1893) and describes it as “The Wolf”.

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Lupus" and describes it as a "Wolf".

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) redesigned the lines of Lupus in his book *The Stars - A New Way to See Them* (1952). The standard IAU chart shows Lupus this way:

- With a "body" of the stars Alpha (α), Zeta (ζ), Omega (ω), Gamma (γ), Delta (δ), and Beta (β) Lupi,
- With a "head" formed by the triangle of stars Eta (η), Theta (θ), and Chi (χ) Lupi, with a line between Eta (η) Lupi and Gamma (γ) Lupi forming a "neck",
- With a "front leg" formed by a line from Delta (δ) Lupi to Phi (φ) 1 Lupi,
- With one "back leg" formed by a line from Alpha (α) Lupi to Tau (τ) 1 Lupi, and
- With one "back leg" formed by a line from Zeta (ζ) Lupi to Rho (ρ) Lupi.

Rey's version turns it to face in the opposite direction and looks like this:

- His "body" is a loop of the stars Rho (ρ), Pi (π), Lambda (λ), Delta (δ), k, Phi (φ) 1 and 2, Beta (β), Omicron (ο), and Alpha (α) Lupi.
- Two lines run out from Alpha (α) Lupi forming "ears":
- One to Iota (ι) Lupi, and
- One to Tau (τ) 1 and 2 Lupi,
- A line from Rho (ρ) to Sigma (σ) Lupi is a "nose",
- One "front leg" runs from Pi (π) Lupi through Kappa (κ) 1 Lupi to Zeta (ζ) Lupi,
- One "front leg" runs from Lambda (λ) Lupi through Mu (μ) Lupi to Epsilon (ε) Lupi,
- One "back leg" runs from k Lupi through Gamma (γ) and Omega (ω) Lupi to g Lupi,
- One "back leg" runs from Phi (φ) 1 Lupi through h Lupi to Eta (η) Lupi, and
- His "tail" runs from Phi (φ) 1 Lupi through Psi (ψ) 1 and Chi (χ) Lupi to Theta (θ) Lupi.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Lupus in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* as a bent enclosed shape formed by the line of stars Alpha (α) Lupi, Zeta (ζ) Lupi, Kappa (κ) 1 Lupi, Epsilon (ε) Lupi, Gamma (γ) Lupi, Eta (η) Lupi, Chi (χ) Lupi, Psi (ψ) 1 Lupi, Theta (θ) 1 Lupi, Delta (δ) Lupi, and Beta (β) Lupi.

Sky and Telescope Magazine, founded in 1941, depicts Lupus in their magazine and publications like this:

- Its "head" is the triangle of stars Eta (η), Chi (χ), and Phi (φ) Lupi,
- Its "body" is the quadrilateral formed by Eta (η), Gamma (γ), Epsilon (ε), Zeta (ζ), and g Lupi,
- Its "back leg" is a line between Zeta (ζ) and Alpha (α) Lupi, and
- Its "front leg" starts at Gamma (γ) Lupi and runs through Delta (δ) Lupi to Beta (β) Lupi.

Luritja Camp:

This large Luritja asterism is made up of the stars east of the Milky Way as viewed from central Australia (Clarke 2009). The Arrernte and Luritja peoples divided the sky between them, with this being the Luritja camp. The Milky Way divides the sky into these two camps. See Arrernte Camp (above) for the other.

Luritja Cousin:

This Luritja star is Beta (β) Centauri (Hadar) in the IAU constellation Centaurus as listed by Maegraith in 1932. Maegraith writes that this represents a Luritja man who is the cousin of Alpha Centauri (see Arrernte Boy, above) who belongs to the class Mbitjana.

Luritja Man:

This Luritja star is Alpha (α) Crucis (Acrux) in the IAU constellation Crucis as listed by Maegraith in 1932. Maegraith writes that this represents a Luritja man "belonging to the marriage class corresponding to Knaria" and "Father of Alpha Centauri" (see Arrernte Boy, above).

Luritja Woman:

This Luritja star is Beta (β) Crucis (Mimosa) in the IAU constellation Crucis as listed by Maegraith in 1932. Maegraith writes that this represents a Luritja woman "belonging to the marriage class Ngala" and that she is "wife of Acrux, mother of Alpha Centauri (see Luritja Man, above and Arrernte Boy, above).

Lusitânia:

This **telescopic** Portuguese star is HIP 30905 (HD 45652) in the IAU constellation Monoceros (magnitude 8.13). It was given this name in the IAU NameExoWorlds campaign. It is a name for the ancient region that makes up most of modern Portugal. It has an exoplanet named Viriato: Viriato was a legendary Lusitanian leader who resisted the Roman invaders in the 2nd century B.C.E.

Lusong:

This Samarnon asterism is the IAU constellation Crux (Ambrosio 2008).

Lustre:

This Lithuanian asterism "Setynas" or "Setinys" is the Pleiades open cluster in the IAU constellation Taurus. Linguistic variants include: Sietynas, Sietimas, Sietinis, Sietinys, Sityns, Sytynas, Sytinys, Sėtinys, Setynas, Sėtinas, Sėtinas, Sėtynas, and Satynas.

Lute:

This **telescopic** asterism, known as Poskus 1, is in the IAU constellation Delphinus, and is made up of 11th to 12th magnitude stars next to the star Gamma (γ) Delphini. American astronomer Sue French calls it the mandolin, and others call it the flyswatter. This is listed in *Asterisms: Small Star Patterns for Telescopes and Binoculars* by Dutch astronomer Demelza Ramakers in 2011.

Luyten's Flare Star:

This **telescopic** binary star is Luyten 726-8 (Gliese 65), composed of the stars BL Ceti and UV Ceti in the IAU constellation Cetus (magnitude 11.401). This was named for Dutch-American astronomer Willem Jacob Luyten in 1948.

Luyten's Star:

This **telescopic** double star is HIP 36208 in the IAU constellation Canis Minoris (magnitude 9.87). This red dwarf was named for Dutch-American astronomer Willem Jacob Luyten, who, in collaboration with Edwin G. Ebbighausen, first determined its high proper motion in 1935.

Lycaon:

This asterism is the IAU constellation Boötes. Johann Bayer's *Uranometria* (1603) lists "Lycaon" as an alternate name for this constellation. The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Lycaon" as a name for Boötes. Lycaon was the king of Arcadia and the father of Callisto, who was later turned into a Bear (Ursa Major).

Lycaonia:

This Latin asterism "Lycaonia", "Lycaonia Puella" ("Lycaon's Girl"), or "Lycanonia Arctos" ("Lycaon's Bear") is the IAU constellation Ursa Major. This is a reference to Lycaon, the King of Arcadia and the father of Callisto. This appears in the Leiden *Aratea* (816) as Lycaon's Bear. Johann Bayer's *Uranometria* (1603) lists the name "Licaonia".

Lycaon's Bear:

See Lycaonia, above.

Lycaon's Girl:

See Lyacaonia, above.

Lying on His Feet:

See Crocodile, above.

Lying Shield:

This **telescopic** asterism is in the IAU constellation Pegasus and is Leiter 14 on astronomer Frank Leiter's list of asterisms. Its brightest star is magnitude 11.1. and it is near HIP 116783. Leiter describes it as a medieval knight's shield laying on its side. Its size is 10' X 5'.

Lynx:

None of the stars of Lynx are on the list of 90 brightest stars and the stars of this constellation show up in 116 asterisms in this handbook.

This IAU constellation (IAU abbreviation Lyn) was made up of the stars of the obsolete constellation Jordan River (see above). It is listed on the *imagines coeli septentrionales cum duodecint imaginibus zodiaci* ("images of the northern sky with twelve images of the zodiac"), commonly known as the *Northern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius (Dekker & Lippincott, 1999). German astronomer Jakob Bartsch (1600 – 1633) also called it "Tigris".

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts this constellation as a lynx facing to our right. It is not labelled.

Polish astronomer Johannes Hevelius (1611 – 1687) named it "Tigris" ("tiger") in his original catalogue but when he put it in his *Prodromus Astronomiae* (1690) it is labelled "Lynx" and is depicted as a lynx running to our left.

A celestial pocket globe created by British uranographer Herman Moll in 1719 depicts "Lynx" as a lynx running to our left.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, depicts Lynx as a running lynx.

Lynx is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729: It is depicted as a classical lynx running to our right.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts Lynx as a lynx running to our right.

The *Atlas Coelestis* of German astronomer Johann Gabriel Doppelmayr (1742) labels this constellation "Lynx Tigris" and depicts it as a lynx running to our right.

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) depicts Lynx running to our left.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts "Lynx" as a lynx running to our left.

Johann Elert Bode's *Vorstellung Der Gestirne* (1782 lists this constellation as "Der Linx oder das Tieger-Thier" ("The lynx or the tiger-beast") and it is depicted on his charts as a lynx running to our right, labelled "Linx".

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as "Lince" ("lynx") in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) does not include Lynx.

The French edition of Flamsteed's work, the *Atlas Céleste,* which was revised in 1778 lists it as "le Lynx".

American uranographer William Croswell (1760 – 1834) depicts Lynx on his *Mercator Map of the Starry Heavens* in 1810.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists "Lynx" in his *Celestial Atlas* in 1822. Jameison's *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822) depicts this as a running lynx.

American uranographer Elijah Burritt's *The Constellations for each Month in the Year* (1835) depicts "the Lynx" as a running lynx.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts "Lynx" as a lynx running to our right.

Lynx is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on Jamieson's *Celestial Atlas*.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as "Luchs" and shows the lynx running to our right.

"Lynx" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as a lynx running to our right.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts "Lynx" as a lynx running to our left.

"Lynx" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): He is depicted as a lynx running to our right.

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Lynx, The Lynx" as an official constellation "recognized in the catalogue of the British Association".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Lynx" in his *Star Atlas* (1893) and describes it as "The Lynx".

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this constellation as "Lynx".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Lynx" and describes it as a "Lynx".

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Lynx".

Standard IAU charts depict Lynx as a wavy line starting at the star Alpha (α) Lyncis and running through 38 Lyncis, HIP 44700, 10 Ursae Majoris, 31 Lyncis, 21 Lyncis, and 15 Lyncis, ending at 2 Lyncis.

It is known to the Italians as "Lince" and the Germans as "Luchs" and Linx".

This Estonian asterism "Ilves" is the IAU constellation Lynx and appears in the *Sky of Ests (Chudes)* by Aleksander Heintalu (Sass of Vigala) (Kuperjanov 2006).

Lyra:

Lyra's stars appear in 215 asterisms in this handbook. Its brightest star is Vega.

This IAU constellation (IAU abbreviation Lyr) was first mentioned in Aratus' poem *Phaenomena* (270 B.C.E.) and in the 2nd century became one of Ptolemy's 48 original constellations, associated to the lyre of Orpheus in Greek myths. Ptolemy's original name in the *Almagest* was "Λύρα" ("Lýra"), "Λύρη" ("Lýri") or "Λύρα κατοφερής" ("Lýra katoferís" or "pendant lyre"), and it was shown with a semi-circle of stars around the parallelogram associated with it on modern star maps, starting at Eta (η) Lyrae and running through Theta (θ) Lyrae, 18 Lyrae, 17 Lyrae, HIP 93720, HIP 91883, HIP 91235, Alpha (α) Lyrae (Vega) to Epsilon (ε) Lyrae. Lyra is one of the paranatellonta of the decans of Gemini as listed in *the Sphaera Barbarica* described by Teucros (Mosenkis, date n/k).

The Mainz Globe from the eastern end of the Roman empire (c. 150 – 220 C.E.) depicts Lyra as a lyre.

The globe of the 2nd century Farnese Atlas depicts this constellation as a lyre made from a tortoise shell (Stevenson 1921).

The *De ordine ac positione stellarum in signis* ("*On the order and position of the stars in the signs*") in the Salzburg compilation (810 – 818) of Abbot Arno of Salzburg (785 – 821) lists "Lyra" and "Lira".

Lyra is depicted in the Leiden *Aratea* (816) as a lyre (Katzenstein & Savage-Smith, 1988).

This constellation appears in the 8th century *Revised Aratus Latinus*:

- In several editions (St Gall 250, St Gall 902) the lyre's strings are depicted as looping lines,
- In two editions (Gottweig 7 (146), Siena L. IV. 25) the strings are fixed to the fret-bar with nails,

- In several editions (Dresden DC 183, Paris BN 12597, Gottweig 7 (146), Siena L. IV. 25, St Gall 250, St Gall 902) this lyre has a zither-like base and ox horn side supports,
- In the Prague IC C 6 edition the lyre has rectangular base with an animal head decorating one edge of the fret bar,
- In the Vat Reg lat 1324 edition this is depicted as a traditional Irish harp.

The Los Angeles, Getty Ludwig XII, 5 manuscripts of the *De ordine ac positione stellarum in signis* depicts an Irish harp. The 12th century Vienna ÖNB Vindob 12600 manuscript of the *De ordine ac positione stellarum in signis* depicts Lyra upside down.

The 11th century *De signis caeli (“of the signs of heaven*”) lists “Lira” and “Lyra”. The Oxford Laud 644, Padua 27 and Venice VIII 22 manuscripts of *De signis caeli (“of the signs of heaven*”) depict Lyra as a peculiar lobed lyre. The Dijon 448 manuscript of *De signis caeli* depicts some sort of key or plectrum attached to the lyre.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Lyra as a drinking cup.

The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.168v-169r depicts “Vultur Cadens” as a lyre decorated as an eagle.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.71v-72r depicts Lyra as an eagle with wings folded. It is not labelled and poorly drawn and does not look like a lyre.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Lyra as a lyre, but is not labelled.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Lyra as a lyre.

The *Germanicus Aratea* (Siciliensis, c. 1469) and the *Germanicus Aratea* with scholia Strozziana (c. 1475) depict Lyra as a Lyre.

De Astronomica (“the astronomy”), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This depicts “Lyra” as a lyre.

The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts “Vultur Cadens” as a bird with a short, crooked beak.

The early 16th century Real Academia de Historia, manuscript D-97, f.104v – 105r depicts Lyra as a tortoise or turtle as viewed from above. It is unlabelled. This is a reference to the myth of Orpheus, who made his lyre from a tortoise shell. Real Academia de Historia, manuscript D-97, f.101v partially depicts this turtle at the edge of the circular chart.

The “Nuremburg Maps” *(Die Karte des Nördlichen Sternenhimmels* inv.-Nr. Hz 5576), a pair of celestial hemispheres made in 1503 by Conrad Heinfogel, depicts “Vultur Cadens” as an eagle with wings outstretched as if about to land.

The *imagines coeli septentrionales cum duodecint imaginibus zodiaci* (“images of the northern sky with twelve images of the zodiac”), commonly known as the *Northern Celestial Hemisphere* chart of 1515 by

Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius (Dekker & Lippincott, 1999) depicts Lyra as a harp decorated with an eagle's head and wings.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts Lyra in the same manner as Dürer et al.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts "Lyra" as a lyre in front of an eagle.

The *Horoscopion generale* (1533) of Petrus Apianus (1495 – 1552) depicts Lyra as a sort of violin in front of an eagle.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts "Lyra" as a sort of violin in front of an eagle.

Dele Stelle Fisse ("Of the Fixed Stars") by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as "De la Lira". The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

The Northern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Lyra as a violin or cello decorated with eagle's wings and feet.

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts "Lyra" as a violin.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts "la Lyre" as what appears to be a violin.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) depicts "Lyra" as a lyre.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) depicts "Lyra" as a lyre in front of an eagle.

German uranographer Johann Bayer (1572 – 1625) depicts this in his *Uranometria* in 1603 as a harp in front of an eagle. Bayer lists the following names for this constellation: "Lyra, Apollinus, Orphica, Vultur Cadens, Arabum, Fides, Fidicula, Testudo, Cirhara, Fidicen, Canticum, Testudo lutaria, Marina, Deferens Psalterium, Pupillam, Aquila marina, Nesrussakat, Alohore, Mesanguo, Asangue, Brinek, Albegala, Nablon".

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts "Lyra" as a lyre in front of an eagle.

"Lyra" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and depicted as a lyre in front of an eagle.

Giovanni Paolo Gallucci's *Theatrum Mundi, et Temporis* (1614) labels this constellation "Lira" and "Vultur Cadens" and depicts it as a six stringed instrument such as a violin.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the names “Lyra” and “Vultur Cadens” for this constellation.

The *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) depicts “Lyra” as a lyre in front of an eagle.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts “Lyra” as a lyre made to look like an eagle.

The huge *Gottorf Globe* (c1650) made for the Duke of Holstein, Frederick III, one of the world’s first planetariums, depicts Lyra as a lyre made to look like an eagle.

Lyra is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661: It is depicted as a lyre in front of an eagle.

Dutch cartographer Frederik de Wit’s *Planisphaerium Coeleste* (1670) labels this constellation “Lira” and depicts it as a harp with the shape of an eagle with spread wings.

The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678 by English uranographer James Clerk depicts “Lyra” as a lyre in front of an eagle.

English uranographer John Seller’s *A coelestiall planisphere* (1678) depicts “lyra” as a lyre in front of an eagle.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts “Lyra” as a lyre being carried in front of an eagle.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this “La Lyre”, “Lyra”, and “Λύρα” and depicts it as a lyre in front of an eagle.

A celestial pocket globe created by British uranographer Herman Moll in 1719 depicts “Lyra” as an eagle shaped harp.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley’s pirated catalogue of Flamsteed’s observations of 1712, depicts Lyra as a lyre decorated as an eagle.

Lyra is listed in English astronomer John Flamsteed’s *Atlas Coelestis* in 1729.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts “Lyra” as a harp with the shape of an eagle.

German engraver and cartographer Tobias Conrad Lotter’s *Planisphaerium Coeleste* (1750) depicts Lyra as a harp with the shape of an eagle.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Lyra as a harp decorated to look like an eagle.

French uranographer Gabriel Phillipe de la Hire’s *Planisphere Celeste* (1760) depicts “La Lyre” as a lyre with an eagle behind it.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts “Lyra” as a harp in the shape of an eagle.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts “la Lyre” as a lyre in front of an eagle with wings outstretched on its northern hemisphere chart, but on a later close-up chart it is simply depicted as a lyre.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as “Lira” in his *Della Specola Astronomica De’ Regj Studj Di Palermo* (1792).

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts “Lyra” as a lyre in front of an eagle.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts “Lyra” as an eagle shaped harp.

American uranographer William Croswell (1760 – 1834) depicts “Lyra” on his *Mercator Map of the Starry Heavens* in 1810 as a lyre.

German astronomer Johann Elert Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as “Leyer” and depicts it as a harp in front of an eagle. Bode’s *Vorstellung Der Gestirne* (1782) lists this constellation as ”die Leyer“ and depicts it as a lyre.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Lyra in his *Celestial Atlas* in 1822. Jameison’s *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822) depicts this as a lyre.

“Lyra” is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) as a harp shaped like an eagle.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depict “Lyra” as a lyre.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts “Lyra” as a lyre.

Lyra is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852: The author is unknown, but it is based on Jamieson’s *Celestial Atlas*.

“Lyra” is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It is depicted as a lyre.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) describes this constellation as “Lyra, the harp”.

English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists “Lyra, The Lyre” as an official constellation “recognized in the catalogue of the British Association”.

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as “Lyra, the Harp”.

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Lyra" and describes it as a "Harp".

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Lyra".

Lyra's brightest star Alpha (α) Lyrae (Vega) is the 5th brightest star in the sky and appears in the Summer Triangle and Navigator's Triangle (see Summer Triangle below, and Navigator's Triangle, below). The stars of this constellation appear in 191 of the asterisms of the sky cultures of the world. It is "Leier" in Germany, "Lira" in Italy, and "Lyre" in France. R. H. Allen writes in his *Star Names* in 1899 that 1st century Roman poet Marcus Manilius "seems to have made two distinct constellations of this, Lyra and Fides, although we do not know their boundaries" (see Fidicula, above).

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) redesigned the lines of Lyra in his book *The Stars - A New Way to See Them* (1952). The standard IAU chart shows this constellation as the parallelogram of stars Beta (β) Lyrae (Sheliak), Gamma (γ) Lyrae, Delta (δ) 1 and 2 Lyrae, and Zeta (ζ) 1 and 2 Lyrae, with a line running out from this last double star to Alpha (α) Lyrae (Vega). Rey retains the parallelogram but removes the line to Vega and runs a loop of stars around from Gamma (γ) Lyrae through Theta (θ), Eta (η), 13, Epsilon (ε) 1 and 2, Alpha (α), and Kappa (κ) Lyrae to Beta (β) Lyrae.

Sky and Telescope Magazine, founded in 1941, depicts Lyra in their magazine and publications as a parallelogram of Zeta (ζ) 1 Lyrae, Beta (β) Lyrae (Sheliak), Gamma (γ) Lyrae and Delta (δ) 1 and 2 Lyrae attached to a triangle formed by the stars Zeta (ζ) 1 Lyrae, Epsilon (ε) 1 and 2 Lyrae, and Alpha (α) Lyrae (Vega).

The parallelogram has the corner stars Gamma (γ), Delta (δ) 1 and 2, Zeta (ζ) 1, and Beta (β) Lyrae (Sheliak). A short line runs out from Zeta (ζ) 1 Lyrae to Alpha (α) Lyrae (Vega).

Lyre:

This Greek asterism "Κιθάρα" ("lyre" or "guitar") or "Kithara" is the IAU constellation Lyra. This was translated by Qadizade al-Rumi (1364 – 1436) as "Al Sanj", which was later latinized to "Asange", "Asenger", "Asanges", "Asangue", "Al Sangue", "Sangue", and "Mesanguo".

- In the 15th century *Alfonsine Tables* it is listed as "Alsanja".
- Johann Bayer's *Uranometria* (1603) lists the names "Mesanguo", "Asangue", and "Brinek".
- Italian translator Giuseppe Simone Assemani (1687 – 1768) believed that these terms were derived from German astronomer Wilhelm Schickard's "Azzango" ("Cymbal").
- Translations of Reduan's Commentary list "Arnig" and "Aznig".
- German astronomer Christian Ludwig Ideler (1776 – 1846) listed it as "Brinek".
- John Hill lists it as "Sangue", "Al Sangue", and "Sengi" in his *Urania* in 1754.
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Lyre" and "Brinek" and attributes the latter to Riccioli.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as the "Lyre". Copernicus lists Alpha () Lyrae (Vega) as the "Little Lyre" or the "Lute".

This German asterism "Leyer" is the IAU constellation Lyra as depicted in the *Nördliche Sternhimmel* sky map of O. S. Reuters based on the work of German astronomer Johann Elert Bode (1747 – 1826).

Lyre of Zurah:

This Persian asterism is the IAU constellation Lyra.

Lyricist:

This Latin asterism "Fidicen" is the IAU constellation Lyra.

M:

There are seven **telescopic** "M" asterisms:

- One is Sánta 145, listed in 2007 by Hungarian astronomer Sánta Gábor, which is a group of 8th – 12th magnitude stars in the IAU constellation Puppis. Gábor describes it as an "M-shape [asterism]… nice… along EW, 38' SSE from 10 [Puppis]".
- One is Kernya 2, listed by Hungarian astronomer Gábor János Kernya, which is in the IAU constellation Leo. Kernya describes it as a "Spectacular group in the western part of the Leo constellation. About ten stars of magnitude 8 – 11 draw a rotated "M" or "Σ" shape… This asterism works very well in the field of view that is poor in stars."
- One is Kernya 84, listed in 2015 by Hungarian astronomer Gábor János Kernya, which is a group of 11th – 14th magnitude stars in the IAU constellation Pegasus. Kernya describes this as a "distorted 'W' or 'M' shape." The photo accompanying this listing shows it as an "M", so that's how we're listing it here.
- One is Corder 4117 in the IAU constellation Sagittarius and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 25'. This includes HIP 100278, 100270, and 100123.
- One is in the IAU constellation Fornax and is Corder 378 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is five 7th – 9th magnitude stars including HIP 11359, 11339, and 11306.
- One is HII region NGC 2359 (SH 2-298. RCW 5, LBN 1041, Ced 94b)in the IAU constellation Canis Major surrounding the Wolf Rayet star WR7. Size 10' X 15'. It was discovered by English astronomer William Herschel in 1785 who listed it as "V 21" in his catalogue. It is GC 1511 in the *General Catalogue* of 1864. American astronomer Dave Mitsky (1997) describes it in the DOCdb database as"an M turned on its side". It is also known as the "Duck Nebula", the "Duck Head Nebula", the "Flying Eye Nebula", the "Bust Silhouette", "Thor's Helmet", or the "Whistle Nebula".
- One is in the open cluster the Theta (θ) Carinae cluster, IC 2602 (Melotte 102, Caldwell 102) in the IAU constellation Carina. It was recorded in Abbé Nicholas Louis de Lacaille's original catalogue of 1755. Later it was recorded by American astronomer Solon Irving Bailey (1854 – 1931) and became IC 2602. This is six 4th – 7th magnitude stars including HIP 52701, 52736, 52678, 52799, and the double star HIP 52815A. This was created in 2016 by South African astronomer Pierre de Villiers: This "M" is clearly visible.

M 35 Guy:

This **telescopic** asterism is in the open cluster Messier 35 (NGC 2168) in the IAU constellation Gemini. It was discovered by Swiss astronomer Philippe Loys de Chéseaux in 1745.It is also known as the Sky Rocket Burst, Nested Bells, and the Shoe Buckle Cluster. American amateur astronomer "Fiske" listed this in March 2022 on *Cloudy Nights*. The "eyes" are HD 252197 and 252153. His "nose" is the line of

stars HD 252199, HD 252198, HD 252176, Gaia DR3 3426281165064377984 and HD 252126. His smiling "mouth" is the curve of stars HD 41996, HD 252353, Gaia DR3 3426271338180113536, Gaia DR3 3426270066868843520, Gaia DR3 3426270685344143488, and HIP 29148.

M 73 Lookalike:

There are three **telescopic** "M 73 lookalike" asterisms:

- One is in the IAU constellation Hercules and is Ferrero 51 on Laurent Ferrero's list of asterisms. It is a triangle of three stars with a blue star in the middle.
- One is Cseh 8 listed by Hungarian astronomer Viktor Cseh, which is a group of 10^{th} – 11^{th} magnitude stars in the IAU constellation Capricornus. Cseh describes it as "at first glance, it looks very similar to the M 73".
- One is Kernya 24, listed by Hungarian astronomer Gábor János Kernya, which is a group of six stars of magnitude 11.5-14.5 in the IAU constellation Triangulum. Kernya describes it as "somewhat reminiscent of M 73."

M & M Double Cluster:

This **telescopic** asterism is the pair of open clusters NGC 1528 and 1545 in the IAU constellation Perseus. These were discovered by the English astronomer William Herschel in 1790: Herschel lists the first as "VII 61" and the second as "VIII 85" in his catalogue. They are GC 820 and GC 831 in the *General Catalogue* of 1864. I'm not sure who named these side by clusters after M & M candies, but the Mars Company first released these in 1941, so it must have been named after that date and possibly refers to the many different coloured stars in these clusters. NGC 1545 is also known as the Magic Pentagram Cluster. It is also known as thee "Pride Double Cluster" (see below).

ma-šu!-u:

This Akkadian asterism "ma-šu!-u" from the Ura = hubulla XXII lists (Block, Yigal, and Horowitz 2015) is unidentified currently. The Sumerian name is mulmaš-maš.

Maacik:

This Micronesian asterism is the IAU constellation Hercules.

Maalu:

This Kokatha and Ngalea star is Alpha (α) Centauri (Rigil Kentaurus) in the IAU constellation Centaurus (Leaman and Hamacher 2014).

Ma'afulele:

This Tongan star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major. NOTE: They also used this name for the Large Magellanic Cloud.

Ma'afutoka:

This Tongan star is Alpha (α) Carinae (Canopus) in the IAU constellation Carina. NOTE: They also used this name for the Small Magellanic Cloud.

Maasym:

See Wrist, below.

Ma'at:

This Egyptian star is Alpha (α) Piscis Austrini (Fomalhaut) in the IAU constellation Piscis Austrinus as listed in the 19th dynasty Cairo Calendar (Hardy 2003). Ma'at or Ma't is Goddess of truth, justice, and harmony, who set the stars in the sky and regulates the seasons: Her name means "that which is straight".

Maazein:

This Arabic asterism is the stars Eta (η) and Zeta (ζ) Aurigae in the IAU constellation Auriga:

- "Maazein" is listed in John Hill's *Urania* in 1754. Hill describes them as "two bright stars in the arm of Auriga" who are "two young goats".
- This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Maaz": The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822.
- NOTE: These two stars are part of the asterism Capra and Haedi (see Kids, above).

Macaw's Egg:

This Tupi star "Ararasopiá" is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius (De Freita Mourão 2009) and is part of their asterism "Boiunaçu" (see Big Black Snake, above).

Mace:

One is in the IAU constellation Eridanus and is Ennis 63 on the observing list of Canadian astronomer Charles Ennis. Size 16' X 3'. The "handle" of mace is the stars HIP 21409 and Gaia DR3 2978436369533432960. The "head" of the mace is a diamond of four 9th – 10th magnitude stars including Gaia DR3 2978248932863246720 and Gaia DR3 2798248662282638976. This includes stars of Corder 711 on Jeffrey Corder's list.

Maceris:

This asterism "Maceris" is the IAU constellation Hercules and is listed in R. H. Allen's *Star Names* in 1899. Allen identifies it as a Libyan name.

Macondo:

This **telescopic** Columbian star is HIP 52521 (HD 93083) in the IAU constellation Antlia (magnitude 8.33). It was given this name in the IAU NameExoWorlds campaign. It is named for a mythical village in Gabriel Garcia Márquez's novel *Cien anos de soledad (One Hundred Years of Solitude).* It has an exoplanet named Melquíades, which is a fictional character which walks around Macondo.

Mad Dog:

This Babylonian asterism "Uridimmu" from the MUL.APIN tablets and listed as "mul ur.idim" in the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period is the IAU constellation Lupus.

- The "body" is an irregular oval of stars: Alpha (α), Beta (β), Delta (δ), Phi (ϕ), Psi (ψ), Gamma (γ), and Kappa (κ) Lupi, with lines running out:
- One line runs out from Gamma (γ) Lupi to HIP 78323
- One line runs out from Kappa (κ) Lupi to Zeta (ζ) Lupi.

- One line runs out from Alpha (α) Lupi to Rho (ρ) Lupi, and
- One line runs out from Psi (ψ) Lupi to Chi (χ) Lupi and then splits:
    - One line goes to Eta (η) Lupi, and
    - One line goes to Theta (θ) Lupi.

This Babylonian asterism "UR.DIM" as listed in Anthony Hope's *A Guide to Ancient Near Eastern Astronomy* in 1996 is the IAU constellation Lupus.

This Babylonian and Sumerian asterism "ur-idim" from the BM 78161 tablets (Liechty 1988) includes the stars Eta (η) Lupi in the IAU constellation Lepus and Zeta (ζ) 2 Scorpii in the IAU constellation Scorpius.

This Seleucid asterism identical to the Babylonian asterism Mad Dog.

Mad Goat Stars:

This Latin asterism "insana Caprae sidera" ("mad goat stars") is the Haedi asterism (see Kids above) as described by Horace. Compare this to Horrid and Insane Stars above.

Mad Star:

This Kamilaroi star "Wamba" or "Wumba" (Ridley 1875) or Euahlayi star "Womba" (Parker 1905) or "Wamba" (Fuller et al, 2014) is Alpha (α) Carinae (Canopus) in the IAU constellation Carina. This word means "crazy" and refers to a character named Weedah, who went crazy when he lost his loves and was sent into the sky.

This Euahlayi star "Wamba Wamba" is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus (Fuller et al 2014).

Madin:

This Wardaman star is Epsilon (ε) Scorpii in the IAU constellation Scorpius (Cairns and Harney 2003).

Maffei's Galaxies:

This telescopic asterism is two galaxies in the IAU constellation Cassiopeia which are heavily obscured by interstellar dust: Maffei 1 (SH 2-191, LBN 659, PGC 9892) and Maffei 2 (SH 2-197, PGC 1-217). They were discovered by Paolo Maffei (1926 – 2009) in 1968.

Belgian astronomers Gerard Bodifee and Michel Berger turned this into two separate **telescopic** asterisms in *The Catalogue of One Thousand Named Galaxies* (2010):

- One "Mafféia Cassiopéiae" ("Maffei's of Cassiopeia") is the interacting galaxy Maffei 1, and
- One "Mafféius Cassiopéiae" ("Maffei's of Cassiopeia") is the interacting galaxy Maffei 2.

Magellanic Clouds:

The Large and Small Magellanic Clouds are minor galaxies orbiting our Milky Way galaxy and are visible to anyone south of 20 degrees North latitude and feature prominently in 59 asterisms of the sky cultures of the world. They were first mentioned by Ibn Qutaybah (828 - 889) in his book on lunar stations. Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) mentioned them in his *Book of Fixed Stars* in 964. The first mention in Europe was in *Decades of the New World* by Italian authors Peter Martyr d'Anghiera and Andrea Corsali in the 16th century, both basing this on Portuguese voyages. This name originates in

the records of Antonio Pigafetta, who accompanied Magellan on his voyages 1519 – 1522. Robert Hues calls them the "Magellanus Clouds" in his *A Learned Treatise of Globes* in 1659. R. H. Allen lists them as "Nubeculae Magellani" ("little clouds") in his *Star Names* in 1899 and writes that the "earliest navigators" called them the "Cape Clouds". American astronomer Maria Mitchell (1818 - 1889) called them "the Magellan Patches". English astronomer John Herschel listed them as "Nubecula Major" (see below) and "Nubecula Minor" (see below). American astronomer Harlow Shapley (1885 – 1972) listed them as the Magellanic Clouds, as did Peter Doig FRAS later in the Journal BAA, 36 (3), December 1925.

Magellanic Spiral Galaxy:

This **telescopic** asterism is the one-armed Magellanic Spiral galaxy NGC 4618 (Arp 23) in the IAU constellation Canes Venatici. William Herschel listed this as "I 178" and "I 179". John Herschel originally listed it as h 1385 but later as GC 3151 and 3152 in his *General Catalogue* of 1864. The term Magellanic Spiral Galaxy is a term used to describe all one-armed spiral galaxies, which are classified as type Sm. This particular galaxy is sometimes referred to by this name.

Magellan's Spot:

"Macula Magellani" an alternate name for the Coal Sack Nebula (see Coal Sack Nebula, above). It is listed in R. H. Allen's *Star Names* in 1899 as originating "before Rear Admiral Sir. John Narborough described it in 1671", though how long before and by whom Allen does not specify.

Magic Carpet Nebula:

See Jewel Bug Nebula, above.

Magic Fountain:

See Waterfall, below.

Magic Wand:

This **telescopic** asterism is made up of stars of the IAU constellation Camelopardalis. It is Ennis 92 on the asterism list of Canadian astronomer Charles Ennis and Dezsi 10 on the list of Hungarian astronomer Attila Dezsi. It is the four stars HD 29739, Gaia DR3 500989041520393472, Gaia DR3 500988663563278848, and Gaia DR3 500985296308927744. The spiral galaxy NGC 1573 is at one end of the line next to HD 29739. Size 8'.

Magical Fish:

This German asterism is the IAU constellation Pisces. It relates to the story of Antenteh, who met two magical fish that granted her wishes. Antenteh's "tub" is the Great Square of Pegasus (see Tub, below).

Magic Mushroom:

This **telescopic** asterism is in the IAU constellation Cassiopeia. It is Laurelai 2 on the observing list of Canadian astronomer Laurel Ennis. One corner of the "mushroom cap" is the star HIP 11166A.

Magic Mushroom of Ursa Major:

This **telescopic** asterism "Psilócybe Úrsae Majóris" is the galaxy merger UGC 8696 (Markarian 273) in the IAU constellation Ursa Major. This name appears in *The Catalogue of One Thousand Named Galaxies* by

astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of “the resemblance of this long-tailed galaxy with a mushroom of the genus Psilocybe”.

Magic Pentagram:

This **telescopic** asterism is the pair of open clusters NGC 1528 and 1545 in the IAU constellation Perseus. These were discovered by the English astronomer William Herschel in 1790: Herschel lists the first as “VII 61” and the second as “VIII 85” in his catalogue. They are GC 820 and GC 831 in the *General Catalogue* of 1864. This is also known as the M & M Double Cluster (see above). NGC 1545 is O’Meara 24 in Astronomer Stephen James O’Meara’s *Hidden Treasures Catalogue* (2007).

Magician’s Hat:

There are two **telescopic** Magician’s Hat asterisms:

- One is open cluster Pismis-Moreno 1 (Pi-Mo 1) in the IAU constellation Cepheus. Robert Zebahl lists it on his *Faint Fuzzies* webpage as the “Zaubererhut” (“Magician’s Hat”). Size 7’ X 7’. A star at the tip of the hat is HIP 110125A. This is listed on the Irish Federation of Astronomical Societies site as the “Witch’s hat”.
- One is Pothier 3 in the IAU constellation Draco. René Merting describes it on the Faint Fuzzies website: “At 45x the star pattern is immediately recognizable, around 20 medium bright stars form a pointed hat with a wide brim, three faint stars in the west stand out slightly - the tip of the hat becomes narrower mainly towards the north and ends with two stars, the brim extends from east to west, the brightest stars are in the west and north, in the south 2-3 stars are missing from the center of the brim to complete the impression - reminiscent of Pi-Mo 1, the magician's hat.” The principal stars appear to be Gaia DR3 1651501997186160896, SAO 8815, Gaia DR3 1651884485497357440, Gaia DR3 1651878167600855552, Gaia DR3 1651884313698666204, Gaia DR3 1651129606340931968 and Gaia DR3 1651124624178853888.

Magnitude Scale:

This **telescopic** asterism Ferrero 36 from the asterisms list of French astronomer Laurent Ferrero is a line of four stars of ascending magnitude in the IAU constellation Pictor: HIP 28498 (magnitude 7.4) is the brightest star at one end and the other three stars are magnitude 10.25, 10.60, and 11.55. NOTE: Hungarian astronomer Gábor János Kernya claims that his asterism Kernya 62 “the HD 22597 group… is also known as Ferrero 36”, but Kernya 62 is in Reticulum not Pictor.

Magnus Hydra:

This **telescopic** asterism “Mágnus Hýdrae” is the large spiral galaxy NGC 3200 in the IAU constellation Hydra. It was discovered by American astronomer Edward Singleton Holden in 1882. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to its large size.

Mago:

This German star is HIP 24003 (HD 32518) in the IAU constellation Camelopardalis and was given this name in the IAU NameExoWorlds campaign. It was a German proposal, but the name refers to Mago

National Park in Ethiopia which is noted for its giraffes (and related to the name of the constellation). It has an exoplanet named Neri, which is a reference to the Neri River in Ethiopia.

Maggot:

This Chaldean asterism "mul tul-tum" is listed in the *Great Star List* (Koch-Westenholz 1995) but the stars have not been identified.

Magnificent Seven:

This **telescopic** asterism is HII region is NGC 249 in the IAU constellation Tucana. It was discovered by English astronomer John Herschel in 1847. This is listed as GC 134 in the 1846 *General Catalogue*. It is named for a 1960 American western film by this name, which features seven characters hired to protect a small village. These are nebulae within the Small Magellanic Cloud.

Magum:

This Wardaman star is Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Major (Cairns and Harney 2003).

Mahasim:

See Wrist, below.

Mahi:

This Persian asterism is the IAU constellation Pisces as listed in John Hill's *Urania* in 1754.

Mahsati:

This **telescopic** Azerbaijani star is HIP 82651 (HD 152581) in the IAU constellation Ophiuchus (magnitude 8.35). It was given this name in the IAU NameExoWorlds campaign. It is named for the poet Mahsati Ganjavi. It has an exoplanet named Ganja, which was an ancient capital of Azerbaijan.

Mahua Tree:

This Kolam asterism "Irukmara" or "Ipamaka" is the IAU constellation Crux (Vahia 2014).

This Gond asterism is the IAU constellation Crux (Vahia 2014).

NOTE: This is the Madhuca longifolia, a tropical tree found in India, Nepal, Myanmar, and Sri Lanka.

Mahuwkaye:

This Palikur asterism is the belt and sword of Orion in the IAU constellation Orion (Green and Green 2011). He is the pilot of Kusuvwi Isamwitye (see Kusuvwi the Younger Brother, above) and the rest of Orion is his boat.

Maia:

This Greek star is 20 Tauri in the Pleiades cluster in the IAU constellation Taurus. Maia is one of the Pleiades sisters in Greek mythology:

- Variations include "Mea", "Maja", and "Majja".

- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists "Maia" for this star.
- German astronomer Hermann Joseph Klein (1844 – 1914) lists "Maia" in his *Star Atlas* (1893).
- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Maia".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list "Maia" for this star.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this star as "Maia".
- The IAU approved the name Maia for the star 20 Tauri.

Maia Nebula:

This **telescopic** asterism is HII region is NGC 1432 (vdB 21, LBN 771, Ced 19f) in the Pleiades cluster in the IAU constellation Taurus. It is named this as it contains the star Maia (see above).

Maiawa:

This Kiribati star is Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion (Trussel and Groves 1978). Maiawa is a female mythological character.

Maid:

This star "Ancilla" (Latin for "maid") is Eta (η) Ursae Majoris (Alkaid) in the IAU constellation Ursa Major and is part of the asterism Bier of Lazarus, which appears in the star atlas Coelum Stellatum Christianum by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures. It later appears in John Hill's *Urania* in 1754.

Maiden:

This Greek asterism "Παρθένος" or "Parthenos" ("maiden" or "virgin") is the IAU constellation Virgo as originally described by Ptolemy (c.100 – c.170) in his *Almagest*. Indian astrologer Varāhamihira (c. 505 – c. 587) listed it as "Parthena", "Partina", and "Pathona". 5th century Greek poet Nonnus called it "σταχυώδης Κούρη" ("stachyódis Koúri" or "wheat bearing maiden"), later latinized to "Spicifera Virgo Cereris", and the "Virgo spicea munera gestans" ("Maiden carrying spicy gifts") of 1st century astrologer Marcus Manlius. Johann Bayer's *Uranometria* (1603) lists "Spicifera Dea"

English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists Parthenos as a name for this constellation. This is how Ptolemy imagined her:

- Her "head" is the quadrilateral of stars 8 Virginis, Omicron (ο) Virginis, Xi (ξ) Virginis, and Nu (ν) Virginis,
- Her upper "body" is a pentagon of the stars 8 Virginis, Eta (η) Virginis, Gamma (γ) Virginis, Delta (δ) Virginis, and 32 Virginis,
- Her lower "skirt" is a quadrilateral of the stars Delta (δ) Virginis, Gamma (γ) Virginis, 76 Virginis, and Zeta (ζ) Virginis,
- One "leg" runs from Zeta (ζ) Virginis to a "knee" at Phi (φ) Virginis and a "foot" at Mu (μ) Virginis,
- One "leg" runs from 76 Virginis to a "knee" at Kappa (κ) Virginis and a "foot" at Lambda (λ) Virginis,
- One "wing" is the four stars 32 Virginis, Rho (ρ) Virginis, Epsilon (ε) Virginis, and Tau (τ) Virginis,

- Another “wing” is the three stars Eta (η) Virginis, Psi (ψ) Virginis, and Beta (β) Virginis, and
- She has one “arm” that runs from Eta (η) Virginis to Alpha (α) Virginis (Spica), which Ptolemy calls the “ear of grain”.

NOTE: This Greek asterism appears on the *Daressy Zodiac* of the Roman Imperial Period next to a walking lion. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “chimar in the Almagest” as the stars Theta (θ), Iota (ι), and Kappa (κ) Virginis and calls this “the skirt of the garment”.

There are two Arabic asterisms with the name “Maiden”:

- One, “Qabl Alzawaj” (قبل الزواج), is the IAU constellation Virgo.
- One, “al-ʿadhārā”, later latinized to “Al Zara” is the star Omicron (ο) 2 Canis Majoris in the IAU constellation Canis Major. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “El Zára, the virgins”.

This Seleucid asterism, also known as “Shala” is made up of stars in the IAU constellations Coma Berenices, Crater, and Virgo and replaces an earlier and much smaller asterism in Babylonian sky lore, “AB.SIN” (see Furrow, above). Shala is a Mesopotamian Goddess of weather and grain and the wife of their weather God Adad. This is a large asterism with several parts:

- The “head” is an irregular oval of stars roughly resembling a head: The “chin” is Epsilon (ε) Virginis and then the line runs around through HIP 64823, Alpha (α) Comae Berenices (Diadem), 36, 27, and 29 Comae Berenices, to 34 Virginis and Rho (ρ) Virginis the last three stars resembling a fall of hair,
- The “neck” is the quadrilateral of stars HIP 63221A and 63081A, and 41 and 33 Virginis,
- The “upper torso” is an oval of stars: HIP 63221A, 33 Virginis, HIP 61103, 16 Virginis, Eta (η) Virginis, Gamma (γ) Virginis, and Delta (δ) Virginis,
- Her “lower torso” is a five-sided figure of the stars 25, Gamma (γ), and Eta (η) Virginis and HIP 57791 and 59273,
- Her “skirt” is a quadrilateral of stars: HIP 57791 and 59273 and 14 and Zeta (ζ) Crateris,
- Her “left leg” is a line between two stars: Gamma (γ) Crateris and HIP 56901,
- Her “right leg” is a line between two stars: Delta (δ) and Kappa (κ) Crateris,
- Her “arm” runs from Delta (δ) Virginis to an “elbow” at Theta (θ) Virginis and a “hand” at 74 Virginis, and
- From the “hand’ at 74 Virginis four lines of stars run out to form an “ear of grain” that she is holding:
    - One line runs out through Zeta (ζ) Virginis to 78 Virginis,
    - One line runs to 89 Virginis,
    - One line runs to 69 Virginis, and
    - One line runs through Alpha (α) Virginis (Spica) to 55 Virginis.

This Egyptian Dendera asterism is made up of stars of the IAU constellation Virgo (Hoffman 2017) and is influenced by the earlier Seleucid asterism Shala (see Maiden), although it is oriented differently:

- Her “head” is the quadrilateral of the stars Pi (π) Virginis, Omicron (ο) Virginis, Xi (ξ) Virginis, and Nu (ν) Virginis.
- Her “upper body” is a pentagon starting at the “neck”, Pi (π) Virginis, and running through a “shoulder” at Eta (η) Virginis to a “waist” of the stars Gamma (γ) and Delta (δ) Virginis, to a “shoulder” at 32 Virginis and then back to the “neck”.
- Her “lower body” is the quadrangle of the stars Gamma (γ) Delta (δ), 76 and Zeta (ζ) Virginis,

- One “leg” runs from a “hip” at Zeta (ζ) Virginis to a “knee” at Phi (ϕ) Virginis to a “foot” at Mu (μ) Virginis.
- One “leg” runs from a “hip” at 76 Virginis to a “knee” at Kappa (κ) Virginis to a “foot” at Lambda (λ) Virginis.
- One “arm” is the triangle of stars Eta (η) Virginis, Beta (β) Virginis (Zavijava), and Psi (ψ) Virginis.
- One “arm” is the quadrilateral of stars 32 Virginis, Rho (ρ) Virginis, Epsilon (ε) Virginis, and Tau (τ) Virginis.
- Near her “left hand” (Psi (ψ) Virginis) is the “Ear of Grain”, Alpha (α) Virginis (Spica).

This Anglo-Saxon asterism “Mæden” is the IAU constellation Virgo.

This Anglo-Norman asterism “Pulcele” is the IAU constellation Virgo.

This Attic asterism “Κόρη” (“Kóri”) is the IAU constellation Virgo.

This Tamil asterism “Kauni” is the IAU constellation Virgo as listed in R. H. Allen’s *Star Names* in 1899. English orientalist Thomas Hyde (1636 – 1703) listed it as “Kannae”.

Maiden in the Ring Dance:

There are two Romanian stars callled “Fata Mare din Horă” (“Maiden in the Ring Dance” or “Maiden from the Ring Dance”):

- One is Alpha (α) Coronae Borealis (Alphecca) in the IAU constellation Corona Borealis (Ottescu 2009). This is part of their asterism Ring Dance (see above).
- One is Gamma (γ) Coronae Borealis in the IAU constellation Corona Borealis (Ottescu 2009). This constellation is called the Ring Dance (see below).

Maiden Star:

This Lithuanian star “Mergaitė” or “Žvaigždė Mergos” (“Maiden Star”) is the star Alpha (α) Aurigae (Capella) in the IAU constellation Auriga.

Maidenhead of Al Jawza’:

This Arabic asterism “‘udhrat al-jawza’” (عذرة الجوزاء) is a group of stars with a reddish one in the middle in the IAU constellation Canis Majoris, which next to their asterism Al Jawza’ (see above). It was listed as far back as the poetry of Muhalhil (d. 553 C.E.). This is the stars Delta (δ), Epsilon (ε), Eta (η), Omicron (ο) 2, and Sigma (σ) Canis Majoris (Adams 2016).

Maids in Waiting:

There are two Chinese xing guans from the Three Kingdoms to the Ming Dynasty using the name “i Yunü “:

- One is a quadrilateral of stars in the IAU constellation Draco: 35, 50, and 59 Draconis and HIP 90647.
- One is the star 31 Leonis in the IAU constellation Leo and is part of their asterism Xuanyuan (see below).

This Chinese xing guan “Yùnǚ” (御女） is a quadrilateral of stars in the IAU constellation Draco: Tau, 44, 50, and 29 Draconis.

This Chinese Chenzhuo xing guan “Nuyu” is the star 31 Leonis in the IAU constellation Leo.

Mailap:

This Satawalese, Puluwatese, and Woleaian, star “Mailap” is Alpha (α) Aquilae (Altair) in the IAU constellation Aquila (Holton et al 2015). It is also used to describe the three stars Altair, Gamma (γ) Aquilae and Beta (β) Aquilae (Alshain). NOTE: This has been translated by several in the past as “big bird”, but Holton et al showed that this isn’t correct and that it is more likely to refer to the navel.

Maire:

This Kiribati asterism is the IAU constellation Ursa Major (Trussel and Groves 1978). NOTE: This is also listed as the name of an unidentified star in this constellation. It is also a Kiribati word meaning “mile”.

Maisie’s Galaxy:

This telescopic asterism is the galaxy CEERS J141946.36+525632.8 in the IAU constellation Boötes. It was discovered in 2022 by the James Webb Space Telescope and existed 390 million years after the beginning of the universe. It was names after the nine year old daughter of the person who discovered it, Steven Finklestein.

Maiwi:

This Carib star represents a kidnapped girl who ends up in the sky. Its present location is unknown (Magaña, and Jara, 1982).

Majestic of Boötes:

This **telescopic** asterism “Augústa Boótis” is the barred spiral galaxy IC 983 (Arp 117) in the IAU constellation Boötes. It was discovered by French astronomer Stéphane Javelle in 1891. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “this distant giant galaxy dominates its entire neighbourhood.”

Major Cross:

This asterism “Crux Maior” is made up of stars of the IAU constellation Cygnus. The Gallo-Roman historian and Bishop Gregory of Tours (538 – 594) created this to help monks use certain stars in the sky to determine the time for prayers. The upright of the cross runs from Alpha (α) Cygni (Deneb) through Gamma (γ) Cygni to Beta (β) Cygni (Albireo). The crosspiece runs from Epsilon (ε) Cygni through Gamma (γ) Cygni to Delta (δ) Cygni. As in early Christian art the Greek letters Alpha (α) and Omega (ω) are often depicted to either side of the cross, Gregory has placed the asterisms “Alpha” (see above) and “Omega” (see below) to either side of this asterism. Compare this to the Northern Cross (see below).

Major Little Cloud:

In 1603 German astronomer Johann Bayer (1572-1625) gave the name “Nubecula Major” to the Large Magellanic Cloud.

This German asterism “nubecula major” is the Large Magellanic Cloud as listed by German astronomer Johann Bayer (1572-1625) in his *Uranometria* in 1603. Nubecula is Latin for “little cloud”, so this name seems to translate as “major little cloud”:

- "Nubecula major" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
- Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) labels this "Nubecula Major" and depicts it as a cloud.
- It is listed as "Nubecula Major" in the third edition of Rev. Thomas William Webb's *Celestial Objects for Common Telescopes* in 1873.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists this as "Nebula Major" in his *Celestial Atlas* in 1822.
- This asterism is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) with the abbreviated title "Nubec Major": He indicates the borders of this constellation on the chart but offers no illustration of it.
- The 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) lists "Nubecula Major".

Major Wild Beast:

This French asterism "Fera Major" is the IAU constellation Ursa Major as listed by French astronomer Joseph Jérôme Lefrançois de Lalande (1732 – 1807).

Makahea:

This Māori star is Alpha (α) Carinae (Canopus) in the IAU constellation Carina.

Makali'i's Rainbow Nets Hung Above:

This Hawaiian asterism "Huihui-koko-a-Makali'i-kau-i-luna", also known simply as "Makali'i'" ("chief's eyes" or "little eyes" or "little stars") is the Pleiades cluster in the IAU constellation Taurus.

Makarajyoti:

This Malayalam star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major.

Makgala:

This Tswana star is probably Alpha (α) Leonis (Regulus) in the IAU constellation Leo.

Making Sound:

This Latin asterism "Sonans" is the IAU constellation Cepheus. Compare this to Shouter (below) and Singing (below).

Male Brolga:

This Boorong asterism "Kourt-chin" refers to the brolga (a species of wetland bird) and was listed by Stanbridge (1857), Morieson (1999), and Hamacher and Frew (2010). This asterism is made up of stars of the IAU constellations Tucano and Hydrus with the Small Magellanic Cloud in the middle. The wing tips are the stars Beta (β) Hydri and Kappa (κ) Tucanae. See Female Brolga (above) for the other half and compare this to the Kamilaroi asterism Brolga (see above).

This Weilwan asterism is the IAU constellation Orion. It was put into the sky by the hero Baayami after a fight in which the Sun was created.

Male Camel:

This Arabic star is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus. The Hyades cluster of which this star is a corner is the "Young She Camels" (see below). It is also known as The Camel Herder (see above).

Male Genitals:

This Ainu Nociw ("asterism") "ci neno an nociw" (チ ネノ アン ノチゥ) is made up of stars of the IAU constellation Virgo. Alpha (α) Virginis (Spica) is the tip of the penis.

Male Eland:

This /Xam star is Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor (Slotegraaf 2013, Alcock 2014).

Male Giraffe:

This G/wi and //Gana asterism is Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus (Alcock 2014).

Male Giraffes:

To the Venda this asterism "Thuda" is the stars Alpha (α) Crucis (Acrux) and Beta (β) Crucis (Mimosa) in the IAU constellation Crux. It is part of their asterism Little Giraffes (see above).

This Nyae Nyae !Kung asterism is the Pointer Stars, Alpha (α) Centauri (Rigil Kentaurus) and Beta (α) Centauri (Hadar) in the IAU constellation Centaurus (see Pointers below).

Male Hartebeest:

This /Xam star is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus (Slotegraaf 2013). He is the mate of the Female Hartebeest (see above).

Male Horse:

This Latin asterism "Equus Masculus" is the IAU constellation Lupus as listed by German astronomer Johann Bayer (1572-1625) in his *Uranometria* (1603).

Male Hyena:

There are two Arabic stars with the name "Al Dhih":

- One is the star Alpha (α) Draconis (Thuban) in the IAU constellation Draco and was listed under this name by the 16th century Arabic astronomer Al Tizini.
- One is the star Iota (ι) Draconis in the IAU constellation Draco as named by Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283).

Male Lions:

This /Xam asterism is the Pointers, Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus (Slotegraaf 2013). They were once men, named !Gu and !Haue ta ≠ hou, but a magical girl turned them into stars.

Male Llama:

This Inca asterism “Urcochillay”, “Urcuchillay”, or “Urquchillay” is supposed to be near their asterism “Catachillay” (“Female Llama”, see above). It is described in ancient documents as an asterism with a “T” form. Some ethnoastronomers have suggested that it is the IAU constellation Lyra: Brosseder (2010) suggests that it is Alpha (α) Lyrae (Vega). Gamarra (2009) suggests that it is the star Alpha (α) Lyrae (Vega) and that Catachillay is Alpha (α) Cygni (Deneb). However, this is about 90 degrees away in the sky, so it is more likely to be the Southern Cross in Crux (see Southern Cross below) as this would put it next to one version of Catachillay. It is also described as a llama (or sheep) of many colours.

Male Revolving One:

This Diné asterism “Náhookǫs Bi’ką” or “Na´hookos bika’ii” is part of their three-part asterism “Náhookǫs”, the other two parts being “Náhookǫs Bi’áád” (see Female Revolving One, above), and Náhookǫs Bikǫ’ (see Central Fire of Náhookǫs, above). It is made up of stars of the IAU constellations Draco, Ursa Major, and Canes Venatici (Childrey 2008):

- His “body” is the “bucket” of the Big Dipper asterism (see Big Dipper, above) extended out to the stars Epsilon (ε) Ursae Majoris (Alioth) and 5 Canum Venaticorum,
- His “head” is a rectangle of stars with Zeta (ζ) Ursae Majoris (Mizar) and 80 Ursae Majoris (Alcor) in one corner, 86 Ursae Majoris in the next corner, Eta (η) Ursae Majoris (Alkaid) in the next corner, and 21 Canum Venaticorum in the last corner,
- His “hands” are the stars Alpha (α) Canum Venaticorum (Cor Caroli) and Alpha (α) Draconis (Thuban), and
- His “feet” are the stars Theta (θ) and 4 Ursae Majoris.

Of course, this asterism has this name because it revolves around the Hearth Fire “Náhookǫs Bikǫ’” (see Central Fire of Náhookǫs, above) represented by the star Alpha (α) Ursae Minoris (Polaris).

Male Steenbok:

This G/wi star “g≠eikxaoma” is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra (Slotegraaf 2013, Alcock 2014, Holt and Slotegraaf 2022). This is part of their asterism Steenboks (see below).

Male Tortoises:

This /Xam (San) asterism is the belt of Orion in the IAU constellation Orion.

Male Twin of Cetus:

This **telescopic** asterism “Geméllus Céti” is the lenticular galaxy NGC 275 (Arp 140) in the IAU constellation Cetus, which is interacting with NGC 274. It was discovered in 1785 by English astronomer William Herschel who listed it as III 429. It is GC 157 in the General Catalogue of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010).

Mali:

This Lokono (Arawak) star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Majoris (Rybka 2018).

Malin 1:

This **telescopic** asterism is a giant low surface brightness spiral galaxy in the IAU constellation Coma Berenices. It was discovered by British-Australian astronomer David Malin in 1986 and was the first LSB galaxy identified.

Malirubana:

This Carib star "Malirubana" or "Maliroubana" is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Magaña, and Jara, 1982). It is believed to cause hurricanes. It is also known as the Star of the Spaniards (see below).

Mallee Fowl:

This Boorong star "Neilloan" is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra as listed by Stanbridge (1857), Morieson (1999), Hamacher and Frew (2010), and Hamacher and Norris (2011). The Boorong used this star to indicate the breeding season of this bird (Leipoa ocellata). Neilloan is considered to be the mother of Totyarguil (see Purple Crowned Lorikeet, below). The rising of this star marks the time when these birds are nesting, and when these people collect their eggs.

This Wotjobaluk star "Neil-loan" is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra (Hamacher 2011).

Malmok:

This **telescopic** Aruban star is WASP 39 in the IAU constellation Virgo (magnitude 12.11). It was given this name in the IAU NameExoWorlds campaign. It is an indigenous name for Palm Beach, a popular resort there. It has an exoplanet named Bocaprins, which is a secluded beach with white dunes in Arikok National Park.

Malnga:

This Wardaman star is Zeta (ζ) Scorpii in the IAU constellation Scorpius (Cairns and Harney 2003).

Malphelearti:

This Chaldean asterism is the IAU constellation Corona Borealis as listed in John Hill's *Urania* in 1754.

Malta:

This asterism "Malta" is made up of the stars of the IAU constellation Musca by German astronomer Erhard Weigel (1625 – 99) who produced his *Astrocopium Orbi Europaeo Sacrum* chart in 1661, 1681 and 1688 in which he tried to replace existing constellations a new system based upon the heraldry of the nation states and principalities of seventeenth century Europe, as well as of its principal hierarchies and social classes. This represents Malta and is depicted as a Maltese cross.

Malus:

See "Mast" (below).

Malus Cluster:

This asterism is the open cluster NGC 2547 in the IAU constellation Vela. It was discovered by French astronomer Abbé Nicolas Louis de Lacaille in 1751 who listed it as Lac III 2 in his catalogue. It is GC 1636 in the *General Catalogue* of 1864. It is also known as the Golden Earring (see above), "T" (see below), and Saint Peter's Cross (see below). NOTE: It got this name as it is near the obsolete constellation "Pyxis Nautica" created by Lacaille: "Malus" is Latin for "mast" (see Mast, below). Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) lists this as O'Meara 40.

Malÿtje:

This Chakavian asterism is the Hyades cluster in the IAU constellation Taurus.

Mamahi Magrib:

This Sama navigational star has not yet been identified (Ambrosio 2008).

Mamahi Satan:

This Sama navigational star has not yet been identified (Ambrosio 2008).

Mamahi Uttara:

This Sama star "Mamahi Uttara" is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Ambrosio 2008, Santos et al 2019).

Mamangi-Halahu:

See O-nga-tangata below.

Mammoth of Leo:

This **telescopic** asterism "Mammúthus Leónis" is the spiral galaxy NGC 3646 in the IAU constellation Leo. It was discovered in 1784 by William Herschel who listed it as "III 15". It became GC 2389 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name due to its size.

Man:

This Romanian asterism "Omel" or "Omul" is the IAU constellation Hercules (Ottescu 2009, Lite, Lodina, and Ignat 2018). He is a "Făt-Frumos" ("Beautiful Boy"): The Beautiful Boys are the only ones with enough strength to fight the Balaurul (see Dragon, above).

This Kiribati star "Nonoaba" is Alpha (α) Carinae (Canopus) in the IAU constellation Carina (Trussel and Groves 1978).

This American asterism is made up of stars of the IAU constellation Boötes and was created by Brad and Kathryn Templeton for *The Vault of Heaven* star map for the 2004 Burning Man event held in Black Rock Desert in Nevada (Kuperjanov 2006). This is an "hourglass" shaped figure which represents the "burning man" of this event:

- One side is the line of the three stars Zeta (ζ), Epsilon (ε) and Delta (δ) Boötis,
- One side is the line of the three stars Eta (η), Rho (ρ), and Gamma (γ) Boötis, and
- The "fire" under the "burning man" is the star Alpha (α) Boötis (Arcturus).

Man, a Dog, and a Buck:

This San (!Xõ, !Xu) asterism is the belt of Orion in the IAU constellation Orion (Slotegraaf 2013).

Man and His Family:

This Asháninka asterism is the Pleiades cluster in the IAU constellation Taurus (Urton 2016). His brother-in-law is the belt and sword of Orion (see Brother in Law, above).

Man Ati:

This Kiribati star “Man Ati” is Beta (β) Orionis (Rigel) in the IAU constellation Orion (Trussel and Groves 1978).

Man Atop a Dragon:

This Japanese sei shuku or lunar station “Nuriko Boshi” appears in the “Painting of the Deities Forms of the Five Planets and Twenty-Eight Lunar Stations” (五星二十八宿神形図) as a man atop a dragon (Kotyk 2018). See Willow, below.

Man Atop Two Fish:

This Japanese sei shuku or lunar station “Hatsui Boshi” appears in the “Painting of the Deities Forms of the Five Planets and Twenty-Eight Lunar Stations” (五星二十八宿神形図) as a man atop two fish (Kotyk 2018). See Encampment, above.

Man Eating Bird:

This Hawaiian asterism “Halulu” is the IAU constellation Phoenix. Halulu was a man-eating bird in the mythology of the heiau at Kuanolū, Lāna’I, and Puna in Hawaii.

Man Eating Serpent:

See Dragon, above.

Man in a House:

This Palikur asterism “Uwakti” is the Great Square of Pegasus in the IAU constellation Pegasus (Green and Green 2011). The square of Pegasus is the “house” and the stars inside the are the man.

Man of Death:

This Euphratian star “Nitaχ-bat” is Epsilon (ε) Ophiuchi in the IAU constellation Ophiuchus as listed in R. H. Allen’s *Star Names* in 1899.

This Akkadian asterism “Muluabat” is the stars Epsilon (ε) and Zeta (ζ) Ophiuchi in the IAU constellation Ophiuchus as listed by R. H. Allen in his *Star Names* in 1899.

Man of Fire:

This Akkadian asterism “Mulu-izi” is two stars in the IAU constellations Libra and Virgo: Delta (δ) Librae and Mu (μ) Virginis. This is listed in R. H. Allen’s *Star Names* in 1899.

Man on a Horse:

This Japanese sei shuku or lunar station “Mi Boshi” appears in the “Painting of the Deities Forms of the Five Planets and Twenty-Eight Lunar Stations” (五星二十八宿神形図) as a man mounted on a horse (Kotyk 2018). See “Basket” above.

Man Pursued:

The Asháninka see the IAU constellation Orion as a man with an arrow in his leg pursued by a warrior wasp (Urton 2016).

Man Shot in the Back (For Stealing Rabbit Snares):

This Dene asterism “Yehdaa” is made up of the stars of the IAU constellations Boötes and Ursa Major:

- The man's "head" is the bucket and his "body" the handle of the Big Dipper asterism (see Big Dipper, above),
- An "arm" runs from Alpha (α) Ursae Majoris (Dubhe) out to Omicron (ο) Ursae Majoris,
- Another "arm" runs out from Beta (β) Ursae Majoris (Merak) to Theta (θ) Ursae Majoris,
- Two legs run out from Eta (η) Ursae Majoris:
    - One runs to a "knee" at Gamma (γ) Boötis and a "foot" at Rho (ρ) Boötis, and
    - One runs to a "knee" at Beta (β) Boötis (Nekkar) and a "foot" at Delta (δ) Boötis.

Compare this with the Gwich'in asterism, "Yahdii" (see Tailed Man, below).

Man Striding:

This Arabic star "sieu Goei" or "Kwei" ("man striding" or "striding legs") is Beta (β) Andromedae (Mirach) in the IAU constellation Andromeda as listed in R. H. Allen's *Star Names* in 1899. He gives the older name "Kwet".

Man Throwing Spears Into the Sky:

This Kaurna asterism "Monana" was listed by Hamacher in 2015, although the stars involved have not yet been positively identified. Clarke (2009) lists Monana and his brother Waiyungari as throwing spears into the sky to create a ladder to ascend to the stars (see Waiyungari, above).

Man with Animal:

This Egyptian Dendera asterism is the stars of the IAU constellation Cassiopeia (Hoffman 2017). It depicts a man in an Egyptian kilt with his hand on the head of a four-legged animal beside him.

Man With Club:

This "Greek" asterism "Corynetes" or "Corynepheros" is the IAU constellation Hercules as listed in John Hill's *Urania* in 1754.

Man With Solid Stance:

This Diné asterism "Hastiin Sik'ai'ı́" or "Hastiin Sik' Aíí" ("man with solid stance", "man with feet apart" or "man with legs ajar") is a figure made up of the stars of the IAU constellations Crater, Centaurus, Corvus, Hydra, and Virgo (Childrey 2008):

- His "body" is an hourglass shape made up of the stars Beta (β) Corvi (Kraz), Epsilon (ε), Delta (δ), and Gamma (γ) Corvi and 14 and 26 Virginis,
- One "arm" runs from 26 Virginis to an "elbow" at Theta (θ) Virginis and a "hand" at Gamma (γ) Virginis,
- His other "arm" runs from 14 Virginis to Theta (θ) Crateris, and
- His "head" is the faint stars between Gamma (γ) Virginis and his "shoulders".

Man With Spear:

The Amahuaca see the Hyades cluster as the jaw of a caiman that bit off the leg of a man who mistook it for a canoe. His leg is the Pleiades cluster and the belt and sword of Orion is the man's brother holding a spear to kill the caiman.

Man With Yoke Carrying Crops:

This Sesivi (Daakaka) asterism, "Évévéo an man" is the IAU constellation Orion (Ramík 2019).

This Olal (Abrym) asterism is the IAU constellation Orion.

Man Without a Thigh:

This Lokono or Arawak asterism "Mabukuli" is the IAU constellation Orion (Rybka 2018).

Managé a Trois:

See "3" (Pakan's 3), above.

Managed Three:

This is Randy Pakan's name for Pakan 3 on his list of **telescopic** asterisms. It usually is listed on telescopic asterism lists as "Pakan's 3" (see above) but in his notes in his Midnight Ramblings 1A notebook on 24 February 1989 he called it "Managé a Trois". It is a backwards "3" made up of 8th to 9th magnitude stars 3 degrees southwest of the open cluster Messier 50 in the IAU constellation Monoceros.

Manako-tea:

This Māori asterism is the Large Magellanic Cloud. Orchiston (2017) lists it as one of the Magellanic Clouds.

Manako-uri:

This Māori asterism is the Coal Sack Nebula (see Coal Sack Nebula, above) or the Small Magellanic Cloud (Orchiston 2017).

Manannán mac Lir:

This Celtic (Irish) asterism may be the IAU constellation Pegasus. Manannán mac Lir, who appears in Welsh mythology as Manawydan fab Llŷr is a warrior king of the Tuatha Dé Danaan who is viewed as a God of the Sea (Mosenkis, date N/K).

Manatee:

This Múra asterism is the Coal Sack Nebula in the IAU constellation Crux (Urton 2016). They see it as a fisherman riding a manatee.

This Tupi asterism "Juaraúa" is the IAU constellation Crux (De Freita Mourão 2009). The manatee is being chased by their asterism "Piracaçaras" (see Fishermen, above).

This Tupi Guarani asterism "Peixe-Boi" (Amazonian manatee) is the Coal Sack Nebula in the IAU constellation Crux (Lima and De M. Figueirôa, 2007. It is being chased by two fishermen (see Fishermen, above).

Manatee Nebula:

This **telescopic** asterism is supernova remnant W50 (SNR G039.7-02.0) is in the IAU constellation Aquila.

Mandolin:

See Poskus 1 under Flyswatter, above.

Mandrill Nebula:

This **telescopic** asterism is the HII region NGC 2467 (SH 2-311, RCW 16, LBN 1065, Cr 164, Ced 103) in the IAU constellation Puppis. This was discovered by English astronomer William Herschel in 1784 who

listed it as "IV 22" in his catalogue. It is GC 1589 in the *General Catalogue* of 1864. It is also known as the Chained Broach Nebula (see above). This is O'Meara 39 in astronomer Stephen James O'Meara's *Hidden Treasures Catalogue* (2007), where the names "Skull and Crossbones Nebula" and "Mandrill Nebula" are listed. It is also known as the "Chained Broach Nebula" (see above) and the "Death's Head Nebula" (see above).

Mane:

There are three Arabic asterisms with this name:

- One is the Arabic and Bedouin manzil "Al-Zubrah" (الزبرة) or "ٱلزُّبْرَة) and is in the IAU constellation Leo: This is the stars Delta (δ) Leonis (Zosma) and Theta (θ) Leonis (Chertan). This was also known as Space Between the Shoulders of the Lion (see below):
    - The star list of Abraham Bar Hiyya in 1104 (Goldstein 1985) lists the Arabic name "faqār al-asad" and the Hebrew name "shidrat ha-ari" for Delta (δ) Leonis.
    - An anonymous Hebrew star list from 1392 (Goldstein 1985) lists the Arabic name "faqār al-asad" and the Hebrew name "shidrat ha-aryeh".
    - Dorn (1829) lists this as "Hair of the Lion's Mane" and describes it as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283).
    - The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists "al-zubra" for Delta (δ) Leonis.
    - English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "al zubra, the mane or hair on the lion's back".
    - W. Brennand lists this as "Al-Zubra" in his *Hindu Astronomy* in 1896.
- One is the Arabic star "Zubrah" is 72 Leonis in the IAU constellation Leo.
- A latinized version of this name, "Subra", was approved by the IAU for the star Omicron (ο) Leonis.

This Yemeni manzil "Zubra" is the stars Delta (δ) Leonis and Theta (θ) Leonis in the IAU constellation Leo (Varisco 1995). This appears in the *Kitāb al-Tabṣira Fī'ilm al-Nujūm* of 13th century Rasulid ruler al-Malik al-Ashraf 'Umar ibn Yūsuf (d 1296).

Maned Snake:

This Boorong asterism "Mindi" is the dark nebulosity between the IAU constellations Crux and Vela in the Milky Way.

Manes of Crater:

This **telescopic** asterism "Jubátus Cratéris" is the lenticular galaxy NGC 3511 in the IAU constellation Crater. It was discovered in 1786 by William Herschel who listed it as "V 39". It became GC 2294 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as the "apparent extensions at the northern edge [look] like manes flowing in the wind".

Mangali:

This Wardaman star is Eta (η) Tauri in the Pleiades cluster in the IAU constellation Taurus (Cairns and Harney 2003).

Manger:

This asterism is the open cluster Messier 44 (NGC 2632), found in the IAU constellation Cancer (see Beehive, above). The ancient Greeks saw it as a manger from which two donkeys, the adjacent stars (Delta (δ) Cancri (Asellus Borealis) and Gamma (γ) Cancri (Asellus Australis)) are eating. Other ancient cultures saw it as the Gate of Men:

- This Greek asterisgum "Φάτνη" or "Fátni" appeared in the writings of Aratus (315 – 240 B.C.E) and Eratosthenes (d.194 B.C.E.) and as "Φάτνης" or "Fátnis" by Ptolemy (c.100 – c.170).
- It was later latinized to "Praesepe" or "Asselli and Praesepe" "Praesaepe", "Praesaepes", "Praesaepis", "Praesaepia", and "Praesaepium".
- The *De ordine ac positione stellarum in signis* ("*On the order and position of the stars in the signs*") in the Salzburg compilation (810 – 818) of Abbot Arno of Salzburg (785 – 821) lists "Praesepium".
- It was translated as "al-Mi'laf" by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- It appears in the 15th century *Alfonsine Tables* as "Presepe"
- "Praesepe" appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as the "middle star in the cloud in the chest [of Cancer]".
- German astronomer Johann Bayer (1572-1625) lists it as "Pesebre".
- "Praesepe" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
- Edward Sherburne lists it as "Praesepe" in his *Sphere of Marcus Manilius* in 1675.
- The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) lists this star as "Præsepe".
- John Hill lists this asterism as "Aselli", "Phatra", and "Himaran" in his *Urania* in 1754.
- German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this cluster as "Praesepe". Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this cluster as "die Krippe" ("the manger") and "Praesepe".
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists "Praesepe" in his *Celestial Atlas* in 1822.
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Praesepe".
- The 1864 General Catalogue lists this as GC 1681, and John Herschel lists it on his catalogue as h 517.
- This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Praesepe": The author is unknown, but it is based on Jamieson's *Celestial Atlas*.
- It is listed as "Praesepe" in the third edition of Rev. Thomas William Webb's *Celestial Objects for Common Telescopes* in 1873.
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this as "Praesepe".
- Dreyer lists it in the New General Catalogue of 1888 as NGC 2632 and labels it "Praesepe Cancri".
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this as the "Manger" and as "Praesepe".
- William Denning's *Telescopic Work for Starlight Evenings* (1891) lists this as "Praesepe".

- American astronomer Winslow Upton's *Star Atlas* (1896) lists "Praesepe" as a "cluster in Cancer".
- *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists this as "Presepe".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and the 14th edition (1959) lists this cluster as "Praesepe".
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this cluster as "Praesepe".

There are two Arabic asterisms with this name:

- One, "Ma'laf" is open cluster Messier 44 in the IAU constellation Cancer:
    - "Ma'laf" is listed on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992).
    - The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists "al-ma'laf".
    - Dorn (1829) lists this as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283).
    - "Mellef vel Mallephon" are names listed for this cluster in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
    - English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "al ma'laf, a stall or den".
- One is, "al-ma'laf", later latinized to "Al Malaf" which is the stars Gamma (γ), Delta (δ), Epsilon (ε), Zeta (ζ), Eta (η), and Theta (θ) Crateris in the IAU constellation Crater:
    - German astronomer Johann Bayer (1572-1625) listed it as "Mellef".
    - Italian astronomer Giovanni Battista Riccioli (1598 – 1671) listed it as "Meeleph".
    - John Hill listed "Malaph" in his *Urania* in 1754.
    - German astronomer Wilhelm Schickard (1592 - 1635) listed it as "Mellephon".
    - John Chilmead (1899) listed it as "Melef".
    - NOTE: John Hill also lists it as "Alphun" (Latin for "alpha") in his *Urania* in 1754: Hill identifies it as the constellation Crater and a name used by German Jesuit astronomer Athanasius Kircher (1602 – 1680). Elsewhere in *Urania* Hill gives the name "Malaph" as "the Arabic name… [which] signifies, in that language, a manger", which is clearly a reference to the other version of this asterism above. Edward Sherburne also identifies the name "Alphun" with the constellation Crater and not the asterism in his *Spheres of Marcus Manilius* in 1675.

This "Chaldean" asterism "Pesebre" is the IAU constellation Cancer as listed in Edward Sherburne's *Sphere of Marcus Manilius* in 1675.

This Lithuanian asterism "Manege" is the IAU constellation Ursa Major.

This **telescopic** asterism is the cluster NGC 1881 in the IAU constellation Dorado. It was discovered by English astronomer William Herschel in 1838. It is GC 1090 in the General Catalogue of 1864. It was listed as a "Telescopic Praesepe" in the third edition of Rev. Thomas William Webb's *Celestial Objects for Common Telescopes* in 1873.

Manger Donkeys:

This Hungarian asterism “Jászol szamárkák” is probably the open cluster Messier 44 (NGC 2632), found in the IAU constellation Cancer The celestial map of Hungarian uranographer Sandor Nagy (1915) depicts this asterism as two donkeys eating from a raised feeding trough. NOTE: Nagy’s 1915 chart is beautifully illustrated, but some of the labels are hard to make out and I find it difficult to match the hand drawn stars on his chart with actual star patterns in the sky.

Manger of the Infant Saviour:

This German asterism “Praesepe Salvatoris” is the IAU constellation Lyra as listed in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the “pagan” names of constellations with Biblical and early Christian figures. He saw it as the Manger of the infant Jesus with an Ass and Ox standing by. It was part of his asterism “St. John the Baptist” (see John, above). This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as “Praesepe XPI Alias Lyra”. John Hill lists it in his *Urania* in 1754, as does R. H. Allen in his *Star Names* in 1899. Edward Sherburne simply lists it as “Manger” in his Sphere of Marcus Manilius in 1675. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 also simply lists “Manger”.

Manokalanipo:

This Hawaiian star is Alpha (α) Andromedae (Alpheratz) in the IAU constellation Andromeda.

Man’s Rack:

This Barasana asterism “Masu Ya Kasabo” is the Hyades cluster in the IAU constellation Taurus (Hugh-Jones 2006). It is also known as “Wai Kasabo” (see Fish Grill, above) and “Timia Ya Kasabo” (see Otter’s Rack, below).

Mansion of Acclamation:

This Coptic lunar mansion “Akubia” is made up of stars in the IAU constellation Virgo. W.B. Yeats lists it as “Mansion of Acclamation” in *A Vision* in 1917, which was derived from German Jesuit astronomer Athanasius Kircher’s *Lingua Aegyptiaca Restituta* in 1636, where Kircher lists it as “statio latrantis” (“barking station”) and “forsan à Canicula” (“perhaps from Sirius”), probably because of the name, but both list it as stars in Virgo. In his *Star Names* in 1899 R. H. Allen listed it as identical to the Arabic manzil “al-ʿAwwāʾ” (whose meaning is uncertain, but may be “barking dog” or “the bend”), which is the stars Beta (β) Virginis (Zavijava), Gamma (γ) Virginis, Eta (η) Virginis, Delta (δ) Virginis, and Epsilon (ε) Virginis (see Howling Dogs above) and “Al Nahrān” (see Two Rivers, below). Allen translated the name as “two rivers” as a result.

Mansion of Chastity:

This Coptic lunar mansion “Aggia” or “Angia” is the stars Theta (θ) and Xi (ξ) Ophiuchi in the IAU constellation Ophiuchus. It is identified under the name “magician” in R. H. Allen’s *Star Names* in 1899. Aggia is now used as a name for the star Xi (ξ) Ophiuchi.

This Sogdian asterism “Wajrik” is the stars Theta (θ) and Xi (ξ) Ophiuchi in the IAU constellation Ophiuchus. It is identified by this name in Richard H. Allen’s *Star Names* in 1899.

Mansion of Delight and Favour:

This Coptic asterism “Ni-mamreh” is made up of stars in the IAU constellation Sagittarius as listed by W. B. Yeats in *A Vision* in 1917, which was derived from German Jesuit astronomer Athanasius Kircher’s *Lingua Aegyptiaca Restituta* in 1636, in which Kircher described it as “Statio Gratiae” (“Station of Grace”) and “Statio Iucunditatis” (“Station of Mirth”). R. H. Allen listed it in his *Star Names* in 1899 as ““Πιμάηρε” (“Pimáire”) and translated that as “Haven of Pleasantness”.

Mansion of Height and Depth:

This Coptic lunar mansion “Choritos” is stars in the IAU constellation Libra as listed by W. B. Yeats in *A Vision* in 1917, which was derived from German Jesuit astronomer Athanasius Kircher’s *Lingua Aegyptiaca Restituta* in 1636, in which Kircher described it as “Statio Altitudinis”.(“Altitude Station”).

Mansion of the First Budding:

This Coptic lunar mansion “Artulos” is Alpha (α) Andromedae (Alpheratz) and Gamma (γ) Pegasi (Algenib) as listed by R. H. Allen in his *Star Names* in 1899. Allen vaguely translates this as “something pertaining to water”. However, it was listed by W. B. Yeats in *A Vision* in 1917, which was derived from German Jesuit astronomer Athanasius Kircher’s *Lingua Aegyptiaca Restituta* in 1636, in which Kircher described it as “Statio Prioris Germinationis” (“station of the first budding”).

Manta Ray:

This Kiribati star “Awanei” is unidentified at present (Trussel and Groves 1978).

Mantis:

This /Xam star “/Kaggen” is Alpha (α) Carinae (Canopus) in the IAU constellation Carina (Alcock 2014). /Kaggen is a trickster God.

Mantle:

This German star “Mantellum” (“mantle”) or “Mantile” (“tablecloth”, “napkin”, or “towel”) is the star Epsilon (ε) Aquarii in the IAU constellation Aquarius as listed by German astronomer Johann Bayer in his *Uranometria* in 1603*,* by Dutch astronomer Hugo Grotius (1583 – 1645), and R. H. Allen in *Star Names* in 1899*.*

Mântre:

This Chakavian asterism is the IAU constellation Hydra.

Manubrian Nebula:

See Handlebar Nebula, above.

Manu’s Boat:

This Hindu asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Bhagwath 2019). Manu was warned by Vishnu of a great flood and built a large boat which he filled with animals and seeds as well as seven sages (compare this to Seven Sages, below) which came to rest on Mount Himavat.

Many:

This Armenian asterism “Բազումք” (“many”) or “Boyl-k” (“group”) is the Pleiades cluster in the IAU constellation Taurus.

This Tzotzil, Mixe, Totonac, and Nahua asterism is the Pleiades cluster in the IAU constellation Taurus.

Many Arms of Aquila:

This **telescopic** asterism “Multibrachiátus Áquilae” is the intermediate spiral galaxy NGC 6814 in the IAU constellation Aquila. William Herschel listed this as “III 744”. John Herschel listed this as h 2045 and later as GC 4507 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of its “many arms.”

Many Branched of Antlia:

This **telescopic** asterism “Multirámis Ántliae” is the spiral galaxy NGC 3223 in the IAU constellation Antlia. It was discovered in 1835 by John Herschel who listed it as h 3243 and later as GC 2085 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to its many arms and arm fragments.

Many Clods of Eridanus:

This **telescopic** asterism “Polybólus Erídani” is the spiral galaxy NGC 685 in the IAU constellation Eridanus. This was discovered in 1834 by John Herschel who listed it as 2438 in his catalogue. It became GC 407 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name because of the “many bright knots in the arms of this galaxy”.

Many Eyelashes of Leo Minor:

This **telescopic** asterism “Polyblépharis Leónis Minóris” is the intermediate spiral galaxy NGC 3486 in the IAU constellation Leo Minor. William Herschel listed it as “I 87”. John Herschel listed it as h 805 and later as GC 2274 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Many Fingered of Centaurus:

This **telescopic** asterism “Polydáctylus Centaúri” is the spiral galaxy NGC 5161 in the IAU constellation Centaurus. This was discovered in 1836 by John Herschel who listed it as h 3511 and later as GC 3551 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “the many, thin and angular arms of this system look like fingers extending in many directions”.

Many Footed of Serpens:

This **telescopic** asterism “Pólypus Serpéntis” is the spiral galaxy NGC 6070 in the IAU constellation Serpens. It was discovered by William Herschel in 1786. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of “the many arms of this spiral galaxy”.

Many Gates of Centaurus:

This **telescopic** asterism "Polýpylae Centaúri" is the galaxy ESO 269-57 (PGC 45683) in the IAU constellation Centaurus. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "two outer spiral arms of this galaxy form a pseudoring, i.e. a ring that is not completely closed".

Many Rings of Hydra:

This **telescopic** asterism "Multianuláta Hýdrae" is the barred lenticular ring galaxy NGC 3081 in the IAU constellation Hydra. It was discovered in 1786 by William Herschel who listed it as "III 596". It became GC 1985 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of its many rings.

Many Stars:

This ancient Egyptian asterism "Sebau Ashau" is found in the Ramesside star charts on the ceiling of three tombs in the Valley of the Kings (New Kingdom, 20th Dynasty) and is the IAU constellation Coma Berenices.

This Tzotzil (of Zinacantán) asterism "'Epal K'analetik" is the Little Dipper asterism in the IAU constellation Ursa Minor (see Little Dipper, above).

Manzana:

This **telescopic** asterism "Manzana" ("apple") is the planetary nebula PN G250.4-01.3 in the IAU constellation Puppis.

Maple Leaf:

This Canadian **telescopic** asterism is emission nebula NGC 2024 (SH 2-277, LBN 953, Ced 55p) in the IAU constellation Orion. It was discovered by English astronomer William Herschel in 1786 who listed it as "V 28" in his catalogue. It is GC 1227 in the *General Catalogue* of 1864. Size 30' X 30'. It is also known as the Tank Tracks (see below) and the Flame Nebula (see above). The source of this name is the 5th episode of The Finest NGC Minutes by Chris Vaughan, 17 February 2023.

Mapping:

This Kaykavian asterism "Kosjéri" is the IAU constellation Leo.

This Chakavian asterism Kosÿre is the IAU constellation Leo.

Maqui Maqui:

The stars of this Quechua asterism are unidentified at present (Ciancia 2018).

Maquingamita:

The stars of this Quechua asterism are unidentified at present (Ciancia 2018).

Marbarungal:

This Northern Queensland asterism is the belt of Orion in the IAU constellation Orion. Marbarungal was a great hunter (Palmer 1903). Variations include "Kombinegherry" and "Kumbainggin".

Marden:

This Wardaman star is Alpha (α) Delphini (Sualocin) in the IAU constellation Delphinus (Cairns and Harney 2003).

Mare of Libra:

This **telescopic** asterism "Équa Líbrae" is the galaxy MCG-01-39-003 (PGC 54817) in the IAU constellation Libra. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "NGC 5917 and its southern companion MCG-01-39-003 bring to mind a charioteer and his horse, the long tidal bridge being the reins" (See Charioteer of Libra, above). It is also known as the "Hooked Galaxy" (see above).

Marfak:

See Elbow, above.

Marfik:

See Elbow, above.

Marīci:

This Vedic star "Marīci", "Mārīchi", "Marichi", or "Gautama" is Eta (η) Ursae Majoris in the IAU constellation Ursa Major as listed in R. H. Allen's *Star Names* in 1899 and by Boutet (2014). This is one of the sons of Brahma, who appears as Vashishtha (the star Zeta (ζ) Ursae Majoris). The other sons of Brahma are the other stars in the Big Dipper asterism (see Seven Sages, below).

Marine Bear:

This German asterism "Ursus Marinus" is the IAU constellation Cetus. German astronomer Johann Bayer (1572-1625) lists "Draco Leo ursus marinus" in his Uranometria (1603). The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Ursus Marinus" as an alternate name for Cetus.

Marine Compass:

This German asterism "See Compass" is the IAU constellation Pyxis.

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "See Compass".

This French asterism "la Boussole" or "Compas de Mer" is the IAU constellation Pyxis.

This Italian asterism "Bussola" is the IAU constellation Pyxis.

Marine Lion:

This Latin asterism "Leo Marinus" is the IAU constellation Lupus as listed by French astronomer Joseph Jérôme Lefrançois de Lalande (1732 – 1807).

Marine Sparrow:

See Sparrow.

Marinyan:

This Wardaman star is one of the stars of the Pleiades cluster in the IAU constellation Taurus (Cairns 1999) representing a young woman and is part of their asterism “Murabibi” (see Teenagers and Little Ones, below).

Mark on the Horse Hide:

This Arabic and Bedouin manzil “Al-Hekaah”, “al-Haqʿah” (الهقعة), or “ʾAl-Haqʿah” (ٱلْهَقْعَة), Al-Hakah, or “Al Kurhah”, translated as “mark on the horse hide”, “blaze on the horse’s hide”, “white spot on the horse’s hide” or “the circular mark”. This is three stars in the IAU constellation Orion: Lambda (λ) Orionis (Meissa), and Phi (ɸ) 1 and 2 Orionis:

- This is listed by Abu Muhammad ‘Abdallah b. Muslim al-Dinawari (d. 889).
- “al-Haq’a” and “Haq’a al-Jauzā” are listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986).
- This is listed by Muhammad al-Mukri (1852 – 1957).
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Heka, from al hek’ah, a white spot”.
- R. H. Allen lists it as “Al Haḳʿah” in his *Star Names* in 1899 and gives the variations “Heka” and “Hika”.
- W. Brennand lists it as “Al-Hekah” in his *Hindu Astronomy* in 1896 and attributes it to Persian astronomer Ulugh Beg Mirza (1394 – 1449).
- Kunitzsch lists it in his *A Dictionary of Modern Star Names* in 1989.

This Persian asterism “al-qurhah” (القرحة), later latinized to “Kurhah”, “Al Kurkah”, “Alkirdah”, or “Al Kirdhu” is the star Xi (ξ) Cephei in the IAU constellation Cepheus as listed by the Persian cosmographer Zakariyya’ al-Qazwini (1203 – 1283). This appears on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of al-Qazwini (Dorn 1829): Dorn translates this as “fissure”. R. H. Allen lists “Al Kurhah” in his *Star Names* in 1963. The IAU approved the name Kurhah for the star Xi (ξ) Cephei Aa in 2016. NOTE: This star is also known as “Alkurah” (see Blaze, above).

This Yemeni manzil “Haq’a” is made up of stars of the IAU constellation Orion (Varisco 1995): Lambda (λ) Orionis (Meissa), and Phi (ɸ) 1 and 2 Orionis. This appears in the *Kitāb al-Tabṣira Fī’ilm al-Nujūm* of 13th century Rasulid ruler al-Malik al-Ashraf ‘Umar ibn Yūsuf (d 1296).

Markab:

See Saddle of the Horse, below.

Markarian’s Chain:

This **telescopic** asterism is a line of galaxies in the IAU constellation Virgo that form part of the Virgo Cluster:

- Giant elliptical or lenticular galaxy M 84 (NGC 4374),
- Elliptical or lenticular galaxy M 86 (NGC 4406),
- Barred lenticular galaxy NGC 4477,
- Elliptical galaxy NGC 4473,
- Lenticular galaxy NGC 4461,
- Elliptical galaxy NGC 4458,

- Lenticular galaxy NGC 4438, and
- Barred lenticular galaxy NGC 4435.

This was named for American astrophysicist Benjamin Markarian, who discovered their common motion in the early 1960s.

Markarian's Eyes:

See Eyes (above).

Markeb:

See Saddle of the Horse, below.

Markesand:

This Ikoots asterism is the IAU constellation Scorpius. A markesand is a sacred rectangular wooden object.

Market:

This Aztec asterism "Tianquiztli" is the Pleiades cluster in the IAU constellation Taurus (Milbrath 2014). To the Aztecs this resembles a crowd of people around market stalls.

Market for Army:

This Korean asterism "Gundaeleul Wihan Sijang" (군대를 위한 시장) is a rough oval of stars in the IAU constellations Canis Major and Lepus: Theta (θ), 17, and 19 Leporis, HIP 29941, Nu (ν) 2 Canis Majoris, and HIP 31827, 31084, and 30457. Compare this to the Chinese xing guan "Market for Soldiers" (below).

Market for Soldiers:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is an oval of stars in the IAU constellations Canis Major and Lepus: Starting at the determinative star Theta (θ) Leporis it runs around through 17 Leporis, 19 Leporis, HIP 29150, Xi (ξ) 1 and 2 Canis Majoris, Nu (ν) 2 and 3 Canis Majoris, HIP 31827, HIP 31084, HIP 30457, and FR Canis Majoris.

This Chinese xing guan "Jūnshì" (军市) is made up of five stars in the IAU constellation Canis Major: Beta (β) Canis Majoris (Mirzam), Xi (ξ) 1, Omicron (ο) 1, 17, and 8 Canis Majoris. Compare this to the Korean asterism "Market for Army" (above).

This Chinese Chenzhuo xing guan "Jūnshì" is an oval of stars in the IAU constellations Canis Major and Lepus: Xi (ξ) 1 & 2 Canis Majoris, Nu (ν) 1, 2 & 3 Canis Majoris, HIP 31827, HIP 31084, HIP 30457, HIP 30214, HIP 29735, HIP 29205, Theta (θ) Leporis, 17 Leporis, 19 Leporis, and HIP 29150.

Market Officer:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a bending line of stars in the IAU constellation Aquila and Scutum: Starting at the determinative star Alpha (α) Scuti it runs through Delta (δ) Scuti, HIP 92488, Eta (η) Scuti, 12 Aquilae, 14 Aquilae, Lambda (λ) Aquilae, and HIP 94149, ending at HIP 93580.

This Chinese xing guan “Tiānbiàn” (天弁) is a bent “W” of stars in the IAU constellations Aquila and Scutum: 12, 14, and 15 Aquilae and Lambda (λ), Eta (η), Beta (β), Epsilon (ε), Delta (δ), and Alpha (α) Scuti. This is identical to the Korean asterism “Head of Town” (see above).

Marnaal:

This Wardaman star is Pi (π) Scorpii in the IAU constellation Scorpius (Cairns and Harney 2003).

Márohu:

This **telescopic** Dominican Republic star is WASP 6 in the IAU constellation Aquarius (magnitude 11.9). It was given this name in the IAU NameExoWorlds campaign. It is the name of the God of drought and protector of the Sun. This has an exoplanet named Boinayel, who is the God of rain.

Marrinyin:

This Wardaman star is 20 Tauri in the Pleiades cluster in the IAU constellation Taurus (Cairns and Harney 2003).

Marsic:

See Elbow, above.

Martha:

This star is Zeta (ζ) Ursae Majoris (Mizar) in the IAU constellation Ursa Major and is part of the asterism Bier of Lazarus (see above).

Martini Glass and Cocktail Drink Umbrella:

This asterism was created by Brian Fenerty and Roland Deschesne of the Calgary Centre of the RASC circa 2000. It is made up of stars of the IAU constellations Boötes, and Corona Borealis. Brian spotted the Martini Glass and as they discussed it, Roland came up with the Cocktail Drink Umbrella. They also came up with the asterism Grandma’s Dentures (see above).

- The “bowl” of the “Martini Glass” is the triangle of stars Alpha (α) Coronae Borealis (Alphecca), Epsilon (ε) Boötis, and Gamma (γ) Boötis.
- The “base” of the “Martini Glass” is the curve of stars Zeta (ζ) Boötis, Alpha (α) Boötis (Arcturus), and Eta (η) Boötis.
- The “stem” of the “Martini Glass” runs from Epsilon (ε) Boötis to Alpha (α) Boötis
- The “handle” of the “Cocktail Umbrella” is a line from Delta (δ) Boötis to Mu (μ) 1 Boötis.
- The “umbrella” is the triangle of stars Kappa (κ) Coronae Borealis, Beta (β) Boötis (Nekkar) and the double star 52 and 53 Boötis (V1 and V2 Boötis), with this double star being the apex of the “umbrella”.

Martial Star:

This star is Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion.

Martius:

This asterism Martius is the IAU constellation Lupus as listed by Italian astronomer Giovanni Battista Riccioli (1598 – 1671), who saw it as being sacred to the God Mars.

Martyrs:

This is listed in *De Natura Rerum Liber ("book on the nature of things*") by Isidori Hisapensis (Isidore of Seville, ca 560 – 636 C.E.), who writes "the Orions signify the martyrs, for as they are born in the sky in wintertime, so in the Church the martyrs emerge in the time of persecution": Isidore refers to "Orion" as both a single star and stars in this text.

Mary:

This star is Epsilon (ε) Ursae Majoris (Alioth) in the IAU constellation Ursa Major and is part of the asterism Bier of Lazarus (see above).

This asterism is the IAU constellation Virgo as listed in R. H. Allen's *Star Names* in 1899. Allen describes this only as appearing "in the Middle Ages" as the "Virgin Mary with the child Jesus" without identifying the source. This appears in Edward Sherburne's *Sphere of Marcus Manilius* in 1675 as "Virgin Mary" and attributes it to German astronomer German astronomer Wilhelm Schickard (1592 – 1635).

Mary, Her Sister, and Her Cousin:

This asterism "Maria, su Hermana, y su Prima" from the German Volga Community of Argentina is the belt of Orion in the IAU constellation Orion (Mudrik 2011).

Mary Magdalene:

This German asterism "Saint Mary Magdalene" is the IAU constellation Cassiopeia as listed in the *Coelum Stellatum Christianum* of German uranographer Julius Schiller (c. 1580 – 1627). This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "S. Maria Magdalena Alias Cassiopeia". *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this name for Cassiopeia, but only identifies the source as "theologians" who did this " about a thousand years ago". R. H. Allen's *Star Names* in 1899 lists "Mary Magdalene" but does not identify the source. Edward Sherburne lists "Mary Magdalene" in his Sphere of Marcus Manilius in 1675 and attributes it to Schiller.

Mary's Distaff:

This West Gothland asterism "Maria Rok" is the belt of Orion in the IAU constellation Orion.

Mary's Garden:

This Basque asterism "Mariaren Baratzea" is the IAU constellation Cassiopeia (Knörr 1999, Frank 2021).

Mary's Stars:

This Lithuanian asterism "Marijos žvaigždės" is the IAU constellation Cassiopeia.

Mary's Wreath:

This Lithuanian asterism "Marijos vainikas" is the IAU constellation Corona Borealis.

Masatho:

This Syrian asterism is the IAU constellation Libra as listed in John Hill's *Urania* in 1754.

Masikila:

This Tawi-Tawi star is Epsilon (ε) Orionis (Alnilam) in the IAU constellation Orion and represents one of the brothers in their asterism Tanggong (see below).

Mask Wearer of Ursa Major:

This **telescopic** asterism "Personátus Úrsae Majóris" is the edge-on spiral galaxy NGC 5201 in the IAU constellation Ursa Major. It was discovered in 1789 by William Herschel who listed it as "II 797". It became GC 3578 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "due to its enormous distance its true nature is not evident".

Mass of Hens:

This Latin asterism "Massa Gallinae" is the Pleiades cluster in the IAU constellation Taurus as listed in R. H. Allen's *Star Names* in 1899. Allen writes that this was common in the Middle Ages.

Massed Jewels:

This **telescopic** asterism is open cluster NGC 457 (Caldwell 13) in the IAU constellation Cassiopeia. It was discovered by the English astronomer William Herschel in 1787 who labeled it "VII 42" in his catalogue. It is GC 256 in the General Catalogue of 1864. Two bright stars (HIP 6229 and Phi (ϕ) Cassiopeiae) are the eyes. Size 13' X 13'. American astronomer Charles Howard Barns gave it the name "Massed Jewels" in his *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931). It is also known as the Kachina Doll Cluster, Dragonfly Cluster, and the E.T. Cluster.

Mast:

This English asterism "Malus" was the mast of Ptolemy's asterism Argo's Ship (see above):

- It became part of Abbe Louis Nicolas de Lacaille's new constellation Pyxis Nautica in 1752 (see Pyxis, below).
- English astronomer Francis Baily (1774 – 1844) assigned it the name Malus on the suggestion of English astronomer John Herschel in 1844 (see Pyxis below).
- American astronomer Benjamin Gould (1894 – 1896) restored the name to Pyxis.
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists Pyxis Nautica.
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Malus, the Mast" as an official constellation "recognized in the catalogue of the British Association".
- American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Malus" and describes it as the "Mast (of Ship Argo)".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists "Malus", but the 14th edition (1959) notes "Malus replaced by Pyxis".

Master of Andromeda:

This **telescopic** asterism "Erus Andrómedae" is the spiral galaxy NGC 169 (Arp 282) in the IAU constellation Andromeda. It was discovered by R. J. Mitchell, an assistant to the 3rd Earl of Rosse, in 1857. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as in ancient Rome an Erus was the

master of a household and this galaxy is accompanied by the smaller galaxy IC 1559. NOTE: IC 1559 was also recorded by William Parsons, the 3rd Earl of Rosse.

Master of Constructions (in Chariot Mansion):

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a bent line of four stars in the IAU constellations Crater and Hydra: Beta (β) Hydrae (the determinative star), 22 Crateris, Xi (ξ) Hydrae, and 18 Crateris.

This Chinese Chenzhuo xing guan is a bent line of stars in the IAU constellations Crater and Hydra: Starting at Beta (β) Hydrae, it runs through Omicron (o) Hydrae, and Zi (ζ) Hydrae, to 18 Crateris.

Master of Constructions (in Legs Mansion):

This Chinese xing guan "Tǔsīkōng" (土司空) is the star Beta (β) Ceti (Diphda) in the IAU constellation Cetus. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan "Tǔsīkōng" is the star Beta (β) Ceti (Diphda) in the IAU constellation Cetus.

Master of Pavo:

This **telescopic** asterism "Ánax Pavónis" is the barred spiral galaxy IC 4769 in the IAU constellation Pavo. It was discovered by DeLisle Stewart in 1901. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "from its outside position this big spiral galaxy, like an imposing male elephant, roams the outer region of the herd."

Master of Pegasus:

This **telescopic** asterism "Magister Pégasi" is the spiral galaxy NGC 7331 (Caldwell 30) in the IAU constellation Pegasus. It was discovered in 1784 by William Herschel who listed it as "I 53". It became GC 4815 in the *General Catalogue* of 1864. This galaxy is part of a group of galaxies including NGC 7335, 7336, 7337, and 7340, the Deer Lick Group. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it "is the predominant system in its neighbourhood" which is a reference to the Deer Lick Group.

Mastiff:

This Romanian asterism "Mastin" or "Dulăul" is the IAU constellation Canis Major (Ottescu 2009, Lite, Lodina, and Ignat 2018). It is also known simply as the Dog (see above).

Masu:

This Akkadian asterism "Masu", "Māšu", or "dma-a-si" (Parpola 1993) from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) is the IAU constellation Gemini. NOTE: R. H. Allen lists "Masu" as a "Turanian" name for the IAU constellation Leo in his *Star Names* in 1899 and translates it as "Hero".

Mata:

This Māori asterism is the Hyades cluster in the IAU constellation Taurus.

Mataatau:

This Polynesian star is Beta (β) Orionis (Rigel) in the IAU constellation Orion.

Mata-kaheru:

This Māori asterism is the Hyades cluster in the IAU constellation Taurus.

Matan:

This Dunghutti asterism is the Pleiades cluster in the IAU constellation Taurus (Lissarrague 2007).

Matar:

See Auspice of Rain, above.

Matarekinaka:

This Kiribati star "Matarekinaka" is currently unidentified (Trussel and Groves 1978).

Mataroa:

This Kiribati asterism "Mataroa" is listed by Trussel and Groves (1978) as "false Southern Cross" but then attribute the stars to Virgo. The False Cross (see above) which is sometimes mistaken for the IAU constellation Crux is in the IAU constellations Carina and Vela, not Virgo.

Materials for Making Tents:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is the star Beta (β) Piscis Austrini in the IAU constellation Piscis Austrinus.

This Chinese xing guan "Tiāngāng" (天纲) is a line of two stars in the IAU constellation Piscis Austrinus: Delta (δ) and Gamma (γ) Piscis Austrini. It is attached to the larger xing guan Decayed Mortar (see above).

This Chinese Chenzhuo xing guan "Tiāngāng" is the double star Gamma (γ) Piscis Austrini in the IAU constellation Piscis Austrinus.

Matinaba:

This Kiribati asterism is three stars in a line in the IAU constellation Capricornus (Trussel and Groves 1978).

Matoroniwi:

This Kiribati asterism "Matoroniwi" is made up of stars of the IAU constellation Virgo (Trussel and Groves 1978).

Matron of Centaurus:

This **telescopic** asterism "Matróna Centaúri" is the elliptical galaxy NGC 4696 in the IAU constellation Centaurus. This was discovered by James Dunlop. John Herschel listed it as h 3424 and later as GC 3226 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it is "located in the middle of the Centaurus cluster, as if she were the respected matron in her large family".

Matthew:

This German asterism “Matthew” or “Saintt Matthew the Apostle” is the IAU constellation Sagittarius and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the “pagan” names of constellations with Biblical and early Christian figures. This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as “S. Mathaeus Al Sagittarius.” Edward Sherburne lists it in his Sphere of Marcus Manilius in 1675 it later appears in John Hill’s *Urania* in 1754.

Matthias:

This German asterism “Matthias” or “Saint Matthias the Apostle” is the IAU constellation Pisces and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the “pagan” names of constellations with Biblical and early Christian figures. This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as “S. Matthias Al Pisces”. It later appears in John Hill’s *Urania* in 1754.

Mattinyi:

This Kaurna asterism was listed by Hamacher in 2015. The precise stars involved have not yet been identified.

Mattress of the Emperor:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a bent line of three stars in the IAU constellation Boötes: Xi (ξ) Boötis (the determinative star), 26 Boötis, and 22 Boötis.

This Chinese xing guan “Dìxí” (帝席) is a bent line of three stars in the IAU constellation Boötes: 9, 11 and 12 Boötis.

Mau-kuo-mau:

See O-nga-tangata below.

Maui’s Monster:

This Tongan (Pukapuka Island) asterism is the dark nebulae between the IAU constellations Scorpius to Cygnus. This is the monster that Maui killed and hurled into the sky and his spear (“te tao”) is a small dark triangular nebula near Scorpius.

Mausoleum:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a curving line of stars in the IAU constellation Perseus: Starting at 11 Persei it runs through Tau (τ) Persei, Iota (ι) Persei, Kappa (κ) Persei, Beta (β) Persei (the determinative star), Rho (ρ) Persei, and 16 Persei, ending at 12 Persei. Inside this xing guan is their xing guan “Heap of Corpses” (see above).

This Chinese xing guan “Dàlíng” (大陵) is a curving line of stars in the IAU constellation Perseus: 12 Persei, 16 Persei, Rho (ρ) Persei, Beta (β) Persei (Algol), Kappa (κ) Persei, Iota (ι) Persei, Tau (τ) Persei, and 9 Persei. Inside this xing guan is their xing guan “Heap of Corpses” (see above).

This Chinese Chenzhuo xing guan “Dàlíng” is a hooked line of stars of the IAU constellation Perseus: Starting at Eta (η) Persei it runs through Tau (τ) Persei, Iota (ι) Persei, Kappa (κ) Persei, Beta (β) Persei (Algol), and 16 Persei to 12 Persei.

This Korean asterism “Ungjanghan Mudeom” (웅장한 무덤) is identical to the Chinese xing guan of this name, including the “Heap of Corpses”.

Mavors:

This Spanish asterism is the IAU constellation Auriga as described by Isidore of Seville (560 – 636). This is a name for the God Mars, father of Romulus, and therefore associated to shepherds according to R. H. Allen in *Star Names* in 1899. Variations include “Marfutius” and “Maforte” (listed by German astronomer Johann Bayer (1572-1625)).

Mayall’s Object:

This **telescopic** asterism is Arp 148 (PGC 33423), a pair of colliding galaxies in the IAU constellation Ursa Major. It was discovered by American astronomer Nicholas U. Mayall (1906 – 1993) at the Lick Observatory in March 1940 using the 36” Crossley reflector telescope. It appears to be a ring galaxy with a tail emerging from it. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010) “Mayállium Úrsae Majóris”. It is also known as the “Question Mark” (see below).

Mayuyu:

This Tawi-Tawi star is Delta (δ) Orionis (Mintaka) in the IAU constellation Orion and represents one of the brothers in their asterism Tanggong (see below).

Mazalaai:

This **telescopic** Mongolian star “Mazalaai” is HAT-P-21 in the IAU constellation Ursa Major (magnitude 11.46). It received this name in the IAU NameExoWorlds Campaign. Mazalaai is an endangered species of Gobi bear. It has an exoplanet named Bambaruush (“bear cub”).

Mazisius’ Stick:

This Lithuanian asterism “Maižiešiaus lazda” or “Mažišiaus lazda” is currently unidentified.

McDonald’s Logo:

There are two **telescopic** “McDonald’s Logo” asterisms:

- One is made up of 8th to 9th magnitude stars 3 degrees southwest of the open cluster Messier 50 in the IAU constellation Monoceros. American astronomer and author Phil Harrington describes it as a “McDonald’s M” after the restaurant chain logo and made it Harrington 18 on his list. It is also known as “Pakan’s 3” (see 3 above) and the “Tooth” (see below).
- One is open cluster NGC 6025 (Caldwell 95) in the IAU constellation Triangulum Australe. This was was discovered by French astronomer Abbé Nicolas Louis de Lacaille in 1755. South African astronomer Magda Streicher (2009) described it as a “MacDonald’s [sic] sign”. It is also known as the “Japanese Fan” (see above), “Pakan’s 3” (see 3 above) and the Tooth (see below).

McLeish’s Object:

This **telescopic** asterism PGC 74180 is a barred spiral galaxy in the IAU constellation Pavo. It was discovered by Argentinian astronomer David McLeish in 1946.

McNeil’s Nebula:

This telescopic asterism is a variable nebula surrounding the star V1647 Orionis in the IAU constellation Orion. This was discovered by amateur American astronomer Jay McNeil in 2004 using a 3" telescope.

Meal Drying Bowl:

This Tewa asterism is the IAU constellation Corona Borealis.

Mealie:

This **telescopic** asterism is NGC 4699, an intermediate spiral galaxy in the IAU constellation Virgo. It was discovered by English astronomer William Herschel in 1786 who listed it as "I 129". It is GC 3229 in the *General Catalogue* of 1864. South African astronomer Richard Ford (2013) describes it as having "the shape of a tiny mealie". It is also known as the Vinyl LP (see below). This is listed in Stephen James O'Meara's *Hidden Treasures Catalogue* (2007).

Mean Little Ones:

This Arabic star "al-awlād al-nadhlāt" or "Al Aulād al Nadhlāt", later latinized to "Aulad Alnathlat", is Psi (ψ) Boötis in the IAU constellation Boötes.

Measure Amount:

This Korean asterism "Cheugjeong Geum-aeg" (측정 금액) is a line of two stars in the IAU constellation Hercules: 101 Herculis and HIP 90067.

Measure Cereal:

This Korean asterism "Silieol-eul Cheugjeonghada" (시리얼을 측정하다) is a quadrilateral of stars in the IAU constellations Hercules and Serpens: Sigma (σ) and Lambda (λ) Serpentis and Omicron (ο) and 9 Herculis.

Measuring Cup:

This **telescopic** asterism is Ennis 7 in the IAU constellation Gemini, listed by Canadian astronomer Charles Ennis. It is the cluster Simonic 37. Four 8^{th} – 9^{th} magnitude stars form the "cup": HD 51186, HD 266810, HD 266943, and Gaia DR3 3367925272614089216. A loop of four 9^{th} – 10^{th} magnitude stars form the "handle": Gaia DR3 3367926921881503488, Gaia DR3 3367932110201971840, Gaia DR3 3367931800964331392, and Gaia DR3 3367925650571191680.

Measuring Scoop:

See Kite (Kemble's Kite) above.

Meat Ant:

This Boorong asterism "Marpeankurrk" ("meat ant" or "treecreeper") was listed by Stanbridge (1857), Morieson (1999), Clarke (2009), and Hamacher and Frew (2010). It is made up of the stars of the IAU constellation Boötes:

- Alpha (α) Boötis (Arcturus) is the "head" of the ant,
- An arc of faint stars forms the "antennae" (5, 8, and 29 Boötis and HIP 71759), and
- A triangle of stars forms the "body": Beta (β) Boötis (Nekkar), Delta (δ), Epsilon (ε) and Rho (ρ) Boötis.

Note: The children of Marpeankurrk are Djuit (Alpha (α) Scorpii (Antares), see Red-Rumped Parrot, below) and Weekurrk (Eta (η) Boötis (Murphrid), see Weekurrk, below).

They used these stars to determine when the larvae of this ant (which they called bittur) were coming into season, as this was a major food source. To the Boorong Marpeankurrk was a wise woman who showed her people how to harvest these eggs.

This Wotjobaluk star "Marpean-kurrk" is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes (Hamacher 2011).

Meat Hook:

This **telescopic** asterism is NGC 2442 and NGC 2443, a single intermediate spiral galaxy in the IAU constellation Volans. It is also known as the Cobra Galaxy (see above), the Cobra and Mouse (see above), or the "S" (see below). NGC 2442 and 2443 are two parts of the same galaxy: John Louis Emil Dreyer (1852 – 1926) assumed it was two separate objects from William Herschel's earlier observations that this was a "double nebula". It is entered in the General Catalogue of 1864 as GC 1568 and 1569. English astronomer John Herschel, William's son, confirmed that it was a single "nebula" in December 1834.

Mebsuta:

See Outstretched Paw, below.

Mediterranean Star:

This Macedonian star is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor.

Medusa:

This Greek asterism "Medusa" is the IAU constellation Virgo as listed in R. H. Allen's *Star Names* in 1899.

Medusa Galaxy:

This **telescopic** asterism is NGC 4194 (Arp 160), a pair of interacting galaxies in the IAU constellation Ursa Major known as the "Medusa Merger" or "Medusa Galaxy". English Astronomer William Herschel discovered it in 1791 and listed it as "II 867". It is GC 2788 in the *General Catalogue* of 1864. Its central gas-rich star forming region is what is known as the "Eye of Medusa" (see above). The "hair" of Medusa is a tidal tail of stars.

Medusa Merger:

See Medusa Galaxy, above.

Medusa Nebula:

This planetary nebula is Abell 21 and Sharpless 2-274 in the IAU constellation Gemini. It was discovered by American astronomer George O. Abell in 1955.

Medusa of Coma Berenices:

This **telescopic** asterism "Medúsa Cómae Bereníces" is the barred spiral galaxy NGC 4921 in the IAU constellation Coma Berenices. It was discovered in 1785 by William Herschel who listed it as II 393. It is 1516 on John Herschel's catalogue and 3368 in the *General Catalogue*. This name appears in *The*

Catalogue of One Thousand Named Galaxies by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the smooth disk with the pale spiral structure makes this galaxy look like a translucent jellyfish. A Medusa is the adult stage in the life cycle of a jellyfish."

Medusaeus:

This Latin asterism is the IAU constellation Pegasus:

- "Medusaeus" is listed in the *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638).
- "Medusaeus" is listed in John Hill's *Urania* in 1754.

Medicine Men's Rattle:

This Lokono star "Maraka" is currently unidentified.

Medium Bull:

This **Telescopic** asterism is a "V" shape of six 7th – 9th magnitude stars in the IAU constellation Ophiuchus including HIP 87790, HIP 87860, and HIP 87901. Size 24'. It is about 1° away from Poniatowski's Bull (see below) and 18' away from the Minor Bull asterism (see below).

Medusa's Head:

This asterism "Caput Medusa" is the group of stars at the end of the "arm" of the IAU constellation Perseus and was listed as a separate asterism by Hipparchus (190 – 120 B.C.E.) and Pliny the Elder (24 – 79). 1st century Roman architect Vitruvius called it "Gorgoneum Caput", Gaius Julius Hyginus (64 - 17 B.C.E.) called it "Caput Gorgonis" in his *De Astronomica*, 1st century Roman poet Marcus Manilius called it "Gorgonis Ora", and 14th century Greek geographer and astronomer Georgius Chrysococcas called it "Γοργόνιον" ("Gorgónion").

The *De ordine ac positione stellarum in signis* ("*On the order and position of the stars in the signs*") in the Salzburg compilation (810 – 818) of Abbot Arno of Salzburg (785 – 821) lists "Caput Gorgonis".

The "hand" holding the head is Beta (β) Persei (Algol). Algol is also known as Gorgonea Prima or Gorgona, a reference to Medusa, who was a Gorgon. The "head" includes the stars Algol, Gorgonea Secunda (Eta (η) Persei), Gorgonea Tertia (Rho (ρ) Persei), and Gorgonea Quarta (Omega (ω) Persei).

The Constance Celestial Globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists "Caput Algol".

The mid 15th century Wein, Oesterr. National Bibl., manuscript Lat 5415, ff.168v-169r labels this asterism "Caput Algol".

The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists "Caput Algol" for the star Beta (β) Persei.

The "Nuremburg Maps" *(Die Karte des Nördlichen Sternenhimmels* inv.-Nr. Hz 5576), a pair of celestial hemispheres made in 1503 by Conrad Heinfogel, depicts this asterism as "CAPUT ALGOL".

"Caput Meduse" is listed on the *imagines coeli septentrionales cum duodecint imaginibus zodiaci* ("images of the northern sky with twelve images of the zodiac"), commonly known as the *Northern*

Celestial Hemisphere chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius (Dekker & Lippincott, 1999).

The *Horoscopion generale* (1533) of Petrus Apianus (1495 – 1552) depicts only the severed head of Medusa and NOT Perseus.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al also lists this as "Caput Meduse" and depicts in the same manner as Dürer et al.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) labels this asterism "cap. Meduse".

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) labels this asterism "Caput Medusae".

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) labels this "C de Meduse", which is an abbreviation for "Caput de Meduse".

German astronomer Johann Bayer (1572-1625) depicts this asterism in his *Uranometria* in 1603: It is unlabeled in the chart, but the following names appear in the text: "Capitis Algol, Aloue, Medusae, Gorgonea prima". Bayer's *Uranometria* assigns the names "Gorgonea Prima" to Beta (α) Persei (Algol), assigns "Gorgonea Secunda" to Pi (π) Persei, "Gorgonea Tertia" to Sigma (ς) Persei), and "Gorgonea Quarta" to Omega (ω) Persei).

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Caput Medusae sive Gorgonus".

This asterism is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as "Caput Medusae seu Gorgonis".

"Caput Meduse" is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633).

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts "Caput Meduse" as a severed head held by Perseus.

"Caput Medusae" is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661.

Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) labels this asterism "Caput Medusae".

The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678 by English uranographer James Clerk lists this asterism as "Caput Medusae".

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this "Teste de Meduse".

The *Atlas Coelestis* of German astronomer Johann Gabriel Doppelmayr (1742) depicts "Caput Medusae".

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) lists this as "La Tete de Meduse".

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this asterism as "Kopf der Medusa".

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts "Caput Medusae".

American uranographer William Croswell (1760 – 1834) lists "Caput Medusae, Medusa's Head" on his *Mercator Map of the Starry Heavens* in 1810.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists "Caput Medusae" it in his *Celestial Atlas* in 1822.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts "Medusa" as Medusa's head being held by Perseus

"Caput Medusae" is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on Jamieson's *Celestial Atlas*.

The French edition of Flamsteed's work, the *Atlas Céleste,* which was revised in 1778, lists this asterism as "La Téte de Meduse".

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer lists this asterism as "Medusas hoost".

This asterism was always part of the constellation Perseus, as it fit into the Greek myth of Perseus, but was frequently labeled as this asterism on charts in the 18th and 19th centuries. Compare this to the Arabic asterism Head of the Ghoul (see above).Size 120'.

Mee:

This Polynesian (Marquesas Islands) asterism is the IAU constellation Corvus.

Meen:

This Micronesian star is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra.

Meerschaum Pipe:

This **telescopic** asterism is found in the IAU constellation Cygnus. Look 2.6 degrees northwest of the star 15 Vulpeculae to find the open cluster NGC 6834: this asterism is 0.75 degrees northwest of this open cluster. Five stars in line form the stem and three stars the bowl. This is listed in *Asterisms: Small Star Patterns for Telescopes and Binoculars* by Dutch astronomer Demelza Ramakers in 2011. Size 22'.

Meghayanti:

This Vedic star from the *Taittiriya Brahmana* is 17 Tauri (Electra) in the IAU constellation Taurus (Leitz 2019). It is part of their asterism Krttika (see Cutters, above).

Megisto:

See Callisto, above.

Megrez:

See Base of the Bear's Tail, above.

Mehton:

This Myanmar yathi (zodiac constellation) "Mehton" (ဧမထုန်) is the IAU constellation Gemini.

Mein:

This Myanmar yathi (zodiac constellation) "Mein" (မိန်) is the IAU constellation Pisces.

Meissa:

See Shining One, below.

Meittha:

This Myanmar yathi (zodiac constellation) "Meittha" (မိဿ) is the IAU constellation Aries.

Mekbuda:

See Outstretched Paw, below.

Melanippe:

This Greek asterism is the IAU constellation Pegasus as listed by Euripides (480 – 408 B.C.E.). In Greek mythology Melanippe was the daughter of Chiron, the boatman who ferried the dead into Hades. Her other name was Euippe and she was turned by the Goddess Artemis into a black horse and placed in the sky.:

- "Melanippe" is listed on the *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638).
- "Menalippe" is listed in Johann Bayer's *Uranometria* (1603).
- "Melanippe" is listed in R. H. Allen's *Star Names* in 1899.
- German astronomer Johann Bayer (1572-1625) listed it as "Menalippe".

Melichi:

This star "Melichi" is Alpha (α) Leonis (Regulus) in the IAU constellation Leo as listed in John Hill's *Urania* in 1754. He does not identify the source.

Melikertes:

This Greek asterism is the IAU constellation Hercules. Melikertes or Melicertes was a child sea god who came to the aid of sailor in distress. Variations include "Malica", "Melica","Melicartus", and "Melicerta". He later became known as Palaimon or Palaemon.

Men:

This Seleucid asterism "SIPA u MAS.MAS" (see True Shepherds of Heaven, below) or "a-me-lu" ("men") from tablet SBTU II No 43 (W 22646) from the Seleucid (Hellenistic) period (275 B.C.E. – 116 C.E.) is stars of the IAU constellations Orion and Gemini.

Men in a Line:

This Tlingit asterism is the Belt of Orion in the IAU constellation Orion.

Menaechmus of Virgo:

This **telescopic** asterism "Menaéchmus Vírginis" is the barred spiral galaxy NGC 4981 in the IAU constellation Virgo. It was discovered in 1784 by William Herschel who listed it as II 189. It is GC 3418 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it is paired with NGC 4995, and they saw this as one of the twins in the comedy *the Menaechmi* by Roman author Plautus.

Menalippe:

This asterism is the IAU constellation Pegasus as listed in John Hill's *Urania* in 1754. Hill does not identify a source.

Menhir of Pavo:

This **telescopic** asterism "Megálithus Pavónis" is the spiral galaxy IC 4831 in the IAU constellation Pavo. It was discovered by DeLisle Stewart in 1901. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the shape of this very big galaxy is reminiscent of a menhir, a megalith."

Menkalinan:

See Shoulder of the Rein Holder, below.

Menkar:

See Nostril, below.

Menkent:

See Shoulder of the Centaur, below.

Menkib:

See Shoulder, below.

Men's Wagon:

This Saxon and asterism "Carlswæn" is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above).

This German asterism "Churlswagen" is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above).

This Norse asterism **"**Karlvagn" is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above).

This Norwegian asterism "Karlsvognen" is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above).

This Scandinavian asterism “Karlsvogna”, or “Karlsvognen”, is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above).

This Swedish asterism “Karlavagnen” is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above).

This Gothic asterism “Karl Wagen” is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above) as listed in R. H. Allen’s *Star Names* in 1899.

Compare this to the English “Charles’ Wain” (see above) and Thor’s Wagon (see below).

Men’s Wagon Star:

This star “Carlwaynesterre” is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes. This is related to the Saxon asterism “Carlswaen” (see Men’s Wagon, below). R. H. Allen lists this in his *Star Names* in 1899.

Mensa:

None of the stars of Mensa are brighter than 5th magnitude and only show up in 12 asterisms in this handbook.

This IAU constellation (IAU abbreviation Men) is one of the constellations created by French astronomer Abbé Nicolas Louis de Lacaille in 1750. He originally called it “Mons Mensa” after Table Mountain, a South African mountain overlooking Cape Town where de Lacaille spent some years making observations. Variations include “Mons Mensae” in R. H. Allen’s *Star Names* in 1899. It shows up in German catalogues as “Tafelberg”, in Italian catalogues as “Monte Tavola”, and in French catalogues as “Montagne de la Table”. English astronomer John Herschel (1792 – 1871), recommended shortening the name to Mensa.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts “Montagne de la Table” as a mountain peak.

Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists this constellation as “Tafelberg“ and depicts it as a mountain peak.

Mensa is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) as “Mons Mensae”: He indicates the borders of this constellation on the chart but offers no illustration of it.

English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists “Mensa, The Table Mountain” as an official constellation “recognized in the catalogue of the British Association”.

American astronomer Winslow Upton’s *Star Atlas* (1896) lists “Mensa” and “Mons Mensae” and describes it as “Table (mountain)”.

The 14th edition of British schoolmaster Arthur P. Norton’s *A Star Atlas* (1959) lists “Mensa” and gives the “original form” as “Mons Mensae”, describing it as the “Table Mountain”.

The Facts of File Dictionary of Astronomy, 2nd edition, 1985, by Valerie Illingworth, ed., lists this constellation as “Mensa (Table Mountain)”.

Standard IAU charts depict Mensa as a line of the three stars Mu (μ) Mensae, HIP 22717, and Gamma (γ) Mensae.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Mensa in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* as a line of two stars: Gamma (γ) Mensae and Alpha (α) Mensae.

Sky and Telescope Magazine, founded in 1941, depicts Mensa in their magazine and publications as a line between Alpha (α) and Beta (β) Mensae.

Merak:

See Loins of the Bear, above.

Mercedes Emblem:

There are two **telescopic** "Mercedes Benz" asterisms:

- One is the globular cluster Messier 13 in the IAU constellation Hercules. This was discovered by English astronomer Edmund Halley in 1714. Finnish astronomer Timo Karhula (1996) describes it as a "Mercedes Star" in his observations noted in the DOCdb database, as does South African astronomer Magda Streicher (1998).
- One is Cseh 42, listed by Hungarian astronomer Viktor Cseh, is in the IAU constellation Capricornus. Cseh describes it as a "5 member star group that forms a shape similar to a Mercedes emblem. The brightest star in the center is TYC 6599-1875 and shines with a magnitude of 8.7".

Merchant:

This Italian (Piedmont and Ligurian Alps) star "Tupiniero" or "Blot" is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major: this was the merchant who held the water pitcher at the harvest feast.

Merga:

See Chained Woman, above.

Meridian of Centaurus:

This **telescopic** asterism "Meridianáta Centaúri" is the peculiar lenticular galaxy NGC 5266 in the IAU constellation Centaurus. It was discovered in 1834 by John Herschel who listed it as h 3529 and later GC 3631 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it has "a polar ring of dust material".

Meridiana:

See South, below.

Merleng:

This Wardaman star is Delta (δ) Delphini in the IAU constellation Delphinus (Cairns and Harney 2003).

Mermaid:

This Hungarian asterism "Sello" appears on the celestial map of Hungarian uranographer Sandor Nagy (1915). NOTE: Nagy's 1915 chart is beautifully illustrated, but some of the labels are hard to make out and I find it difficult to match the hand drawn stars on his chart with actual star patterns in the sky. The stars are currently unidentified.

Mermaid Nebula:

There are two **telescopic** Mermaid Nebula asterisms:

- One is the nebula NGC 1977 and open cluster IC 1805 (SH 2-190, LBN 654, Mel 15, Ced 7) in the IAU constellation Cassiopeia. NGC 1977 was discovered by English astronomer William Herschel in 1787 and listed as V 30. IC 1805 was first recorded by American astronomer Edward Emerson Barnard (1857 – 1923). It is GC 1180 in the *General Catalogue* of 1864. This is also known as the Heart Nebula (see above), the Running Man Nebula (see above) and the Valentine Nebula (see below).
- One is the supernova remnant G296.5+10.0 (ESO 217-25) in the IAU constellation Centaurus, discovered in 1974 and photographed by Australian astrophotographer Andrew Murrell. It is also known as the Betta Fish (Siamese Fighting Fish).

Merope:

This Greek star is 23 Tauri in the Pleiades cluster in the IAU constellation Taurus and was named for one of the Pleiades sisters in Greek mythology:

- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists "Merope" for this star.
- German astronomer Hermann Joseph Klein (1844 – 1914) lists "Merope" in his *Star Atlas* (1893).
- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Merope".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list this star as "Merope".
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this star as "Merope".
- The IAU approved the name Merope for the star 23 Tauri Aa.

Merope Nebula:

This **telescopic** asterism is reflection nebula NGC 1435 in the Pleiades cluster in the IAU constellation Taurus. It has this name as it surrounds the star Merope (see Merope, above). It was first recorded by German astronomer Wilhelm Tempel (1821 – 1889) in 1859. It is GC 768 in the *General Catalogue* of 1864. *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), labels this nebula surrounding the star Merope the "Merope Nebula". It is also known as Tempel's Nebula or Barnard's Merope Nebula.

Merops:

This Greek asterism is the IAU constellation Aquila as listed in John Hill's *Urania* in 1754. Merops is a character that shows up in multiple Greek myths.

Merrerrebena:

This Wardaman star is Tau (τ) Scorpii in the IAU constellation Scorpius (Cairns and Harney 2003).

Merrill's Star:

This **telescopic** star is the high-velocity Wolf-Rayet star WR 124, situated in the ejecta nebula PK 50+3 1 in the IAU constellation Sagitta (magnitude 11.17 – 11.25). It is one of the fastest runaway stars in our galaxy. It is named after the American astronomer Paul W. Merrill (1887 – 1961).

Merzem:

This Merazig asterism is the stars of the IAU constellations Canis Major and Canis Minor, which they use to predict weeks of hot weather.

Mesa:

This Vedic rashi "Mesa" or "Mesha" Vedic *Candragarbha-parivarta* (Kotyk 2017, Rath 2022) is the IAU constellation Aries. Bhagwath (2019) lists it as "Mesha" as does R. H. Allen in his *Star Names* in 1899 and W. Brennan lists it as "Mesha" in his *Hindu Astronomy* in 1896. Bhagwath writes that it represents the energy of the creator God Dhatar. The Chinese phonetically translated "Mesa" from the Vedic *Candragarbha-parivarta* in 566 as "Misha" (Kotyk 2017).

Mesarthim:

See Servants, below.

Mesham:

This Tamil asterism is the IAU constellation Aries as listed in R. H. Allen's *Star Names* in 1899.

Messenger of Light:

This Babylonian star "Dilgan" is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra.

This Akkadian star "Dil-gan I-ku" is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga as listed by R. H. Allen in his *Star Names* in 1899.

This Babylonian star "Dil-gan Babili" is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga as listed by R. H. Allen in his *Star Names* in 1899.

Messier, Le:

This French asterism "le Messier" is an alternative name for the asterism Custos Messium (see Harvest Keeper, above).

Messier's Monogram:

This **telescopic** asterism is open cluster NGC 1981 in the IAU constellation Orion. It was discovered by English astronomer John Herschel in 1827, becoming h 362 on his list and GC 1184 in the *General Catalogue* of 1864. South African astronomer Auke Slotegraaf described it in 2010 as an "M" shape and writes "How nice of Charles Messier to put his signature on his most famous deep sky discovery" (this discovery being the Great Orion Nebula). It is also known as the Coal Car Cluster and the Crocodile Cluster.

Metcher-Sah:

This Egyptian decan "Metcher-Sah" was in the IAU constellation Gemini. In later Hellenistic texts it was named "ϴοcoλκ" ("Θosalk"). In the Testament of Solomon, it became "Sphandor", 2nd century Jewish philosopher Aristobulus of Paneas called it "Farsan", in Greek Hermeticism it became "Xocha", in Latin Hermeticism "Manuchos", 4th century Roman astrologer Julius Firmicus Maternus called it "Thesogar" or "Tensogar", Cosmas of Maiuma (d. 760) called it "Thetys", French scholar Joseph Justus Scaliger (1540 - 1609) called it "Thesogar" and German Jesuit astronomer Athanasius Kircher (1602 – 1680) called it "τοογϴ" ("Tautus"). It has been depicted as a man with a donkey head with a key in his right hand.

Methuselah Nebula:

This **telescopic** asterism is the planetary nebula PK 080-10.1 in the IAU constellation Cygnus.

Methuselah Star:

This telescopic star is the metal-poor subgiant star HD 140283 in the IAU constellation Libra. The press gave it this name in as it is one of the oldest stars known: One article appeared in Science Daily in 2013 (*Hubble Finds 'Birth Certificate" of Oldest Known Star*) and Space.com in 2019 (*How Can a Star Be Older Than the Universe*?).

Metronome:

This **telescopic** asterism is Do Dz 17 or Stratton 2 on the asterism list of Troy Stratton, Observing Program Coordinator of The Astronomical League. It is in the IAU constellation Orion near the star Gamma (γ) Orionis (Bellatrix). It resembles a capital Greek letter Sigma (Σ) with the middle star being the 7th magnitude star HIP 25073. Size 17'.

Mexican Jumping Star Cluster:

This **telescopic** asterism is the open cluster NGC 2362 (Caldwell 64), discovered by Italian astronomer Giovanni Battista Hodierna in 1654 in the IAU constellation Canis Major. English astronomer William Herschel listed it as "VII 17. It is GC 1513 in the *General Catalogue* of 1864. It is also known as the Pirate's Jewels Cluster. It got this name as the central star Tau (τ) Canis Majoris (magnitude 4.4) can appear to "jump around" with respect to other stars in the cluster due to its marked contrast in brightness.

Miaplacidus:

See Placid Water, below.

Mićakrÿš:

This Chakavian asterism is the IAU constellation Perseus.

Mice Galaxies:

This **telescopic** asterism NGC 4676 A and B (Arp 242) is a pair of interacting spiral galaxies in the IAU constellation Coma Berenices. These were discovered in 1785 by English astronomer William Herschel who listed it as II 326". It became GC 3207 in the *General Catalogue* of 1864. They bear this name as they both have long "tails" created by the tidal action between the two. Size 2.2' X 0.8'. In *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010) name these two galaxies "Minnie" and "Mickey".

Michael:

This German asterism “Michael” or “Saint Michael the Archangel” is the IAU constellation Ursa Minor and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the “pagan” names of constellations with Biblical and early Christian figures. This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as “S. Michael al Vrsa minor”. It later appears in Edward Sherburne’s Sphere of Marcus Manilius in 1675 and in John Hill’s *Urania* in 1754. R. H. Allen writes in his *Star Names* in 1899 that Schiller used this for Ursa Major.

This is one of the Archangel Stars (see above), Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus.

Mickey of Coma Berenices:

This **telescopic** asterism “Michael Cómae Bereníces” is the interacting galaxy NGC 4676B (Arp 242) in the IAU constellation Coma Berenices. These were discovered in 1785 by English astronomer William Herschel who listed it as II 326”. It became GC 3207 in the *General Catalogue* of 1864. The interacting galaxies NGC 4676 A and B are known as the “Mice” (see above) as they both have long “tails” created by the tidal action between the two. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Microscopium:

None of the stars of Microscopium are brighter than 4th magnitude and only show up in 24 asterisms in this handbook.

This IAU constellation (IAU abbreviation Mic) is one of twelve created by the French astronomer Abbé Nicolas Louis de Lacaille in 1751. He originally called it “le Microscope” but latinized the name by 1763. Lacaille’s *Planisphère des Étoiles Ausralea* (1756) depicts this as a box with a door on the front on top of which is a microscope on a stand.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts “Microscopium” as a microscope.

German astronomer Johann Elert Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists it as “Mikroscop” and Bode’s *Vorstellung Der Gestirne* (1782) lists this constellation as “Mikroscop“ and depicts it as a microscope.

“Microscopium” is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875): He indicates the borders of this constellation on the chart but offers no illustration of it.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts “Microscopium” as a microscope.

English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists “Microscopium, The Microscope” as an official constellation “recognized in the catalogue of the British Association”.

American astronomer Winslow Upton’s *Star Atlas* (1896) lists this constellation as “Microscopium” and describes it as a “Microscope”.

Standard IAU charts depict Mensa as a bent line of the four stars Epsilon (ε) Microscopii, 2 Piscis Austrini, Gamma (γ) Microscopii and Alpha (α) Microscopii.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Microscopium in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* as a bending line of stars starting at Alpha (α) Microscopii and running through Gamma (γ) Microscopii, 2 Piscis Austrini, Epsilon (ε) Microscopii, and Theta (θ) 1 Microscopii, to Iota (ι) Microscopii.

Sky and Telescope Magazine, founded in 1941, depicts Microscopium in their magazine and publications as a line between Alpha (α) and Beta (β) Microscopii.

Middle:

This Arabic star "Wasat" (وسط) or "Al Wasat" ("middle" or "central one") is Delta (δ) Geminorum in the IAU constellation Gemini:

- Variations include "Wesat".
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists Microscopium in his *Celestial Atlas* in 1822.
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Wasat, from the Arabic al wasat, the middle or centre".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Wesat".
- NOTE: R. H. Allen writes in his *Star Names* in 1899 that Wasat was given to Eta (η) Tauri (Alcyone) and writes that Persian astronomer Ulugh Beg Mirza (1394 – 1449) assigned it to 17 Tauri (Electra).
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list the name "Wasat" for Delta (δ) Geminorum.
- The IAU approved the name Wasat for the star Delta (δ) Geminorum Aa in 2016.

Middle Bow:

This Latin star "Kaus Media" is Delta (δ) Sagittarii in the IAU constellation Sagittarius. This name is derived from the Arabic "gaws" ("bow" قوس) and Latin "media" ("middle"). The IAU approved the name Kaus Media for Delta (δ) Sagittarii in 2016.

Middle Positioned of Eridanus:

This **telescopic** asterism "Mediánus Erídani" is the flocculent spiral galaxy NGC 1353 in the IAU constellation Eridanus. It was discovered in 1784 by English astronomer William Herschel who listed it as "III 246". It became GC 724 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as it "is classified roughly in the middle position in the Hubble sequence".

Middle Precursor:

This Anutan star "Taki Roto" is Alpha (α) Andromedae (Alpheratz) in the IAU constellation Andromeda which forms one corner of the Great Square (see Great Square, above).

Middle Star of the Head of the Scorpion:

This Persian (Achaemenid Period 539 – 331 B.C.E.) star "MUL MURUB sa SAG GIR-TAB" is Delta (δ) Scorpii in the IAU constellation Scorpius (Hunger and Sachs 1988).

Middle Step:

This Chinese xing guan is a line of two stars in the IAU constellation Ursa Major and is part of their xing guan "Sāntái" (see Three Steps, above): Lambda (λ) Ursae Majoris and Mu (μ) Ursae Majoris.

Midland Star:

This Macedonian star "Sredozemna Dzvezda" is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Cenev 2014).

Midnight Cross:

This Romanian asterism "Crucea Miezului Nopţii" is the IAU constellation Cygnus (Ottescu 2009).

Might of the Abode of Life:

This Babylonian star "Emuku tin-tir-Ki" is Alpha (α) Virginis (Spica) in the IAU constellation Virgo as listed by R. H. Allen in his *Star Names* in 1899.

Miku's Shimapan:

This **telescopic** asterism "Maas 1" from the asterism list of American astronomer Steve Maas is in the IAU constellation Aquarius. Its size is 19' X 14'. The brightest star is HD 197659 (magnitude 8.81). Shimapan is a name for striped panties. This is listed on the SOCO (Sentinel of the Caprock Observatory) list.

Milinus:

This Latin asterism is the IAU constellation Cygnus as listed in John Hill's *Urania* in 1754.

Mili'opu:

This Hawaiian star is Delta (δ) Scorpii in the IAU constellation Scorpius.

Militant:

This Latin asterism "Pugnans" is the IAU constellation Hercules as listed in John Hill's *Urania* in 1754.

Military Breaking Star:

This Japanese star "Hagunsei" is Eta (η) Ursae Majoris in the IAU constellation Ursa Major.

Military Gate:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of two stars in the IAU constellation Hydra: HIP 57613 (the determinative star) and 58082.

This Chinese Chenzhuo xing guan is two stars in the IAU constellation Hydra: HIP 57613 and 58082.

Military Post Commander of Leo:

This **telescopic** asterism "Telárches Leónis" is the spiral galaxy NGC 3883 in the IAU constellation Leo. It was discovered in 1785 by William Herschel who listed it as "III 372". It became GC 2551 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by

astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it is “a giant spiral galaxy at a great distance.”

Military Star:

This Chinese star “Wuqu” from the Three Kingdoms to the Ming Dynasty is Zeta (ζ) Ursae Majoris (Mizar) in the IAU constellation Ursa Major.

This Chinese Chenzhuo xing guan “Wuqu” is the star Zeta (ζ) Ursae Majoris in the IAU constellation Ursa Major. It is part of their xing guan Northern Dipper.

Military Well:

This Chinese xing guan “Jūnjǐng” (军井) is a rectangle made up of stars in the IAU constellation Lepus: Iota (ι), Kappa (κ), Lambda (λ), and Nu (ν) Leporis. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Jūnjǐng” is two stars in the IAU constellation Lepus: Iota (ι), Kappa (κ), Lambda (λ) and Nu (ν) Leporis.

Milk Can:

This **telescopic** asterism is the open cluster IC 2488in the IAU constellation Vela. It was discovered by French astronomer Abbé Nicolas Louis de Lacaille in 1752. It ended up on the Index Catalogue after being recorded by American astronomer Solon Irving Bailey (1854 – 1931). Vela. It is located 30 arcminutes west of N Velorum, a 3rd magnitude star located near the False Cross asterism (see False Cross above). South African astronomer Magda Streicher described it as a “Milk Can shape pouring out faint stars”. It is also known as the Hoopskirt (see below), Chinese Hat (see above), and Strings of Pearl (see below).

Milk Dipper:

The bowl of this “dipper” is made up of the four stars of the handle of the Teapot in the IAU constellation Sagittarius (See Teapot below): Sigma (σ) Sagittarii (Nunki), Phi (ϕ) Sagittarii, Tau (τ) Sagittarii, and Zeta (ζ) Sagittarii (Ascella). The handle of the “dipper” is formed by the star Lambda (λ) Sagittarii (Kaus Borealis), which is close to the globular cluster Messier 28 (NGC 6626). *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this asterism. *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), also describes it and lists this name. Compare this to Milk Ladle (below).

Milk Ladle:

This Norwegian asterism “Melkeøsen” is in the IAU constellation Sagittarius. The bowl of this “ladle” is made up of the four stars of the handle of the Teapot in the IAU constellation Sagittarius (See Teapot below): Sigma (σ) Sagittarii (Nunki), Phi (ϕ) Sagittarii, Tau (τ) Sagittarii, and Zeta (ζ) Sagittarii (Ascella). The handle of the “ladle” is formed by the star Lambda (λ) Sagittarii (Kaus Borealis), which is close to the globular cluster Messier 28 (NGC 6626). Compare this to Milk Dipper (above).

Milkmaids of the Sky:

This Danish and Icelandic asterism “Fiosakonur ā lopti” is the IAU constellation Ursa Minor as listed in R. H. Allen’s *Star Names* in 1899.

Millet Stars:

This Japanese asterism “Awainya Boshi” is the belt of Orion in the IAU constellation Orion (Renshaw and Ihara 2001).

Millet and Rice Stars:

This Japanese asterism “Awaine Boshi” is the belt of Orion in the IAU constellation Orion (Renshaw and Ihara 2001).

Mimburi:

This Jinibara Asterism is the Coal Sack Nebula in the IAU constellation Crux (see Coal Sack Nebula, above).

Mimir:

This Norse asterism “Mimir” or “Mímir” is made up of the stars of the IAU constellation Centaurus and was created by Canadian Bjorn Jónsson (1920 – 1995) who was trying to reconstruct traditional Scandinavian skies (Kuperjanov 2006). Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) are Mimir’s feet, Epsilon (ε) Centauri his “left knee”, Theta (θ) Centauri the top of Mimir’s “head”. One arm runs from Nu (ν) Centauri through d Centauri to a “hand” at Iota (ι) Centauri (where Jónsson depicts a horn in Mimir’s hand) and the other arm runs from Phi (ϕ) Centauri through Eta (η) Centauri. Mímir or Mim was renowned in Norse mythology for his wisdom. Mimir was beheaded in the Æsir–Vanir War and Odin, finding Mimir’s head, carries it around so that it can recite secret knowledge and wisdom to counsel him.

Mimosa:

See Actor, above.

Min:

This Egyptian Dendera asterism is made up of stars of the IAU constellation Centaurus (Hoffman 2017): It is depicted as bull-headed man carrying a scythe. In the 19th dynasty Cairo Calendar (Hardy 2003) it is the star Alpha (α) Centauri (Rigil Kentaurus) in the IAU constellation Centaurus. The Dendera image appears to be a merger of the Babylonian God of agriculture, Ningirsu, with the Egyptian God Min, who was merged with the Greek God Pan. Min is an ancient fertility God from the Predynastic Period (c. 6000 – 3150 B.C.E.) who guarded travelers.

Mina:

This Vedic rashi “Mina” or “Meena” as listed in the Vedic *Candragarbha-parivarta* (Kotyk 2017, Rath 2022) is the IAU constellation Pisces. The Chinese translated this as “Mina” in their phonetic translation of this work (Kotyk 2017). W. Brennan lists it as “Mina” in his *Hindu Astronomy* in 1896. Bhagwath (2019) lists it as “Meena” and writes that it represents the energy of the God Parjanya.

This Tamil asterism “Mina” or “Minam” is the IAU constellation Pisces as listed in R. H. Allen’s *Star Names* in 1899.

Minchir:

See Nostril of the Brave One, below.

Minelauva:

See In the Manzil Awwa, above.

Minerva:

This Roman asterism "Minerva" is the IAU constellation Virgo as listed in R. H. Allen's *Star Names* in 1899. Minerva was the Goddess of wisdom, war, art, schools, justice, and commerce.

Mini Cassiopeia:

There are two **telescopic** asterisms by this name:

- One is the Canadian asterism Kemble 2: See W, below.
- One is Ferrero 19 (see W, below).

Mini Cepheus:

This **telescopic** asterism Sánta 131, listed in 2008 by Hungarian astronomer Sánta Gábor, is in the IAU constellation Cassiopeia and includes 6 stars between magnitude 6 – 9 including HIP 857 and 1023 with HIP 951 in the middle. Gábor describes this as "HD 725 group" (a reference to HIP 951) and "Cepheus like". NOTE: This contains a "W" shape that could also be seen as a mini-Cassiopeia.

Mini Corona Borealis:

This **telescopic** asterism is a curve of stars within open cluster NGC 2420 in the IAU constellation Gemini. American astronomer Steve Coe (1949 – 2018) and South African astronomer Magda Streicher both refer to it as having the shape of Corona Borealis, though Streicher also compares it with Corona Australis.

Mini Cross:

This **telescopic** asterism is a miniature version of the Northern Cross of Cygnus (see Northern Cross below). It is found in the IAU constellation Pegasus near the star Gamma (γ) Pegasi (Algenib). It contains five 8th to 10th magnitude stars including HIP 856.

Mini Canis Major:

This **telescopic** asterism is in the IAU constellation Centaurus and is Corder 2501 on the observing list of American astronomer Jeffrey Corder. Size 45' X 25'. This is five 8th magnitude stars and HIP 66454 (magnitude 5.9).

Mini Cygnus:

This **telescopic** asterism is in the IAU constellation Virgo and is on Chris Vaughan's observing list. Size 95' X 60'. This is four 7th – 8th magnitude stars including HIP 61977, 61992, 61711, and 61672.

Mini Delphinus:

There are two **telescopic** "Mini Delphinus" asterisms:

- One, also known as "Delphinus Minor", is Patchick 100, a miniature version of the constellation Delphinus discovered by Dana Patchick and reported in *Sky and Telescope* magazine in December 2007 by Sue French. Size 70' X 30'. Jeffrey Corder lists it as Corder 4729. It is made up of 7th magnitude stars in the IAU constellation Pegasus on the western edge of the Great Square (see Great Square, above):

    - The "head" is the four stars HIP 113869, 113800, 113766 and 113692.
    - The "tail" starts at HIP 113692 and runs through HIP 113645 and 113651.
- One, also known as the Leaping Minnow or Flying Minnow, is found in the IAU constellation Auriga and includes the stars 16, 18, and 19 Aurigae, with magnitudes between 4.5 and 6.5 and is part of the cluster Melotte 31. It is between open cluster NGC 1893 and the emission/reflection nebula IC 405 (the Flaming Star Nebula). Size 60' X 45'. This is Harrington 4 on American astronomer Phil Harrington's list of asterisms. René Merting lists it on the *Faint Fuzzies* website.

Mini Dumbbell:

This **telescopic** asterism is planetary nebula NGC 2371-2 in the IAU constellation Gemini. It was discovered by English astronomer William Herschel in 1785, who described it as "Two. Sp-nf, distance 1', chevelure mixed. Both faint, small, equal, having a nucleus". Herschel listed it as "II 316 and II 317" in his catalogue. It is GC 1519 and 1520 in the *General Catalogue* of 1864. It seemed to English astronomer John Louis Emil Dreyer (1852 – 1926) to be two objects and so was entered as NGC 2371 and 2372 in the *New General Catalogue* of 1888. It is actually a single planetary nebula. It is also known as the Double Bubble Nebula, the Ant Nebula, the Figure Eight, the Mini Dumbbell, the Doughnut (Cut in Half), or the Gemini Nebula. Size 1' X 1'. American astronomer Walter Scott Houston described it as a "miniature version of the Dumbbell".

Mini Grus:

There are two **telescopic** "Mini Grus" asterisms:

- One is in the IAU constellation Corona Borealis and is Corder 2935 on the observing list of American astronomer Jeffrey Corder. Size 70' X 30'. This is ten 8^{th} – 10^{th} magnitude stars including HIP 77828, 77721, 77748, 77715, 77743, and 78001, and the double stars HIP 77875A and 77671A.
- One is the open cluster IC 4665 in the IAU constellation Ophiuchus. It was discovered in 1745 by Swiss astronomer Phillipe Loys de Chéseaux. Despite its brightness, it was not catalogued by Charles Messier or William Herschel. American astronomer Edward Emerson Barnard (1857 – 1923) recorded it, which resulted in it becoming IC 4665 in the *Index Catalogue*. This was listed by American astronomer Lew Gramer (1997), who described it as "a tiny 'Grus-like' or Lambda shaped asterism". It is also known as the Summer Beehive, Poseidon's Trident, Lambda, "Q", or the Black Swallowtail Butterfly.

Mini Hercules:

This **telescopic** asterism is the open cluster IC 4996 in the IAU constellation Cygnus. This was discovered by English astronomer Frank Arthur Bellamy (1863 – 1936). It was given this name by American astronomer Wayne Schmidt, who describes it as a miniature version of the IAU constellation Hercules.

Mini Messier 3:

This is the globular cluster Messier 75 (NGC 6864) in the IAU constellation Sagittarius. This was discovered by French astronomer Pierre Méchain in 1780. English astronomer William Herschel described it as "a miniature of M3 and pale to the gaze". English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists this as a "miniature of 3 Messier". John Herschel's General Catalogue of 1864 lists it as GC 4543. It is also known as the "Snowball" (see below).

Mini Messier 53:

This is the globular cluster Messier 9 (NGC 6333) in the IAU constellation Ophiuchus. French astronomer Charles Messier listed this in 1764. English astronomer William Herschel noted in the Philosophical Transactions in 1814 that this globular cluster "is a miniature of the 53rd [Messier]". It is listed in the *General Catalogue* of 1864 as GC 4287. John Herschel's catalogue lists it both as h 1917 and 3677.

Mini Orion Nebula:

This German **telescopic** asterism is the bipolar emission and reflection nebula NGC 1931 in the IAU constellation Auriga. This was discovered in 1793 by English astronomer William Herschel who listed it as "I 261". It became GC 1137 in the *General Catalogue* of 1864. This name was posted on the *Deep Sky Forum* in January 2024 by Uwe Glahn. It is also known as the "Fly Nebula".

Mini Perseus:

This telescopic asterism is open cluster Messier 36 (NGC 1960) in the IAU constellation Auriga. It was discovered by Giovanni Battista Hodierna before 1654. It is listed in the 1864 General Catalogue as GC 1166 and in John Herschel's catalogue as h 2866. American astronomer Phil Harrington notes that "to Kenneth Jones… it looks like the constellation Perseus in miniature": This would be Welsh amateur astronomer Kenneth Glyn Jones (1915 – 1995)

Mini Piscis Austrinus:

This **telescopic** asterism Sánta 46, listed in 2007 by Hungarian astronomer Sánta Gábor, which is a group of stars in the IAU constellation Boötes.

Mini Pleiades:

There are two **telescopic** "Mini Pleiades" asterisms:

- One is Sánta 129, listed in 2008 by Hungarian astronomer Sánta Gábor, is a group of stars in the IAU constellation Camelopardalis. Gábor describes it as "an M45 shaped asterism made by five 10 – 11 [magnitude] and some fainter."
- One is open cluster NGC 6231 (Caldwell 76) in the IAU constellation Scorpius discovered by Italian astronomer Giovanni Battista Hodierna before 1654. It is listed in the *General Catalogue* of 1864 as GC 4245 and in John Herschel's catalogue as h 3652. American astronomer Sherburne Wesley Burnham (1838 – 1921) noted in *Burnham's Celestial Handbook* that it "resembles a miniature edition of the Pleiades, with a central knot of 7 or 8 bright stars".

Mini Ring Nebula:

This **telescopic** asterism is planetary nebula Wray 16-169 in the IAU constellation Circinus.

Mini Scorpius:

See Scorpion, below.

Mini Sombrero Galaxy:

This **telescopic** asterism NGC 5746 is a barred spiral galaxy in the IAU constellation Virgo. It was discovered by English astronomer William Herschel in 1786 who listed it as "I 126". It is GC 3987 in the *General Catalogue* of 1864. It is also known as the Blade and Pearl Galaxy (see above) and the Boxy

Bulge Galaxy (due to the boxy nature of its bulge).). This is O'Meara 74 in Stephen James O'Meara's *Hidden Treasures Catalogue* (2007).

Mini Taurus:

See "Poniatowski's Bull" (below).

Mini Wild Duck Cluster:

This **telescopic** asterism Sánta 193, listed in 2007 by Hungarian astronomer Sánta Gábor, which is in the IAU constellation Ursa Minor. It is described by Gábor as a "V-shaped asterism headed by Eta [η] UMi, stars 5 – 10 [magnitude] formed asterism like flying wild duck group". The star at the apex of the "V" is Eta (η) Ursae Minoris.

Miniature Dog:

This Tsilhqot'in asterism "Lhìndèsch'ósh" may be cognate with the Gwich'in asterism "Yahdii" (see Traveler, below (Cannon 2021)).

Miniature Spiral:

This telescopic asterism NGC 3928 is a lenticular galaxy in the IAU constellation Ursa Major. It was discovered by English astronomer William Herschel in March 1788 who listed it as "II 740" in his catalogue. It is GC 2590 in the *General Catalogue* of 1864.

Minister of Justice:

There are two Chinese stars from the Three Kingdoms to the Ming Dynasty with this name in the IAU constellation Ursa Major in their xing guan "Wénchāng" (see Administrative Center, above):

- One, "Taichang", is Phi (ϕ) Ursae Majoris.
- One, "Dali", is HIP 44504

This Chinese Chenzhuo xing guan "Dali" is the star 15 Ursae Majoris in the IAU constellation Ursa Major. It is part of their xing guan "Administrative Centre".

Minister of Works:

This Chinese Chenzhuo xing guan "Silong" is the star Beta (β) Tauri (Elnath) in the IAU constellation Taurus. It is part of their xing guan Five Chariots.

Minkowski's Butterfly Nebula:

This **telescopic** asterism is planetary nebula Minkowski 2-9 (M 2-9) in the IAU constellation Ophiuchus, discovered by German American astronomer Rudolph Minkowski in 1947. It is also known as the Twin Jet Nebula, Wings of a Butterfly Nebula, or just the Butterfly Nebula.

Minkowski's Footprint:

See Footprint Nebula (above).

Minkowski's Object:

This **telescopic** asterism Arp 133 is an irregular dwarf galaxy 45 arcseconds northeast of the lenticular galaxy NGC 541 in the IAU constellation Cetus (magnitude 12.08). It was discovered by Prussian

astronomer Heinrich d'Arrest and became GC 5178 in the *General Catalogue* of 1864. It is named after American astronomer Rudolph Minkowski (1895 – 1976). This name appears as "Minkowskiána Céti" in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Minnie of Coma Berenices:

This **telescopic** asterism "Minérva Cómae Bereníces" is the interacting galaxy NGC 4676A (Arp 242) in the IAU constellation Coma Berenices. These were discovered in 1785 by English astronomer William Herschel who listed it as II 326". It became GC 3207 in the *General Catalogue* of 1864. The interacting galaxies NGC 4676 A and B are known as the "Mice" (see above) as they both have long "tails" created by the tidal action between the two. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Minoan Crown:

This Latin asterism "Minoia Corona" is the IAU constellation Corona Borealis.

Minoan Virgin:

This Latin asterism "Minoia Virgo" is the IAU constellation Corona Borealis as listed by Roman general Germanicus (15 B.C.E. – 19 C.E.).

Minor Bull:

This **telescopic** asterism is made up of six 10^{th} – 13^{th} magnitude stars in the IAU constellation Ophiuchus. Size 3'. It resembles the triangular Hyades cluster. It is 18' away from the Medium Bull asterism and 38' away from Poniatowski's Bull.

Minor Concubine:

There are two Chinese xing guans from the Three Kingdoms to the Ming Dynasty with the name "Qie" in the IAU constellation Scorpius and both are part of their xing guan Tails (see below):

- One is the star Lambda (λ) Scorpii.
- One is the star Upsilon (υ) Scorpii.

Minor Imperial Consort:

Twelve stars in the Chinese xing guan "Xuanyuan" (see below) from the Three Kingdoms to the Ming Dynasty are labelled "Cifei":

- 10 Ursae Majoris,
- HIP 44700,
- 38 Lyncis
- Alpha (α) Lyncis,
- HIP 47168
- 15 Leonis,
- Kappa (κ) Leonis,
- Lambda (λ) Leonis,
- Epsilon (ε) Leonis,
- Mu (μ) Leonis, and

- Zeta (ζ) Leonis.

Minotaurus:

There are two Latin asterisms by this name:

- One is the IAU constellation Centaurus. Johann Bayer's *Uranometria* (1603) lists "Minotaurus" for this constellation.
- One is the IAU constellation Sagittarius. This is sometimes shortened to "Taurus".

Mintaka:

See Belt, above.

Minyardin:

This Wardaman star is Delta (δ) Orionis (Mintaka) in the IAU constellation Orion (Cairns and Harney 2003).

Mira:

See Wonderful, below.

Mirach:

See Waist Cloth, below.

Mirach's Ghost:

This **telescopic** asterism NGC 404 is a field galaxy in the IAU constellation Andromeda. It was discovered by English astronomer William Herschel in 1784, who recorded it as "II 221". It is listed as GC 218 in the 1864 *General Catalogue*. It is located within 7arcminutes of Beta (β) Andromedae (Mirach), making it a difficult object to observe, which is why it is known as "Mirach's Ghost". Size 3.5' XX 3.5'. It is also known as the Lost Pearl (see above) and "Comet Komorowski". Astronomer Stephen James O'Meara's Hidden Treasures Catalogue (2007) lists this as O'Meara 5 and "Mirach's Ghost". "Mirachumbra Andromedae" ("Ghost of Mirach") appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Mirage:

This Sotho star "Diphalane Matsantsabana" is currently unidentified and appears in October (Alcock 2014). It has this name as it "looks like water on the ground".

Miram:

This star is Eta (η) Persei in the IAU constellation Perseus. This name appeared in the mid-20th century, but it's source and meaning are unknown. The IAU approved the name Miram for Eta (η) Persei A in 2017.

Mircea's Man:

This telescopic asterism is Földvári 37 in the IAU constellation Virgo from the observing list of Hungarian astronomer István Zoltán Földvári. It is listed on Brazilian astronomer Bruno Alessi's BDCC 7.6 list. It is

listed by Ziridava on *Cloudy Nights* in June 2017, who writes that he had his friend Istvan register it for him. Size 72'. Here is how it is made up:

- The "head" is the triangle of stars HIP 64917, 64983 and 64954A.
- The "body" is the line of stars HIP 65067, 65119A, 65192 and 65225.
- The "feet" are the stars HIP 65352 and 65198
- An "arm" runs out from HIP 65067 through 64984 to a "hand" at LR Virginis.

Mirfak:

See Elbow, above.

Mirganda:

This Darkinjung asterism is the Pleiades cluster in the IAU constellation Taurus (Jones 1993).

Miriti Fruit:

This Barasana asterism is unidentified stars in the area of the IAU constellation Corvus (Hugh-Jones 2006). This is the fruit of the Mauritia flexuosa, a type of palm.

Mirrilyn Manday:

This Birpai asterism is the Pleiades cluster in the IAU constellation Taurus (Lissarrague 2010).

Mirror:

This **telescopic** asterism Messier 100 (NGC 4321) is a grand design spiral galaxy in the IAU constellation Coma Berenices. It was discovered by French astronomer Pierre Méchain in 1781 and English astronomer William Herschel described it in the *Philosophical Transactions* in 1814. It is listed in the General Catalogue of 1864 as GC 2890 and in John Herschel's catalogue as h 1211. It is also known as the Blowdryer Galaxy (see above).

Mirror of Sirius:

The Māori called Alpha (α) Canis Majoris "Rehua" so their asterism "Taumata-o-Rehua" or "Pukawanui" ("the Mirror of Rehua") was a group of stars in Canis Major.

Mirzam:

See Herald, above.

Mirzam of the Arm:

This Arabic star is Beta (β) Canis Minoris (Gomeisa) in the IAU constellation Canis Minor.

Misam:

See Wrist, below.

Misha:

This Chinese phonetic translation of "Mesa" from the Vedic *Candragarbha-parivarta* in 566 is the IAU constellation Aries (Kotyk 2017).

Missile:

This Latin asterism is the IAU constellation Sagitta.

Missile of Andromeda:

This **telescopic** asterism "Míssile Andrómedae" is the barred spiral galaxy NGC 7640 in the IAU constellation Andromeda. This was discovered in 1786 by William Herschel who listed it as "II 600". It became GC 4950 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Mist:

This Polynesian (Cook Islands) asterism "Mahu" is the Magellanic clouds as listed in R. H. Allen's *Star Names* in 1899. Allen writes that English missionary William Ellis (1794 — 1872) reported these people has "distinguishing them as Upper and Lower" and gave the additional name "Nga Maū".

Mistake Morning Star:

This Blackfoot star is unidentified at present (Chamberlain 2019). It is also known as "Star Boy" (see below).

Mistaking a Person for Someone Else:

This Hawaiian star "Kakuhihewa" is Beta (β) Pegasi (Scheat) in the IAU constellation Pegasus. This is a name for Mō'I of O'ahu who created harmony and prosperity for his people.

Mister Q's Lost Sock:

This **telescopic** asterism is DSH J1725.0-3430, a line of stars in the IAU constellation Scorpius inside NGC 6357 (see Lobster Nebula, above). It is listed on Brazilian astronomer Bruno Alessi's BDCC 7.6 list. Size 40. It starts at HIP 85372, takes a bend at the next 7.1 magnitude star, then runs through a line of four stars including HIP 85250 and HIP 85237, where it bends again and ends at HIP 85158

Mistress of Hydra:

This **telescopic** asterism "Cýria Hýdrae" is the elliptical galaxy NGC 3091 in the IAU constellation Hydra. It was discovered in 1785 by William Herschel who listed it as "II 293". It became GC 1992 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it "is the dominant member of a group of galaxies".

Mistress of Pavo:

This **telescopic** asterism "Dómina Pavónis" is the elliptical galaxy IC 4765 in the IAU constellation Pavo. It was discovered by DeLisle Stewart in 1901. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "from her central position this giant elliptical galaxy majestically dominates the surrounding swarm of galaxies (cluster AS805)."

Mistress of the Horizon:

See Hippopotamus, above.

Mistress Ursula:

This English asterism is the IAU constellation Ursa Major as listed by Ben Johnson in his *Epicoene* in 1609. This is a reference to Kallisto and her son Arcas.

Misty Belt:

This English asterism "Nebulosa Cinguli" is the Andromeda Galaxy, Messier 31, in the IAU constellation Andromeda as listed by English Astronomer John Flamsteed (1646 – 1719). He also called it "Nebulosa Supra Cingulum" ("misty belts above").

Misty Belts Above:

See Misty Belt, above.

Misty Clover Nebula:

This **telescopic** asterism is the nebula IC 1396 (SH 2-131, LBN 451, Cr 439, Ced 195, Tr 37) in the IAU constellation Cepheus. Inside this is the Elephant's Trunk Nebula (see above). IC 1396 was first recorded by American astronomer Edward Emerson Barnard (1857 – 1923). This is also known as the Misty Clover Cluster.

Misty Rolling:

This Latin asterism "Revolutio Nebulosa" is the Double Cluster (see above) as listed in the 15th century *Alfonsine Tables*.

Mithras:

This asterism is the IAU constellation Perseus. Robert Burnham lists this as a Persian name for Perseus in his *Burnham's Celestial Handbook* in 1978. Mithra is a Zoroastrian deity which became the Roman God Mithras.

Mithuna:

This Vedic rashi "Mithuna" or "Mithun" from the Vedic *Candragarbha-parivarta* (Kotyk 2017, Bhagwath 2019, Rath 2022) is the IAU constellation Gemini. The Chinese phonetically translated "Mithuna" from the Vedic *Candragarbha-parivarta* in 566 as "Mutouna" (Kotyk 2017). W. Brennan lists it in his *Hindu Astronomy* in 1896 as "Mit'huna", and "Mithuna". Bhagwath writes that it represents the energy of the God Mitra.

Mitre:

This German asterism "Mitre", "Mitre of Saint Peter", or "Saint Peter's Tiara" is the IAU constellation Triangulum and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures. It later appears in Edward Sherburne's *Sphere of Marcus Manilius* in 1675 and in John Hill's *Urania* in 1754.

Mixture:

This asterism “Al Atha” is the IAU constellation Coma Berenices as listed by 10th century Arab astrologer Abū l-Ḥasan 'Alī ibn Abī l-Rijāl al-Shaybani (also known as Haly). Dutch orientalist and mathematician Jacob Golius (1596 – 1667) listed it as “Al Utha”.

Mixture of Serpens:

This **telescopic** asterism “Sýmmiges Serpéntis” is the peculiar spiral galaxy IC 4553 and IC 1127 (Arp 220) in the IAU constellation Serpens. IC 1127 was discovered by American astronomer Lewis Swift. IC 4553 was discovered by American astronomer Truman Safford in 1866. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it “is a complex of two recently merged galaxies”.

Mizar:

See Apron, above.

Moana-‘ohu-noa’ei-ha’a-moe-hara:

This Polynesian (Society Islands) asterism is the IAU constellation Crater.

Mochos:

This Latin asterism “Mochos” is the IAU constellation Libra as named by 2nd century author Lucius Ampelius. Mochos is the name of the person Ampelius identifies as the inventor of scales.

Modest of Sextans:

This **telescopic** asterism “Modéstus Sextántis” is the spiral galaxy NGC 3423 in the IAU constellation Sextans. It was discovered in 1784 by William Herschel who listed it as “IV 6” and as “II 31”. It became GC 2234 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Moiety:

The Xerente practice moiety exogamy and see the belt of Orion and Kappa (κ) Orionis (Saiph) as one moiety, and the Pleiades cluster in the IAU constellation Taurus as the other.

Moinee:

This Palawa star “Moinee” or “Mohinee” (Hamacher 2011, Gantevoort 2016) is the Alpha (α) Carinae (Canopus) in the IAU constellation Carina and represents one of the brothers in their asterism Star Brothers (see below). The Palawa called it the “star that never moved”. This was because at the time that this story line originated (~12,000 years ago) Canopus was within 10˚ of the south celestial pole.

Moist One:

This Vedic nakshatra (lunar mansion) “Ardra” or “Ārdrā” (“green”, “succulent”, or “moist one”) is Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion. Ivanković (2021) lists it as “Ārdrā” and associates it with the Vedic storm God Rudra or Rutra. R. H. Allen lists it as “Ardra” in his *Star Names* in 1899. In 2019 Leitz listed it as appearing in the *Atharveda* and on the nakshatra list of the scholar Varahamihir. Other sources have listed it as Gamma (γ) Geminorum (Alhena). It is related to their deity Rudra or Shiva. A variation found in the *Taittirīya Brāhmana* is “Bāhu” (Ivanković 2021, see Arm above). W.

Brennand lists this as “Ardra” in his *Hindu Astronomy* in 1896 and translates this as “a gem”. Bhagwath (2019) lists it as “Aridra” and lists its symbols as a teardrop, diamond, or a human head.

This Myanmar nekkhat (lunar mansion) “Adra” (အဒြာ) is Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion.

This Tibetan gyukar (lunar house) “Lag” or “Lak” is Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion (Johnson-Groh 2013).

Moldoveanu:

This **telescopic** Romanian star is XO-1 in the IAU constellation Corona Borealis. It given this name in the IAU NameExoWorlds campaign. It is named for the highest peak in the Făgăras mountain range. It has an exoplanet named Negoiu, which is the name of the second highest peak in that range.

Molestina:

This Northern Andean asterism is a triangle of stars in the IAU constellations Aquila, Lyra, and Scorpius (Quinatoa 2018): Alpha (α) Aquilae (Altair), Alpha (α) Scorpii (Antares) and Alpha (α) Lyrae (Vega).

Moment of the Universe:

This Vedic asterism “Brahma Muhurta” is the IAU constellation Cygnus (Bhagwath 2019). The God Brahma is seen riding a swan.

Momonapikowalu:

This Hawaiian star is Gamma (γ) Cygni (Sadr) in the IAU constellation Cygnus.

Mon Gru:

This Tibetan gyukar (lunar house) “Mon Gru” or “Möndru” (Johnson-Groh 2013) is the star Gamma (γ) Aquarii (Sadachbia). It is part of the Vedic asterism Hundred Cures (see above) and is identical to the Vedic asterism Satabhishak (see below).

Mönch:

This **telescopic** Swiss star is HIP 72339 (HD 130322) in the IAU constellation Virgo (magnitude 8.04). It was given this name in the IAU NameExoWorlds campaign. It is named for a prominent Swiss peak in the Bernese Alps. It has an exoplanet named Eiger, which is another prominent peak in the Bernese Alps.

Moniee:

This Nuenone star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Gantevoort 2017). Compare this to the Palawa star Moinee (see above).

Mongoose:

This Babylonian asterism “dNIN.KILIM” or “shikkû” is listed in Anthony Hope’s *A Guide to Ancient Near Eastern Astronomy* in 1996 but the stars have not been identified.

Monkey:

This Northern Andean asterism “Mercedes Cotacachi” is made up of the stars of the IAU constellations Aquila, Scutum, and Ophiuchus (Quinatoa 2018):

- The “body” is between 64 Ophiuchus and Beta (β) Scuti,
- The “head” is an arc of stars: Eta (η) Scuti and 12, 14, 15, and Gamma (γ) Aquilae, and
- The rounded “tail” is formed by the faint stars 6 Sagittarii and HIP 88981 and 87074.

Monkey Face Nebula:

This **telescopic** asterism is planetary nebula NGC 1514 in the IAU constellation Taurus. It was discovered by English astronomer William Herschel in 1790 who listed it in his catalogue as “IV 69”. It is GC 810 in the *General Catalogue* of 1864. It is also known as the Pansy Nebula and Crystal Ball Nebula. RASC member Frankie Sowa posted on Facebook 2023 December 23 that it “looks like a monkey’s face”. Size 2.2’ X 2.2’.

Monkey Head Nebula:

This **telescopic** asterism is the open cluster NGC 2175, embedded in a diffusion nebula in the IAU constellation Orion, discovered by Italian astronomer Giovanni Batista Hodierna before 1654. It is GC 1366 in the *General Catalogue* of 1864. Size 40’ X 30’. NOTE: Simbad uses NGC 2174 for the nebula and NGC 2175 for the cluster, and this overlaps IC 2159 (recorded by French astronomer Guillaume Bigourdan (1851 – 1932)) and is also classified as SH 2-252. This is O’Meara 34 in astronomer Stephen James O’Meara’s *Hidden Treasures Catalogue* (2007) and he lists the name “Monkey Head Nebula”.

Monkeys:

This Tupi Guarani asterism is near their asterism Palm Tree (see below) but the stars are unidentified at this time (Lima and De M. Figueirôa, 2007).

Monoceros:

None of the stars of Monoceros are brighter than 4th magnitude, but these stars do appear in 97 of the asterisms listed in this handbook.

This IAU constellation (IAU abbreviation Mon), the unicorn, was created by Dutch astronomer Petrus Plancius in 1612, though R. H. Allen in his *Star Names* in 1899 attributes its creation to German astronomer Jacob Bartsch (1600 – 1633), who listed it as “Unicornu” in the *Planisphaerium Stellatum* (1613), which depicts it as a unicorn riding to our right. Allen mentions that Heinrich William Matthias Olbers (1758 — 1840) “and others” found passages alluding to it in “the work of 1564” as “the other Horse south of the Twins and the Crab” and claims that French scholar Joseph Justus Scaliger (1540 – 1609) found it on a “Persian sphere”. Plancius’ celestial globe (1613) published in Amsterdam by Pieter van der Keere depicts “Monoceros”.

“Monocerros” is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a unicorn striding to our right.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts “Monoceros Unicornu” as a unicorn facing to our left.

This constellation is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as “Monoceros Unicornis”.

Edward Sherburne lists this as “Monoceros or Unicornus” in his *Sphere of Marcus Manilius* in 1675.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts “Monoceros” as a unicorn running to our left.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli depicts Monoceros as a unicorn galloping to our left.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels the “La Licorne”, “Unicornu”, and “monókeros” and depicts it as a unicorn trotting to our left.

Dutch uranographer Carel Allard’s *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) depicts “Unicornis Monoceros” as a unicorn.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley’s pirated catalogue of Flamsteed’s observations of 1712, depicts Monoceros as a unicorn.

Dutch uranographer Carel Allard’s *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) labels this constellation “Unicornus al Monoceros” and depicts it as a unicorn.

Monoceros is listed in English astronomer John Flamsteed’s *Atlas Coelestis* in 1729: It is depicted as a unicorn.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts “Monoceros” as a unicorn running to our right.

German engraver and cartographer Tobias Conrad Lotter’s *Planisphaerium Coeleste* (1750) depicts Monoceros as a unicorn.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Monoceros as a unicorn galloping to our right.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts “la Licorne” as a unicorn walking to our right.

German astronomer Johann Elert Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as “Einhorn” and depicts it as the front half of a unicorn. Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists this constellation as “Das Einhorn“ in the text and “Einhorn“ on the charts, depicting it as a unicorn trotting to our right.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as “Leoncorno” in his *Della Specola Astronomica De’ Regj Studj Di Palermo* (1792).

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts “Monoceros” as a unicorn trotting to our left.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Monoceros in his *Celestial Atlas* and his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822): It is depicted as a galloping unicorn.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts “Monoceros” as a unicorn running to our right.

Monoceros is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on Jamieson's *Celestial Atlas*.

"Monoceros" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as a unicorn running to our right.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts "Monoceros" as a unicorn trotting to our left.

"Monoceros" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It is depicted as a unicorn walking to our right.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) describes this constellation as "Monoceros or Unicorn".

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Monoceros, The Unicorn" as an official constellation "recognized in the catalogue of the British Association".

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as "Monoceros, the Unicorn".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Monoceros" in his *Star Atlas* (1893) and describes it as "The Unicorn".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Monoceros" and describes it as a "Unicorn", incorrectly attributing it to Hevelius.

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Monoceros… the Unicorn".

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) redesigned the lines of Monoceros in his book *The Stars - A New Way to See Them* (1952). The standard IAU chart depicts this with Delta () Monocerotis as the central star with three star lines running out:

- One through Zeta (ζ) Monocerotis to Alpha (α) Monocerotis,
- One through Beta (β) Monocerotis to Gamma (γ) Monocerotis, and
- One through Epsilon (ε) Monocerotis to the double star HIP 29151A.

Rey depicts Monoceros differently:

- His "head" is the triangle of stars Epsilon (ε) Monocerotis, 18 Monocerotis, and 13 Monocerotis, with a single line running out from this last star to 15 Monocerotis forming its "horn",
- The "body" is the line of stars 18, Delta (δ), and Zeta (ζ) Monocerotis, with a single line running from this last star to 30 Monocerotis forming a "tail",
- A "front leg" runs from Delta (δ) Monocerotis through Beta (β) Monocerotis to Gamma (γ) Monocerotis, and
- A "back leg" runs from Zeta (ζ) Monocerotis to Alpha (α) Monocerotis.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Monoceros in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* as three lines of stars radiating out of the star Delta (δ) Monocerotis:

- One runs through Alpha (α) Monocerotis to Zeta (ζ) Monocerotis,
- One runs through 18 Monocerotis to Epsilon (ε) Monocerotis A, and
- One runs through Beta (β) Monocerotis to Gamma (γ) Monocerotis.

Sky and Telescope Magazine, founded in 1941, depicts Monoceros in their magazine and publications like this:

- Its "head" is the triangle of stars 18, Epsilon (ε), and 13 Monocerotis, with a line from this last star to 15 Monocerotis forming a "horn",
- Its "neck" is the line between 18 and Delta (δ) Monocerotis with the line continuing to Zeta (ζ) Monocerotis forming the "body",
- The "front leg" is a line from Delta (δ) Monocerotis through Beta (β) Monocerotis to Gamma (γ) Monocerotis, and
- The "back leg" is a line between Zeta (ζ) Monocerotis and Alpha (α) Monocerotis.

Monoceros is known in France as "la Licorne" and in Italy as "il Unicorno" or "Licorno".

Monster Water:

This Kaurna asterism "Yurakauwe" ("yura water" or "monster water") is the dark spaces in the Milky Way (Wodliparri), which they see as dark ponds which are the dwelling place of the dangerous monster Yura, who punishes those who break sacred law (Clarke 2009, Hamacher 2015).

Monster with Three Heads:

The stars of this Lakota asterism "Pa Yamini Pa" are currently unidentified.

Month of Chanting Guiding Stars:

The Celtic PRIN or guiding stars in the Sequani Calendar in the twelfth month, Cantlos, is the IAU constellation Eridanus. (Benigni)

Month of Fumigations Guiding Star:

The Celtic PRIN or guiding star in the Sequani Calendar in the second month, Dumannios, is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Benigni). Compare to their asterism Darkening, above.

Month of Invocations Guiding Star:

The Celtic PRIN or guiding star in the Sequani Calendar in the sixth month, Cutios, is Alpha (α) Cygni (Deneb) in the IAU constellation Cygnus (Benigni).

Month of Ritual Ablutions Guiding Star:

The Celtic PRIN or guiding star in the Sequani Calendar in the fourth month, Antagios, is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes (Benigni).

Month of the Stag Guiding Star:

The Celtic PRIN or guiding star in the Sequani Calendar in the tenth month, Elembivios, is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga. When Capella is rising, Vega is at the zenith, and Coma Berenices is setting (Benigni). Compare this to their asterism Elembiui Prinnios (see Arbitration, above).

Montuno:

This **telescopic** Panamanian star is WASP 79 in the IAU constellation Eridanus (magnitude 10.1). It was given this name in the IAU NameExoWorlds campaign. A Montuno is a man's traditional Panamanian dancing costume. It has an exoplanet named Pollera, which is the name of the woman's dancing costume.

Monuafe:

This Tongan star is Lambda (λ) Orionis (Meissa) in the IAU constellation Orion.

Moon:

This Korean star (yes star, NOT our Moon orbiting the Earth) is 37 Tauri in the IAU constellation Taurus.

Moon Dog:

This Inuit (Alaska) asterism is the IAU constellation Canis Major.

Moon's Dog:

This Iñupiat star "I-gha-lum Ki-mukh-ti" ("moon's dog") is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major.

Mooring Post:

This ancient Egyptian asterism "Menit" is found in the Ramesside star charts on the ceiling of three tombs in the Valley of the Kings (New Kingdom, 20th Dynasty) and is a triangle of stars from the IAU constellations Ursa Major and Boötes: Eta (η) Ursae Majoris (the end of the handle of the Big Dipper), and Alpha (α) Boötis (Arcturus) and Eta (η) Boötis. The earliest known example is on a sky map on the ceiling of the tomb of 18th Dynasty Egyptian official Senenmut, adviser of Hatschepsut, in Thebes. It also shows up in the *Dendera Zodiac* (Krupp 1983).

Moose:

This Ojibwe asterism "Mooz" is made up of the stars of the IAU constellations Lacerta and Pegasus (Lee et al 2014):

- The "body" is the Great Square of Pegasus (see Great Square, above),
- The "back leg" runs from Alpha (α) Pegasi (Markab) to Zeta (ζ) Pegasi,
- The "front leg" runs from Beta (β) Pegasi (Scheat) to an "knee" at Lambda (λ) Pegasi and a "foot" at Kappa (κ) Pegasi, and
- The "neck" is from Beta (β) Pegasi (Scheat) to Eta (η) Pegasi, where it takes a turn to a wavy line of stars that form the "antlers": 6, 2, 5, 4 and Alpha (α) and Beta (β) Lacertae.

There are two Belarussian "Sahachy" ("moose") asterisms:

- One is the star Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor, which is part of their asterism "Small Cart" (see below).
- One is the IAU constellation Ursa Major (Avilin 2009).

Moose and Dogs:

The stars of this Tsilhqot'in asterism are unidentified at present (Cannon 2021).

Mopane Worm:

This Tswana asterism "Gakala" is the IAU constellation Delphinus (Slotegraaf 2013).

Moranang:

This Basotho (Northern Sotho) star is Alpha (α) Eridani (Achernar) in the IAU constellation Eridanus. Another Sotho name for it is "Senakane" see Little Horn Star, above).

Morava:

This **telescopic** Serbian star is WASP 60 in the IAU constellation Pegasus (magnitude 12.18). It was given this name in the IAU NameExoWorlds campaign. It is named after the longest river system in Serbia. It has an exoplanet named Vlasina, which is the name of one of the most important tributaries.

Mordborrongo:

This Wardaman star is Alpha (α) Ursae Majoris (Dubhe) in the IAU constellation Ursa Major (Cairns and Harney 2003).

More Impetuous of Sextans:

This **telescopic** asterism "Veheméntior Sextántis" is the interacting galaxy NGC 3169 in the IAU constellation Sextans, which is interacting with NGC 3166. This was discovered by English astronomer William Herschel in 1787 who listed it as "I 163" in his catalogue. It is GC 2008 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). These two galaxies are also known as the "Galactic Couple" (see above).

More Southern Dog:

This asterism "Canis Australior" is the IAU constellation Canis Major. This name is listed in Johann Bayer's *Uranometria* (1603). R. H. Allen lists the name "Canis Australior" in his *Star Names* in 1899.

Moriah:

This **telescopic** Palestinian star is HIP 55664 (HD 99109) in the IAU constellation Leo (magnitude 9.06). It was given this name in the IAU NameExoWorlds campaign. This is an ancient name for the Temple Mount in Jerusalem. It has an exoplanet named Jebus, which was a name for Jerusalem in the 2nd millennium B.C.E. when populated by the Canaanite tribe of Jebusites.

Mormyrus Fish:

This proposed Egyptian asterism "wꜣbwy" from the Old Kingdom (3100 B.C.E.) is related to their 19th nome (district) and the IAU constellation Pisces, particularly the circle of stars Theta (θ), Gamma (γ), Kappa (κ), Lambda (λ) and Iota (ι) Piscium (Berio 2014). This is the Nile Perch (Lates niloticus).

Morning Crews:

This Atacameño asterism “Cuadrillas de la Mañana” is the Pleiades cluster in the IAU constellation Taurus (Moyano 2011). This specifically refers to their heliacal rising in June.

Morning Star:

This Upper Tanana star “ikaay k’adeht’ąą’a” is Alpha (α) Aquilae (Altair) in the IAU constellation Aquila (Cannon 2021).

This T’atsaol’ine and Wiidiideh star is either is Alpha (α) Aquilae (Altair) in the IAU constellation Aquila or Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes (Cannon 2021).

This Upper Kuskokwim star “Mihoyolkole” is unidentified at present (Cannon 2021).

This Blackfoot star is unidentified at present (Chamberlain 2019).

Morning Stars:

This Koyukon asterism “kk’odehun’ huk’etlun’” is Alpha (α) Aquilae (Altair) and Gamma (γ) Aquilae in the IAU constellation Aquila (Cannon 2021).

Morning Star’s Younger Brother:

This Dakota star “Anpo Wicanhpi Sunkaku” is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes.

This Lakota star “Wichapi Sunkaku” is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes.

Moroitch:

This Mara and Moporr star is Alpha (α) Orionis (Betelguese) in the IAU constellation Orion (Dawson 1881, Hamacher 2011).

Mortar:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a triangle of stars in the IAU constellation Pegasus: Iota (ι) Pegasi (the determinative star), 23 Pegasi and 32 Pegasi.

This Chinese xing guan “Jiù” (臼) is a quadrilateral of stars in the IAU constellations Cygnus and Pegasus: 32 Pegasi, 24 Pegasi, Kappa (κ) Pegasi, and Mu (μ) 1 and 2 Cygni. The xing guan “Pestle in Rooftop Mansion” (see below) is alongside.

This Chinese Chenzhuo xing guan “Jiù” is a bent line of four stars in the IAU constellation Pegasus: 32 Pegasi, HIP 109602, Iota (ι) Pegasi, and 23 Pegasi.

This Korean asterism “Baggyeogpo” (박격포) is identical to the Chinese xing guan Mortar. Nearby is the Korean asterism “Inner Pestle” (see above).

Mortar Trowel:

This **telescopic** asterism is in the IAU constellation Virgo and was listed by American astronomer John A. Chiravalle. Jeffrey Corder lists it as Corder 2492. Size 60’. This includes the stars 65 and 66 Virginis and HIP 65265, 65392, 65414A, and 65540.

Moses:

In his *Star Names* in 1899 R. H. Allen reports that "New Testament Christians of the 16th and 17th centuries" identified the IAU constellation Aquarius as "Moses".

This German asterism is the IAU constellation Ophiuchus as described by German poet Philipp von Zesen (1619 – 1689).

Moses' Staff:

This Finnish asterism "Mooseksen sauva" is the Belt of Orion asterism in the IAU constellation Orion.

Mosque of Al-Thurayya:

This Bedouin asterism "Masğid al-Thrayyā" (مسجد الثريا) is a triangle of stars in the IAU constellations Aries and Triangulum: Alpha (α) Arietis (Hamal), Alpha (α) Trianguli, and Beta (β) Trianguli. They rise just before their asterism Al-Thurayya (see above) which is the Pleiades cluster.

Mosquito Larvae:

This **telescopic** asterism is NGC 4038 and NGC 4039 (Caldwell 60/61), a pair of colliding galaxies in the IAU constellation Corvus. These galaxies were discovered by English astronomer William Herschel in 1785 who listed them as "IV 28.1" and "IV 28.2". They are GC 2670 and GC 2671 in the *General Catalogue* of 1864. They got this name because of the two long "tails" of stars, gas, and dust ejected from the collision, resembling an insect's antennae. This is also known as the Ring Tail Galaxy (see below), the Snorter (see below), and the Antennae or Antennae Galaxies (see above).

Mosquito Net:

This French asterism "Cousinière" is the Pleiades cluster in the IAU constellation Taurus as listed by R. H. Allen in his *Star Names* in 1899. Allen describes this as used by "French peasantry".

This Languedoc asterism "Cousigneiros" is the Pleiades cluster in the IAU constellation Taurus as listed by R. H. Allen in his *Star Names* in 1899.

Most Corner Star:

This Korean star "Mukokseong" is Eta (η) Ursae Majoris in the IAU constellation Ursa Major.

Most Beautiful One of Canes Venatici:

This **telescopic** asterism "Callista Cánum Venaticórum" is the barred spiral galaxy NGC 5350 in the IAU constellation Canes Venatici. It was discovered in 1788 by William Herschel who listed it as "II 713". It became GC 3688 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "without any doubt spiral galaxy NGC 5350 is the most beautiful member of the Hickson 68 Group".

Most Famous:

This Vedic nakshatra (lunar mansion) "Dhanishtha" (Devanagari: धनिष्ठा, Tamil: அவிட்டம், Malayalam: അവിട്ടം, Telugu: ధనిష్ఠ and Kannada: ಧನಿಷ್ಠಾ), translated as "most famous" or "richest one", also known as "Shravishthā" or "Shravista" (see Swiftest, below) is in the IAU constellation Delphinus and is the stars Alpha (α) Delphini (Sualocin) and Delta (δ) Delphini. In 2019 Leitz lists "Dhanistha" as appearing

in the *Atharveda* and “Dhanishta” as appearing on the nakshatra list of the maharshi Varahamihir but identifies this as “the star Delphini”: Of course, Delphini is a suffix which could be applied to any star in the constellation Delphinus. Leitz lists an alternate name from Varahamihir’s list as “Sheravishtha”. Leitz writes that the maharshi Parasara listed this as Alpha (α) Delphini (Sualocin), Beta (β) Delphini (Rotanev), Delta (δ) Delphinus, Gamma (γ) Delphinus, and Epsilon (ε) Delphinus, while in the *Taittiriya Brahmana* only four stars are listed, but oddly at one point lists the star Regulus as part of this asterism. W. Brennand lists this as “Dhanishta” in his *Hindu Astronomy* in 1896 and translates this as “a tabor”. Bhagwath (2019) lists its symbols as either a drum or a flute.

This Myanmar nekkhat (lunar mansion) “Danatheikda” (ဓနသိဒ္ဓ) is in the IAU constellation Delphinus and is the stars Alpha (α) Delphini (Sualocin) and Delta (δ) Delphini.

Moth:

This Chaldean asterism is the Pleiades cluster in the IAU constellation Taurus as listed in John Hill’s *Urania* in 1754. He gives it the name “Phaleana”, which is Latin for “phalanx”.

Moth Wing Cluster:

This **telescopic** asterism is the open cluster NGC 6281 in the IAU constellation Scorpius. It was discovered by Scottish astronomer James Dunlop in 1826. John Herschel listed it as h 3664 and later as GC 4265 in the *General Catalogue* of 1864. This is listed in Stephen James O’Meara’s *Hidden Treasures Catalogue* (2007).

Mothallah:

See Head of the Triangle, above.

Mother:

This **telescopic** Ininew star “Nikawiy” is HIP 74961 (HD 136418) in the IAU constellation Boötes (magnitude 7.88). It was given this name in the IAU NameExoWorlds campaign. It has an exoplanet named Awasis, which is their word for “child”.

Mother and Daughter Giraffe:

This G/wi and //Gana asterism is made up of the stars of the IAU constellation Crux. Alpha (α) Crucis (Acrux) and Beta (β) Crucis are the mother, and Delta (δ) Crucis and Gamma (γ) Crucis are the daughter.

Mother Bear:

This Estonian asterism “Emakaru” is the IAU constellation Ursa Major and appears in the *Sky of Ests (Chudes)* by Aleksander Heintalu (Sass of Vigala) (Kuperjanov 2006).

Mother Camel:

This Tuareg asterism “Tâlemt” is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above(Holbrook 2020). It is part of a larger asterism Black Woman (see above).

Mother Camels:

This Arabic asterism “al-ʿawāʾid” (العوائد) is made up of stars in the IAU constellation Draco. Compare this to the Bedouin asterism Mother Camels (see below). This Arabic asterism has several parts:

- Two “hyenas” are Eta (η) and Zeta (ζ) Draconis (see Two Hyenas, below),
- Two “wolves” are 27 and Omega (ω) Draconis (see Wolf’s Nails, below),
- They are attacking a “baby camel” represented by a dim star next to Beta (β) Draconis (Rastaban),
- This “baby” is being protected by four female camels, represented by Rastaban, Gamma (γ) Draconis, Nu (ν) Draconis, and Xi (ξ) Draconis, and
- The “camel herders” who own these camels are next to a “cooking tripod” of the stars Upsilon (υ), Tau (τ), and Sigma (σ) Draconis.

This appears in several places:

- The Bedouin call it “al'iibil al'umu” (الإبل الأم) or “al-ʻAwā’idh” (“protecting mother camels” , الربع العوائذ).
- The *Horoscopion generale* (1533) of Petrus Apianus (1495 – 1552) depicts four camels in this location.
- English Admiral Henry William Smyth’s Prolegomena of 1844 lists “Alwaid” and his *Bedford Catalogue* in 1844 lists “al ‘awáyid, the sucking camels” as well as “Alwaid” for just the star Beta (β) Draconis.
- English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists the star Beta (β) Draconis as “Alwaid”.
- The 1st edition of British schoolmaster Arthur P. Norton’s *A Star Atlas and Telescopic Handbook* (1910) and the 14th edition (1959) list “Alwaid” for Beta (β) Draconis.
- NOTE: Petrus Apianus created an asterism Five Dromedaries (see above) in 1533 which may have been influenced by this Bedouin asterism.

Mother Elk and Calf:

This Ukrainian asterism “losyatyna ta telyatko” (лосятина та телятко) is the IAU constellations Ursa Major and Ursa Minor.

Mother Hen:

This Macedonian asterism “Kvachka” or “QuatʃKa” is the Pleiades cluster (see below) in the IAU constellation Taurus (Cenev 2004). It is right next to the asterism “Petal” (see Rooster below) and the asterism “Jastreb” (see Hawk above).

This Serbian and western and southwestern Bulgarian asterism “Vlach”, “Vlasi”, “Vlashichi”, or “Aromani” is the Pleiades cluster in the IAU constellation Taurus (Cenev 2014).

This Ibibio star is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus and is part of their asterism Mother Hen and Her Chicks (see below).

Mother Hen and Her Chicks:

This Ibibio and Annang asterism “unen eka ndito” has the star Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus as the hen and the Pleiades cluster as the chicks (Slotegraaf 2013), although Holbrook (2020) lists just the Pleiades cluster without Aldebaran.

This Hausa asterism “kaza da yaya” (Holbrook 2020) is the Pleiades Cluster in the IAU constellation Taurus. It is also called “kaza Maiyaya” (“hen with chickens”) by the Hausa (Urama 2007).

Mother of All Stars:

This Inca asterism is the Pleiades cluster in the IAU constellation Taurus. They also called it “Colla” (see Storehouse, below) “Oncoy” (see Disease, above), “Larilla”, “Fur”, and “Pugllaiguaico”. They considered the Pleiades to be the mother of all stars and used this cluster as a signal regarding their maize harvest.

Mother of Andromeda:

This asterism “Mater Andromedae” is the IAU constellation Cassiopeia as listed in the *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638).

Mother of Corn:

This Inca asterism “Mama Huaco” is the Pleiades cluster in the IAU constellation Taurus. It was identified with Mama Huaco, sister of Manco Capac, the mythical Inca conqueror of Cuzco.

Mother of Dog-Child with Basket of Burning Coals:

This Dakelh star is an unidentified morning star at present (Cannon 2021).

Mother of Dog Children:

This Dena’ina star is an unidentified morning star at present (Cannon 2021).

Mother of Gods:

This Vedic star “Mātā Devānām” is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus in the Rig-Veda (Ivanković 2021). Aditi, whose name means “boundless”, “limitless”, or “innocence”, is a Goddess of motherhood, unconsciousness, the past, the future, and fertility. She is the mother of Indra, Varuna, Parjanya, Mitra, Ansh, Pushan, Dhatri, Aryaman, Surya, Bhaga, Vishnu, Savitr, and Lord Varama.

Mother of the Moon:

This /Xam star is Gamma (γ) Crucis in the IAU constellation Crux (Alcock 2014).

Mother of the Stars:

This Micronesian (Marshall Islands) star “Ligedaner” is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga and is part of their asterism Creation of the Sky (see above).

Mother of Tinniinyaranna:

This Kaurna star “Madletaltami” is Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion (Hamacher 2015) and is related to their asterism “Tinniinyaranna” or “Kukukurkurra” (see Young Hunters, below).

Mother of Ursa Major:

This **telescopic** asterism “Gaéa Úrsae Majóris” is the interacting galaxy NGC 5216 in the IAU constellation Ursa Major. The two galaxies NGC 5216 and 5218 were discovered in 1790 by English astronomer William Herschel who listed them as “II 841” and “II 842”. They became GC 3590 and GC 3592 in the *General Catalogue* of 1864. This system is named Keenan’s System after the American astronomer Philip C. Keenan who studied them in 1935 and published a paper on the bridge of galactic material connecting the two galaxies. This name appears in *The Catalogue of One Thousand Named*

Galaxies by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "of the tidal extension at the south side, this system looks like a mother in labour". In Greek mythology Gaia, later latinized as Gaea, was the mother of the Titans.

Mother of Virgo:

This **telescopic** asterism "Matércula Vírginis" is the lenticular galaxy NGC 4933B (Arp 176) in the IAU constellation Virgo. It was discovered in 1789 by William Herschel who listed it as II 191. It is 3377 in the General Catalogue. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "this lenticular galaxy is accompanied by two smaller ones, an elliptical… NGC 4933A and a late type… system NGC 4933C, like a mother and her two children".

Mother of Water:

This Tupi asterism "Suici" or "Ceucy" is the Pleiades cluster in the IAU constellation Taurus (De Freita Mourão 2009). They used this to indicate the arrival of the first rains and its setting indicated the end of the river flooding season.

This Estonian asterism "Vee Ema" is made up of the stars of the IAU constellation Capricornus. It is found on the *Taeiva Kaart* of Estonian cartographer Ado Grenzstein (1886) which was created for the Estonian language *Olevik* newspaper and printed using the wood engraving technique.

Mother of Wind:

This Estonian asterism "Tuule Ema" is made up of the stars of the IAU constellation Aquarius. It is found on the *Taeiva Kaart* of Estonian cartographer Ado Grenzstein (1886) which was created for the Estonian language *Olevik* newspaper and printed using the wood engraving technique.**Mother Rosary:**

This Quechua asterism "Mama Rosario" is unidentified bright stellar clouds in the southern Milky Way (Urton 1981).

Mother Star:

This Naron star is possibly Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius (Alcock 2014) and is part of their asterism Finish Fire (see above). The other star in this asterism is her son and is possibly a star in Scorpius.

Mother Star's Son:

This Naron star is an unidentified star in the IAU constellation Scorpius (Alcock 2014) and is part of their asterism Finish Fire (see above).

Motionless Star:

This Chukchi star "Hogoras" for Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Dechend 1975). Dechend describes Hogoras as "master of the game" or "motionless star".

Mothra:

There are two **telescopic** "Mothra" asterisms:

- One is the open cluster NGC 6940 in the IAU constellation Cygnus. It was discovered by the English astronomer William Herschel in 1784 who listed it as "VII 8". It is GC 4591 in the *General Catalogue* of 1864. Mothra is a fictional giant moth that appeared in a 1961 Japanese film *Mothra* who reappears in later Godzilla films.
- One is the binary star EMO J041608.838-240358.60 in the IAU constellation Eridanus. It is gravitationally lensed behind the galaxy cluster MACS J0416.1-2403. This is two supergiant stars.

Motuliki:

This Tongan asterism is the Pleiades cluster in the IAU constellation Taurus.

Mouhoun:

This **telescopic** Burkina Faso star is HIP 22491 (HD 30856) in the IAU constellation Eridanus (magnitude 7.91). It was given this name in the IAU NameExoWorlds campaign. It is named after the Black Volta, their largest river. It has an exoplanet named Nakanabé, after the second largest river in this country, the Volta Blanche.

Mound Top:

This Tongan asterism "Fungasia" is the Pointers (see Pointers below), the stars Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus.

Mount Maenalus:

This Polish asterism "Mons Maenalus" was created by Polish astronomer Johannes Hevelius in 1687 and published in his *Firmamentum Sobiescianum*). It lies between the IAU constellations Boötes and Virgo. It is a bent oval of stars: 14, 18, and 31 Boötis, 71 Virginis, and HIP 68498, and 70327A. In Hevelius' *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, it is labelled "M. Menalis" on one page and "Mons Maenalus" on another. It depicts Boötes is standing on its peak.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, labels this "Mons Maenalus" and depicts it as a mountain peak.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts this asterism as a mountain peak with Boötes standing on it, but one chart labels it "Mons Mænalus" and another "Mons Menalus".

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) labels this asterism "M. Maenalus" and depicts it as a mountain peak.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) listed this asterism as "Berg Maenalus". Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Berg Mänalus" and "Der Berg Maenalus".

Italian charts listed it as "Menalo".

Scottish uranographer Alexander Jamieson (1782 – 1850) lists "Mons Maenalus" in his *Celestial Atlas* and on his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822): These depict Boötes is depicted as standing on its peak.

English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 mentions "Mons Maenalus" and attributes it to Hevelius.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depict "Mons Maenalus" as a mountain peak on which Boötes is standing.

Mount Oeta:

This Latin asterism "Oetaeus" is the IAU constellation Hercules as listed in R. H. Allen's *Star Names* in 1899 and is a reference to the place Hercules died.

Mountain Bull:

This proposed Egyptian asterism from the Old Kingdom (3100 B.C.E.) is related to the names of their 10th, 11th, and 12th nomes (districts) and is related to the IAU constellations Corona Australis and Taurus (Berio 2014). Taurus rises as Corona Australis sets, and Corona Australis resembles the curved horns of a bull (Berio 2014)

Mountain Sheep:

This Paiute star "Nah-Gah" is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Neilson 2021) and represents the Mountain Sheep or Big Horn Sheep (Gillard 2021). Nah-Gah, son of the Mountain Sheep Shinoh, climbs a high mountain but becomes stuck and becomes the north star.

This Diné asterism "Tsetah Dibé" is the IAU constellation Cancer (Childrey 2008).

This Yokuts asterism is the belt of Orion in the IAU constellation Orion.

This Chemehuevi asterism is the belt of Orion in the IAU constellation Orion. The stars Alpha (α) Orionis (Betelgeuse) and Beta (β) Orionis (Rigel) are the hunters (see Hunters, above) and the sword of Orion their arrow.

Mounted Hunters and Dogs:

This Chuvash asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Berezkin 2005).

Mouse:

This Canadian asterism is the IAU constellation Leo (Vaughan 2023). This has Beta (β) Leonis (Denebola) as the mouse's "nose" and the Sickle of Leo (see below) as the tail Epsilon (ε), Mu (μ), Zeta (ζ), Gamma (γ) Leonis and Eta (η) Leonis to the star Alpha (α) Leonis (Regulus).

The stars of this Kogi asterism "Sinsi" are currently unidentified (Kelley & Milone 2011).

This **telescopic** asterism is Vastagh 4, listed in 2009 by Hungarian astronomer László Vastagh, which is in the IAU constellation Gemini. Its size is 27.5' X 15.5'. Vastagh describes it as "mouse cartoon character, seen from above, with large, splayed ears. The nose of the mouse is marked by the star TYC 1356-00393-1. The [asterism] consists of 10 brighter and a few fainter members." Vastagh gave an alternate description of this, see Dragon Lizard, above.

Mouse Deer's Dung:

This Semelai asterism "Bintang Keran Cong" is the Pleiades cluster in the IAU constellation Taurus (Jaafar and Khairuddin 2014).

Mouse-Rat:

This Wardaman asterism is the IAU constellation Sagittarius (Cairns 1999).

Mouse Star:

This Japanese star "Ne no Hoshi" is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Renshaw and Ihara 2000).

Moustache of Draco:

This **telescopic** asterism "Mýstax Dracónis" is the spiral galaxy NGC 5987 in the IAU constellation Draco. It was discovered in 1788 by William Herschel who listed it as "II 765". It became GC 4130 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the thick dust bands of this galaxy resemble a moustache (but rather the coat-hanger moustache of Salvador Dali…)"

Mouth:

This Chaldean asterism "mul ka" is listed in the *Great Star List* (Koch-Westenholz 1995) but the stars have not been identified.

Mouth of the Fish:

There are two Arabic stars with the name "mouth of the fish":

- One, "Fam Alsamaka" (فم السمكة), is the star Beta (α) Piscis Austrini in the IAU constellation Piscis Austrinus. Dorn (1829) describes this as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283).
- One, bearing the latinized name "Fumalsamakah" or "Fum al Samakah", is the star Beta (β) Piscium in the IAU constellation Pisces. The IAU approved the name Fumalsamakah for Beta (β) Piscium.

NOTE: John Hill lists the names "Samaca" and "Al Samaca" as names for the IAU constellation Pisces in his *Urania* in 1754.

Mouth of the Fish of the South:

This Latin star "Os Piscis Meridani" is Alpha (α) Piscis Austrinus (Fomalhaut) in the IAU constellation Piscis Austrinus.

Mouth of the Horn:

This English asterism is the stars Beta (β) Ursae Minoris (Kochab) and Gamma (γ) 1 and 2 Ursae Minoris in the IAU constellation Ursa Minor as listed by English alchemist and translator Richard Eden (c.1520 - 1576).

Mouth of the Horse:

There are two Arabic stars with the name "Fum al Faras":

- One is the star Epsilon (ε) Pegasi (Enif) in the IAU constellation Pegasus.

- “Fum al-Faras” was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- This was later latinized to “Fom” or “Fumalfaras”.
- This is listed as “Fam al-faras” on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992).
- The star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985) lists the Hebrew name “savar ha-sus”.
- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists “fam-al-faras”.
- English astronomer John Flamsteed (1646 – 1719) latinized this as “Os Pegasi” (“mouth of Pegasus”).
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Fom, or Fam al faras, the horse’s lip.”
- The 1st edition of British schoolmaster Arthur P. Norton’s *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list “Fom” for this star.

- One is Nu (ν) Pegasi.

Mouth of the Lion:

This Arabic asterism “Al Fum al Asad” is the open cluster Messier 44 (see Beehive, above) in the IAU constellation Cancer. It is located between the two stars forming the “nose” of their asterism “Lion” (see Lion above, and Tip of the Nose, below). NOTE: Robert Hues lists the “Arabic” name “Molef” in his *A Learned Treatise of Globes* in 1659.

Mouth of the Sea Monster:

This Arabic star “Fam al-qītus” is Gamma (γ) Ceti in the IAU constellation Cetus as listed on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992).

Mouth of the Southern Fish:

This Latin asterism “Os Piscis Meridiani” is the IAU constellation Piscis Austrinus as listed by R. H. Allen in his *Star Names* in 1899. Allen writes that this appears in a “manuscript almanac of 1340”.

Mouth of the Toad:

This Quechua asterism “Boca del Sapo” is the Hyades cluster in the IAU constellation Taurus (Urton 1981).

Mouth of the Whale:

There are two Arabic stars with the name “Fum al-Ḥūt” (فم الحوت):

- One, later latinized to “Fomalhaut”, is the star Alpha (α) Piscis Austrini in the IAU constellation Piscis Austrinus:
  - “Fam al-Hūt al-Janūbī” is listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
  - The star list of Abraham Bar Hiyya in 1104 (Goldstein 1985) lists this star as “pi ha-dag ha-deromi” and lists the Arabic name as “fūm al-hūt al-janūbi”.
  - The star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985) lists the Arabic name “fam al-hūt” and the Hebew name “pi ha-dag”.

- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists "fam al-hūt al-janūbī".
- A 14th century Christian Spanish astrolabe #4560 lists "al hūt" (King 2002).
- The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists "Fomahaut" for this star.
- German astronomer Johann Bayer (1572-1625) listed "Haut", "El Haut", and "Elhautine" for this star and another variation is "Fom Alhout Algenubi".
- This star is listed on gores of the globe of Petrus Plancius published in 1598 by Jodocus Hondius as "Fomahant" and "Cardan"
- Johann Bayer's *Uranometria* (1603) lists "Fumahant", "Fumahaut", and "Fumalhaut".
- This star is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as "Fomahand".
- Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius labels this star "Fomahent".
- This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "Fomalhaut".
- Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) lists Fomalhaut.
- English astronomer Edmond Halley lists "Fomalhaut" on his southern star chart of 1678.
- Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) lists it as "Fomalhant" as does French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760).
- The *Atlas Coelestis* of German astronomer Johann Gabriel Doppelmayr (1742) lists "Fomahand".
- The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) lists this star as "Fomalhaut".
- Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists "Fomalhaut" in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Fomahand".
- The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer lists this star as "Fomalhant".
- A celestial pocket globe created by English uranographer Dudley Adams circa 1795 lists this star as "Fomalhaut".
- "Fomalhaut" is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801).
- American uranographer William Croswell (1760 – 1834) lists "Fomalhaut" on his *Mercator Map of the Starry Heavens* in 1810.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists this star as "Fomalhaut" in his *Celestial Atlas* in 1822.
- English Admiral Henry William Smyth's *Prolegomena* of 1844 lists "Fomalhaut" for "α Piscis Australis" and his *Bedford Catalogue* in 1844 lists "Fom-al-hút, the fish's mouth" and "fom al hút al jenúbi".
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich list this star as "Fom Alhaut".

  - Robert Burnham lists “Fum al Hut” and “Fomalhaut” for this star in his *Burnham’s Celestial Handbook* in 1978 and translates it as “Mouth of the Fish”.
  - *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) incorrectly lists “Fomalhaut” as the alpha star in “the Southern Fish”, i.e. Piscis Austrinus.
  - English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists this star as “Fomalhaut”.
  - American astronomer Winslow Upton’s *Star Atlas* (1896) lists this star as “Fomalhaut” and describes it as the “Mouth of the fish”.
  - *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as “Fomalhaut”.
  - *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists “Fom-al-hut, the Fish’s mouth”.
  - The 1st edition of British schoolmaster Arthur P. Norton’s *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list “Fomalhaut” for this star.
  - *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists “Fomalhaut” for this star.
  - The IAU approved the name Fomalhaut for Alpha (α) Piscis Austrini A.
- One is the star Beta (β) Piscis Austrini in the IAU constellation Piscis Austrinus, as named by 16th century Arabic astronomer Al Tizini, later latinized to “Fum al Hui”:
  - German astronomer Johann Elert Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this star as “Fomahand”.

An unbelievable number of variations of this name have shown up over the years:

- 14th century Greek geographer and astronomer Georgius Chrysococcas called it “Fumahaud”.
- The 1521 edition of the *Alfonsine Tables* incorrectly locates Fomalhaut in the constellation Aquarius and calls it “Fomahant” (Kunitzsch 1986) as did Longomontanus (Danish uranographer Christian Longberg) in his *Astronomica Danica* in 1640.
- Johannes Kepler (1571 – 1630) also placed it in Aquarius in his *Tabulae Rudolphinae* and calls it “Fomahandt”.
- Johann Bayer (1572-1625) calls it “Fumahant” and “Fumahaut rectius Fumalhaut”.
- Robert Hues (1659) and John Chilmead (1899) call it “Phom Ahut” in *A Learned Treatise on Globes*.
- German poet Philipp von Zesen (1619 – 1689) calls it “Fomahand” and “Fontabant”.
- Giovanni Battista Riccioli (1598 – 1671) calls it “Fomauth”, “Phomaut”, “Phomault”, “Phomant”, “Phomaant”, “Phomhaut”, and “Phomelhaut”.
- Edward Sherburne lists it as “Fomalhaut” in his *Sphere of Marcus Manilius* in 1675.
- French astronomer Abbé Nicolas Louis de Lacaille (1713 – 1762) lists it as “Phomalhaut”.
- French astronomer Joseph Jérôme Lefrançois de Lalande (1732 – 1807) lists it as “Fumalhant”, “Fomahaut”, and “Phomahant”.
- German astronomer German astronomer Wilhelm Schickard (1592 – 1635) calls it “Fomalcuti”.
- George Costard calls it “Fomahout” in his *History of Astronomy* in 1767.
- Sir William Herschel (1738 – 1822) called it “Fomalhout” in a letter to his sister Caroline.

- American uranographer Elijah Burritt had the current name in his Atlas in 1833, but his planisphere labelled the star "Fomalhani".
- In his *Star Names* in 1899 R. H. Allen writes that English orientalist Thomas Hyde (1636 – 1703) called it "Pham Al Hut".
- NOTE: Fomalhaut A has an exoplanet named Dagon after the Levantine God of fertility.

Mouth of the Wolf:

This Norse asterism "Ulf's Keptr" is the Hyades cluster in the IAU constellation Taurus (Etheridge, 2012, Langer 2018, Bender 2020, Persson 2022). In Norse mythology two wolves are hunting the Sun and the Moon. This asterism is close to the ecliptic and can be interpreted as one of these wolves, probably Fenrir. There is an alternate story describing this as a wolf with its mouth held open by a sword, the foam from the wolf's mouth being the Milky Way, which would make it Garm, the wolf guarding the entrance to Hel (Persson 2022). In 1860 Gislason described another Mouth of the Wolf in the area of the IAU constellation Andromeda or Pisces, but we do not know the precise stars involved (Persson 2022).

This Icelandic asterism "Ulf's Keptr" from the manuscript GKS 1812 4th, De ordine ac positone stellarum in signis, is the Hyades cluster in the IAU constellation Taurus. Compare this to Old Icelandic "Little Wolf's Jaw" (see above).

Moving Steadily Star:

This Orang Asli asterism "Bintang Lerek" is the belt of Orion in the IAU constellation Orion (Jaafar and Khairuddin 2014).

Mowaimawuk:

This Netwar star "Mowaimawuk" is unidentified at present (Ramik 2019) but is said to be close to the Moon or rise close to it.

Mower:

This Belarussian asterism "Kosiarom", "Kasar", or "Kosar" is the IAU constellation Orion (Avilin 2009, 2018). This is also known as "Kreselca Pana Jezusa" (see Lord Jesus' Chair, above), "Grabli" (see Rake, above), "Kastsy" (see Mowers, below), "Try Karali" (see Three Kings, below), "Karomyselko" (see Small Yoke, below), "Tri Siostry" (see Three Sisters, below), "Prahi" or "Prapradki" (see Yarn Spinners, below), "Traiko" (see Three Times, below), "Asilki" (see above), "Matawila" (see Wheel, below), "Kosy" (see Scythes, below), "Kigachi ragachy" (see Shaft of a Plough, below), Kryzhe (see Cross, above), "Lisa" (see Fox, above), and "Trohkutnaia" (see With Three Corners, below).

Mowers:

This Italian (Piedmont and Ligurian Alps) asterism "Seitour" or "Li Seytu`r" is the belt of Orion in the IAU constellation Orion. It is related to their asterism Rakers (see below). Compare this to the Old High German asterism "Three Reapers" (see below).

There are two Belarussian asterisms called "каслкі" ("Katstsy" – "mowers"):

- One is Orion's belt in the IAU constellation Orion (Avilin 2009). The mower's "rake" ("Grabli") is the sword of Orion (see Rake, above).
- One is the IAU constellation Cassiopeia.

This German asterism “the Three Mowers” is the belt of Orion in the IAU constellation Orion as listed in R. H. Allen’s *Star Names* in 1899. Allen only identifies the source as “upper Germany”.

This Welsh asterism is the Belt of Orion asterism in the IAU constellation Orion. Marie Trevelyan’s *Folk-lore and Folk-stories of Wales* (1909) lists this as originating with farmers in the Vale of Glamorgan and speculates that it got this name as it is rising during the hay harvest.

Mowing Area:

This Italian (Piedmont and Ligurian Alps) asterism “Se´ita” or “Siteita” is the IAU constellation Orion and is related to their asterism Mowers (see above).

Mpingo:

This **telescopic** Tanzanian star is WASP 71 in the IAU constellation Cetus (magnitude 10.56). It was given this name in the IAU NameExoWorlds campaign. It is a tree (Dalbergia melanoxylon) used for making musical instruments and curios. It has an exoplanet named Tanzanite, which is the name of a precious stone mined in Tanzania.

Mrs. Black Snake:

This Tharumba star “Moodtha” is Delta (δ) Canis Majoris (Alwazn) in the IAU constellation Canis Major. It is part of their asterism “Wunbula” (see Bat and His Wives, above).

Mrs. Brown Snake:

This Tharumba star “Murrumbool” is Beta (β) Canis Majoris (Mirzam) in the IAU constellation Canis Major. It is part of their asterism “Wunbula” (see Bat and His Wives, above).

Mu-ri-in:

This Persian (Achaemenid Period 539 – 311 B.C.E.) asterism “mu-ri-in” is listed in Ernst Weidner’s *Fixsterne* in 1971 and the stars involved have not been identified.

Muan Bird:

This Mayan asterism is made up of star in the IAU constellation Gemini.

Mug:

This Italian asterism “Tazza” is the IAU constellation Crater.

Mugamzah:

This Arabic asterism is the IAU constellation Ara as listed in John Hill’s *Urania* in 1754.

Muia:

This asterism is either the IAU constellation Apus or Musca as listed in in John Hill’s *Urania* in 1754. He describes it as “the Bee, or Fly” which indicates he is not aware that these are two different constellations. I assume by the similarity in names that this is Musca.

Muin and the Seven Hunters:

This Mi’kmaq asterism is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above) with a line of stars going off the end of the “handle” to the star Muphrid in the IAU

constellation Boötes. The “bucket” represents the bear Muin, and the stars of the handle and onwards refer to the “Seven Hunters”, each a bird associated with a star:

- Epsilon (ε) Ursae Majoris (Alioth) is “Jipjawej” (robin),
- Zeta (ζ) Ursae Majoris (Mizar) is “Jiji’kes” (chickadee) and 80 Ursae Majoris (Alcor) is “Wow” (the pot that Jiji’kes is carrying),
- Eta (η) Ursae Majoris (Alkaid) is “Mikjaqoqw” (grey jay),
- Gamma (γ) Boötis (Seginus) is “Ples” (passenger pigeon),
- Epsilon (ε) Boötis (Izar) is “Tities” (blue jay),
- Alpha (α) Boötis (Arcturus) is “Ku Ku We” (barred owl), and
- Eta (η) Boötis (Muphrid) is “Kupkwe’j” (saw whet owl).

MUL.AN.TA.SUR.RA:

This Babylonian asterism from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.).is part of the IAU constellation Sagittarius.

mul dnin-si-an-na:

This Sumerian asterism “mul dnin-si-an-na” from the Ura = hubulla XXII lists (Block, Yigal, and Horowitz 2015) is unidentified currently. The Akkadian name is dIš-tar MUL.MEŠ.

mul lúsa-gaz:

Sumerian asterism “mul lúsa-gaz” from the Ura = hubulla XXII lists (Block, Yigal, and Horowitz 2015) is unidentified currently. The Akkadian name is ḫab-ba-tum.

MUL.IN.DUB.AN.NA:

This Babylonian asterism from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) is part of the IAU constellation Sagittarius.

mul mulmes sa SAG.DU mulUR.GU.LA:

This Babylonian ziqpu “mul mulmes sa SAG.DU mulUR.GU.LA” from cuneiform text AO 6478 (Schaumberger 1952) is Epsilon (ε) and Mu (μ) Leonis in the IAU constellation Leo.

mul sa mulLU.LIM:

This Babylonian ziqpu “mul sa mulLU.LIM” from cuneiform text AO 6478 (Schaumberger 1952) is the stars Pi (π), Omicron (ο), Xi (ξ), and Nu (ν) Cassiopeiae in the IAU constellation Cassiopeia.

mulA.EDEN:

This Babylonian ziqpu “mulA.EDEN” from cuneiform text AO 6478 (Schaumberger 1952) is Gamma (γ) Comae Berenices in the IAU constellation Coma Berenices.

mula-si-di:

This Babylonian ziqpu “mula-si-di” from cuneiform text AO 6478 (Schaumberger 1952) is Sigma (σ) Andromedae in the IAU constellation Andromeda.

Mule:

This Arabic asterism “Al Baghl” is the IAU constellation Lyra:

- German astronomer Johann Bayer (1572-1625) listed it as “Albegala” and “Albegalo” in his *Uranometria* (1603).
- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) listed it as “Albegala” and “Albegalo”.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 attributes “Albegala” to Riccioli.

Mule Deer:

This Seri star “Hap” is Zeta (ζ) Orionis (Alnitak) in the IAU constellation Orion.

[mule-tu-r]a-am-me:

This Sumerian asterism “[mule-tu-r]a-am-me” from the Ura = hubulla XXII lists (Block, Yigal, and Horowitz 2015) is unidentified currently. The Akkadian name is SUKKAL dA-nu-ni-tum.

Mule with Panniers:

This Arabic asterism “Mumsek al-‘Inān”, “al-‘Inān” or “Mumsek al-A’ina” is the IAU constellation Auriga as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

A Turkish planisphere shows the IAU constellation Auriga as a mule:

- John Hill lists the name as “Memschiath”, “Mumsik”, or “Mumsikal Ainna” in his *Urania* in 1754. Hill translates this as “mule with a bridle”, and elsewhere in the text gives the name “Mule” as an Arabic name for Auriga.
- German astronomer Johann Bayer (1572-1625) listed the name as “Mulus clitellatus” (“mule with panniers”) in his *Uranometria* (1603).

Mulehu:

See Twilight, below.

mulim-šu-rin-na nu-kúš-ù-e-ne:

This Sumerian asterism “mulim-šu-rin-na nu-kúš-ù-e-ne” from the Ura = hubulla XXII lists (Block, Yigal, and Horowitz 2015) is unidentified currently. The Akkadian name is kak-kab ti-nu-ri al-ma-na-a-ti.

Muliphein:

See Oath Star, below.

mulkin-su:

This Babylonian ziqpu “mulkin-su” from cuneiform text AO 6478 (Schaumberger 1952) is 15 Lacertae in the IAU constellation Lacerta.

mulku-ma-ri sa PIRIG.KA.DU.A:

This Babylonian ziqpu “mulku-ma-ri sa PIRIG.KA.DU.A” from cuneiform text AO 6478 (Schaumberger 1952) is Beta (β) Cygni (Albireo) in the IAU constellation Cygnus.

mulmaš-maš:

This Sumerian asterism “mulmaš-maš” from the Ura = hubulla XXII lists (Block, Yigal, and Horowitz 2015) is unidentified currently. The Akkadian name is ma-šu!-u.

mulMU.BU-kéš-da:

This Sumerian asterism “mulMU.BU-kéš-da” from the Ura = hubulla XXII lists (Block, Yigal, and Horowitz 2015) is unidentified currently. The Akkadian name is ni-i-ri.

mulna-as-ra-pi:

This Babylonian ziqpu “mulna-as-ra-pi” from cuneiform text AO 6478 (Schaumberger 1952) is b Persei and c Persei (48 Persei) in the IAU constellation Perseus.

mulni-bi-i sa:

This Babylonian ziqpu “mulni-bi-i sa” from cuneiform text AO 6478 (Schaumberger 1952) is Alpha (α) Persei (Mirfak) in the IAU constellation Perseus.

mulni-bi sa irti-su:

This Babylonian ziqpu “mulni-bi sa irti-su” from cuneiform text AO 6478 (Schaumberger 1952) is Alpha (α) Cygni (Deneb) in the IAU constellation Cygnus.

mulnu-muš-da:

This Sumerian asterism “mulnu-muš-da” from the Ura = hubulla XXII lists (Block, Yigal, and Horowitz 2015) is unidentified currently. The Akkadian name is nam-maš-šu-ú.

mulritti GAM

This Babylonian ziqpu “multritti GAM” from cuneiform text AO 6478 (Schaumberger 1952) is Beta (β) Aurigae (Elnath) in the IAU constellation Auriga.

mulsa mas-a.ti:

This Babylonian ziqpu “mulsa mas-a.ti” from cuneiform text AO 6478 (Schaumberger 1952) is Beta (β) Herculis (Kornephoros) in the IAU constellation Hercules.

mulsa tas-ka-a-ti:

This Babylonian ziqpu “mulsa tas-ka-a-ti” from cuneiform text AO 6478 (Schaumberger 1952) is Alpha (α) Herculis (Rasalgethi) in the IAU constellation Hercules.

mulSUDUN.ANSU:

This Babylonian ziqpu “mulSUDUN.ANSU” from cuneiform text AO 6478 (Schaumberger 1952) is Nu (ν) Boötis in the IAU constellation Boötes.

Multiplex of Pegasus:

This **telescopic** asterism “Múltiplex Pégasi” is the spiral galaxy NGC 7769 in the IAU constellation Pegasus. It was discovered in 1784 by William Herschel who listed it as “II 230”. It became GC 5020 in

the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "NGC 7769 shows two different spiral patterns, a tightly wrapped and patching inner one and an open and smooth outer one."

mulud-al-tar:

This Sumerian asterism "mulud-al-tar" from the Ura = hubulla XXII lists (Block, Yigal, and Horowitz 2015) is unidentified currently. The Akkadian name is dŠul-pa-è-a

muludu-til:

This Sumerian asterism "[mu]lueriduki" or "muludu-til" from the Ura = hubulla XXII lists (Block, Yigal, and Horowitz 2015) is unidentified currently. The Akkadian names are "ŠU", "dSal-bat-a-nu", or "bi-ib-bi".

mulugamušen:

This Babylonian asterism from the star names and constellations on planisphere K 8538 (Koch 1989) and from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is part of the stars of the IAU constellation Corvus. The Akkadian name in this list is "a-ri-bi".

mulum-mu-lu-ti:

This Babylonian ziqpu "mulum-mu-lu-ti" from cuneiform text AO 6478 (Schaumberger 1952) is 5 Persei in the IAU constellation Perseus.

Mulumulung:

This Dharawal asterism **"**Mulumulung" or "Murrumwirugan" is the Magellanic clouds (Bursill 2014). Variations include "Mullamullung" (Mathews 1903), "Mullymoola" (Peck 1933), "Dhinburi" and "Dhungagil" (Mathews 1901), "Mungudia" (Organ 1993).

This Dharug asterism "Mulumulung" is the Pleiades cluster in the IAU constellation Taurus (Collins 1798). Variations include "Dhinburi" (Collins 1798 & Mathews 1903), "Mirrinmurrin" and "Mullamullu" (Ridley 1875).

Mungali:

This Wardaman star is one of the stars of the Pleiades cluster in the IAU constellation Taurus (Cairns 1999) representing an 11-year-old child and is part of their asterism "Murabibi" (see Teenagers and Little Ones, below).

Municipal Office:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is an oval of stars in the IAU constellation Ophiuchus: 47 Ophiuchi, HIP 84524, HIP 84574, Mu (μ) Ophiuchi, HIP 86768, and HIP 85922.

This Chinese xing guan "Shìlóu" (市楼) is a group of three lines of two stars in the IAU constellation Serpens:

- One line is Tau (τ) Ophiuchi and Nu (ν) Serpentis,
- One line is Mu (μ) Serpentis and Omicron (ο) Serpentis, and

- One line is HIP 86768 and 85397.

This Chinese Chenzhuo xing guan “Shìlóu” is an oval of stars in the IAU constellations Ophiuchus and Serpens: 41 Ophiuchi, 47 Ophiuchi, Mu (μ) Ophiuchi, Tau (τ) Ophiuchi, Zeta (ζ) Serpentis, and HIP 85537.

Munin:

This Wardaman star is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes (Cairns and Harney 2003).

Munquentaúa:

This Tupi star “Munquentaúa” is Alpha (α) Carinae (Canopus) in the IAU constellation Carina (De Freita Mourão 2009).

Muphrid:

See Solitary One of the Lancer, below.

Mural:

This French asterism “Le Mural” was created by French astronomer Jérôme Lalande in 1795 between the IAU constellations Boötes and Ursa Major to commemorate the wall mounted quadrant at l’Ecole Militaire Observatory in Paris with which he and his nephew Michel Le Français observed the sky. The name was later latinized to “Quadrans Muralis”. It is roughly triangular, and the corner stars are HIP 78286, 77738, and 75043 and it includes the stars Beta (β) Boötis (Nekkar) and Eta (η) Ursae Majoris (Alkaid). Scottish uranographer Alexander Jameison’s *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822) depicts “Quadrans Muralis” as a quadrant.

German astronomer Johann Elert Bode (1747 – 1826) renamed it “Quadrans Muralis” (see Mural Quadrant, below).

Mural Quadrant:

This German asterism is a repurposing of “le Mural” created by French astronomer Jérôme Lalande in 1795 (see Mural, above) by German astronomer Johann Bode, who in 1801 removed the stars Beta (β) Boötis (Nekkar) and Eta (η) Boötis (Alkaid) and gave it this Latin name.

American uranographer Elijah Burritt’s *The Constellations for each Month in the Year* (1835) depicts the “Mural Quadrant” as a quadrant.

German uranographer Adolf Stieler (1775 – 1836) listed it on his planisphere as “Mauer Quadrant” (“wall quadrant”).

Scottish astronomer Alexander Jamieson (1782 – 1850) listed “Mural Quadrant” in his *Celestial Atlas* in 1822.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts “Quadrans Muralis” as a quadrant.

It was listed on some Italian charts as “Quadrante”. It is roughly triangular, and the corner stars are HIP 78180 (CL Draconis), 77738, and 75043.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this asterism as "Mauer Quadrant".

Note: Even though this constellation is out of use, the Quadrantid meteor shower is still named for it.

Muri:

This Wardaman star is Kappa (κ) Scorpii in the IAU constellation Scorpius (Cairns and Harney 2003).

Murlugurru:

This Wardaman star is Alpha (α) Cygni in the IAU constellation Cygnus (Cairns and Harney 2003).

Murrardi:

This Wardaman star is Gamma (γ) Ursae Majoris (Phecda) in the IAU constellation Ursa Major (Cairns and Harney 2003).

Murrawurra:

This Gumbayngirr star is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus (Morelli 2015).

Murray Nowey:

This Dharug star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (King 1790).

Murrgay:

This Worimi asterism "Murrgay" is the Magellanic clouds (Lissarrague 2010).

This Worimi asterism is the Pleiades cluster in the IAU constellation Taurus (Lissarrague 2010).

This Birpai asterism is the Magellanic clouds (Lissarrague 2010).

Murrijin:

This Wardaman star is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius (Cairns and Harney 2003).

Murzim:

See Herald, above.

Mutterer:

This asterism "Musator" is the IAU constellation Sagitta as listed by 12th century Spanish Rabbi Abraham ibn Ezra. "Missore Ciceroni, Musator" ("Mutterer, sent to Cicero") is listed in Johann Bayer's *Uranometria* (1603). "Musator" is listed in John Hill's *Urania* in 1754. R. H. Allen in his *Star Names* in 1899 lists "Musator" as a name for Sagitta. Allen speculates that Ezra got this from Cicero's "Missore" ("the sender"), which is a term Cicero (106 – 43 B.C.E.) used to describe the one who shot the arrow which is Sagitta.

Musca:

None of the stars of Musca are brighter than 3rd magnitude and show up in 35 asterisms in this handbook.

This IAU constellation (IAU abbreviation Mus) was one of 12 constellations created by Flemish astronomer Petrus Plancius (1552 - 1622) in 1597 from the observations of Dutch uranographer Pieter Dirkszoon Keyser (1540 1596) and Dutch navigator Frederick de Houtman (1571 – 1627). De Houtman called it “De Vlieghe” (“the fly”).

Musca is depicted depicted on gores of the globe of Petrus Plancius published in 1598 by Jodocus Hondius as a fly but not labelled.

Dutch uranographer Willem Blaeu (1571 – 1638) listed it under the Latin name “Musca” on his globes of 1602/3.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) depicts Musca but I cannot make out the label.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts “Musca” as a fly.

This constellation was later named “Apis” (see Bee, above) by German astronomer Johann Bayer (1572-1625).

German astronomer Johannes Kepler (1571 – 1630) in his *Tabulae Rudolphinae*, a new edition of Brahe’s catalogue, in 1627, named this constellation “Apis” and “Musca”.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius labels this constellation “Muca” and depicts it as a fly.

This constellation was named “Musca Apis” by English astronomer Edmund Halley in 1679.

This constellation was named “Apis seu Musca” (“the bee or the fly”) by Italian astronomer Giovanni Battista Riccioli (1598 – 1671).

Dutch cartographer Frederik de Wit’s *Planisphaerium Coeleste* (1670) depicts Musca as a fly.

Edward Sherburne lists both “Musca” and “Apis” in his *Sphere of Marcus Manilius* in 1675. Sherburne also lists the variation “Muia” and “Crabro Indicus” (“Indian crab”).

English astronomer Edmond Halley in his *Catalogus Stellarum Australium* in 1679 lists this constellation as “Musca Apis”.

The 1688 celestial globe of Italian priest and uranographer Vincenzo Maria Coronelli (1650-1718) lists this constellation (Stevenson 1921).

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts “Musca” as a bee facing to our left next to Chamaeleon. Hevelius’ *Firmamentum Sobiescianum sive Uranographia* (1690) depicts “Musca Australis” as a bee and on the chart it is a quadrilateral of the stars Alpha (α), Beta (β), Delta (δ) and Gamma (γ) Muscae.

The *Atlas Coelestis* of German astronomer Johann Gabriel Doppelmayr (1742) depicts “Musca” as a fly.

American uranographer William Croswell (1760 – 1834) depicts “Musca” on his *Mercator Map of the Starry Heavens* in 1810 as a fly: This is clearly meant to be this asterism.

Dutch uranographer Carel Allard’s *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) depicts “Musca” as a fly.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley’s pirated catalogue of Flamsteed’s observations of 1712, depicts Musca as a fly. NOTE: Senex also lists Musca Apis as “Musca” (see Bee, above).

Musca is depicted in English astronomer John Flamsteed’s *Atlas Coelestis* in 1729.

German engraver and cartographer Tobias Conrad Lotter’s *Planisphaerium Coeleste* (1750) depicts Musca as a fly.

John Hill lists this constellation as the “Fly” in his *Urania* in 1754.

French astronomer Abbé Nicolas Louis de Lacaille’s *Planisphère des Étoiles Ausralea* (1756) depicts “la Mouche” as a fly.

French uranographer Gabriel Phillipe de la Hire’s *Planisphere Celeste* (1760) depicts “La Mouche” as a fly.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts “Musca” as a fly.

The French edition of Flamsteed’s work, the *Atlas Céleste,* which was revised in 1778 lists it as “la Mouche”.

Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists this constellation as “Sudl Fliege” and depicts it as a fly.

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts “Musca” as a fly.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts “Musca” as a fly.

Musca is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801) as “Vlieg” (“fly”): It is depicted as a fly.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists “Musca” in his *Celestial Atlas* in 1822.

American uranographer Elijah Burritt’s *The Constellations for each Month in the Year* (1835) depicts “Musca Apis” as a fly.

“Musca” is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875): He indicates the borders of this constellation on the chart but offers no illustration of it.

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Musca, The Bee" as an official constellation "recognized in the catalogue of the British Association".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Musca" and describes it as a "Fly".

R. H. Allen listed it in his *Star Names* in 1899 as "Musca Australis vel Indica, the Southern, or Indian Fly".

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "la Mouche" ("the fly") as a fly as does the 1778 edition. It appears on French charts as "Mouche Australe ou Indiene".

The 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) lists "Musca" and gives its "original form" as "Apis Musca Australis", describing it as "The [Southern] Fly".

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) redesigned the lines of Musca in his book *The Stars - A New Way to See Them* (1952). On standard IAU charts this is depicted as a bent triangle formed of the stars Alpha (α) Muscae, Beta (β) Muscae, Lambda (λ) Muscae, and Gamma (γ) Muscae. Rey changes this to the triangle of stars Alpha (α), Delta (δ), and Gamma (γ) Muscae, with two lines running out from Alpha (α) Muscae:

- One to Beta (β) Muscae, and
- One through Epsilon (ε) Muscae to Lambda (λ) Muscae.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Musca in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* as a bent "question mark" shape starting at the star Beta (β) Muscae and running through Delta (δ), Gamma (γ), and Alpha (α) Muscae to Epsilon (α) Muscae.

Sky and Telescope Magazine, founded in 1941, depicts Musca in their magazine and publications in the same manner as Hlad et al, except that they connect the stars Alpha (α) and Beta (β) Muscae.

This appears on German charts as "Südliche Fliege", and Italian charts as "Mosca Australe".

Muscae Borealis:

See Northern Fly, below.

Muscida:

See Muzzle, below.

Muscle:

"The Muscle" is a Welsh asterism listed by Victorian folklorist Marie Trevelyan (1852 – 1922) in her *Folk-lore and Folk-stories of Wales* (1909) and is currently unidentified.

Muscle Man:

This **telescopic** asterism is the open cluster Stock 2 in the IAU constellation Cassiopeia and was listed on the asterisms list of American astronomer John Davis in 2006. Robert Zebahl lists it on his *Faint Fuzzies* website. Size 60' X 60'.

Muscovi Duck:

This Carib asterism “Oponoyuman” or “Opono” resembles a row of Muscovi ducks (Cairina moschata) swimming. Its present location is unknown (Magaña, and Jara, 1982).

Mushroom:

There are three **telescopic** “mushroom” asterisms:

- One is in the IAU constellation Delphinus and is Ennis 3 on the list of Canadian astronomer Charles Ennis. Ennis observed it while looking for the cluster Simonic 22. The “mushroom cap” is the curve of stars starting at Gaia DR3 1758246159423371776, and running through SAO 106804, SAO 106801, HIP 103878, SAO 106787, SAO 106780, Gaia DR3 1758140881185129728, SAO 106781, and SAO 106783 to SAO 106785. The “stem” is the stars Gaia DR3 1757481994545303808, Gaia DR3 1757483545030282368, HIP 103989, 104057, 104067, and Gaia DR3 1757489111307843200. Size 40’.
- One is in the IAU constellation Ursa Major and is Ennis 53 on the observing list of Canadian astronomer Charles Ennis. Size 40’ X 30’. The “stem” of the mushroom is the triangle of stars HIP 54442, HD 96495, and SAO 7299. The curve of the “top” of the mushroom is a line of 7^{th} – 9^{th} magnitude stars starting at HIP 54935 and running through HD 97419, HIP 54773, HD 97084, and SAO 7298 to HD 96611. This includes stars of Corder 2143 on Jeffrey Corder’s observing list.
- One, the “Missing Mushroom”, is in the IAU constellation Delphinus. This is twelve 8^{th} – 11^{th} magnitude stars. The base of this “mushroom” is next to the galaxy NGC 7025. South African astronomer Magda Streicher mentions this on the DOCdb database. Size 12 X 10’.

Music:

This Greek star “Musica” is 18 Delphini in the IAU constellation Delphinus. This is the Latin word for “music” and is related to the myth regarding Arion, whose life was saved by Dolphins after attracting them by playing his kithara. It has an exoplanet named Arion.

Musical Sign:

This Greek asterism “Μουσικόν ζώδιον” (“Mousikón zódion”), later latinized to “Musicum Signum”, is the IAU constellation Delphinus. This is related to the story of Arion and his lyre. “Musicum Signum” is listed in Johann Bayer’s *Uranometria* (1603).

Muskox:

This Dëne Suhne asterism is the Pleiades cluster in the IAU constellation Taurus (Cannon 2021).

Muspelheim:

This **telescopic** Danish star is HAT-P-29 in the IAU constellation Perseus (magnitude 11.83). It was given this name in the IAU NameExoWorlds campaign. It is named after the mythological Norse realm. This has an exoplanet named Surt, which is the name of the ruler of Muspelheim.

Mussel:

This English asterism “Pinna Marina” (“mussel” or “pen shell”) was created in 1754 by British botanist and natural philosopher John Hill and published in his *Urania: Or a Complete View of the Heavens* and

overlaps his other asterism Anguilla (see Eel, above). It is made up of the stars of the IAU constellations Aquila and Scutum: 12 Aquilae, Beta (β) Scuti, Eta (η) Scuti, Delta (δ) Scuti, and Alpha (α) Scuti. Compare this to the asterism Antinous, above.

This French asterism "Mus" or "Musculus" is the IAU constellation Lyra as listed by French astronomer Joseph Jérôme Lefrançois de Lalande (1732 – 1807). He was probably mistranslating the Greek ""Χέλυς ὀλίγη" ("Chélys olígi"- see Tortoise Shell, below) which was a common early name for this constellation. NOTE: "Mus" is also the Latin name for a rodent, but that is clearly not what Lalande meant here.

Mussel of Coma Berenices:

This **telescopic** asterism "Mýtilus Cómae Bereníces" is the intermediate spiral galaxy NGC 4192 (Messier 98) in the IAU constellation Coma Berenices. It was discovered by Pierre Méchain in 1781. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). They called it this because "the spiral arms of this galaxy are fragmented, and the overall structure is rather asymmetric".

Mutator:

This star "Mutatrix" is Beta (β) Leonis (Denebola) in the IAU constellation Leo as listed by English orientalist Thomas Hyde (1636 – 1703) as listed by R. H. Allen in his *Star Names* in 1899.

Mutouna:

The Chinese phonetically translated "Mithuna" from the Vedic *Candragarbha-parivarta* in 566 (which is the IAU constellation Gemini) as "Mutouna" (Kotyk 2017).

Mutton:

This Italian asterism "Montone" is the IAU constellation Aries as named by Dante Alighieri (1265 – 1321). *Dele Stelle Fisse* ("Of the Fixed Stars") by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as "Del Montone, o vero Ariete".

Muzzle:

This German star "Muscida" is Omicron (o) Ursae Majoris in the IAU constellation Ursa Major. The name is derived from the post classical Latin "musus" ("muzzle") and was introduced by the German astronomer Johann Bayer (1572-1625), who claimed that this was a name used by "barbarians". The IAU approved the name Muscida for the star Omicron (o) Ursae Majoris A. Compare this to "Snout" (below).

Muzzle of the Lion:

This Arabic asterism "Al Anf al Asad" is the open cluster Messier 44 (see Beehive, above) in the IAU constellation Cancer. It is located between the two stars forming the "nose" of their asterism "Lion" (see Lion above, and Tip of the Nose, below) and is also called "Mouth of the Lion" (see above).

Mweriker:

This Micronesian asterism is the Pleiades cluster in the IAU constellation Taurus.

Myōken:

This Japanese star “Myōken” (妙見) or “Myōken Bosatsu” is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Kotyk 2017, 2018). Myōken was a Buddhist bodhisattva mainly worshipped in the Shingon, Tendai, and Nichiren schools (Kotyk 2018). He is often depicted as a warrior with an upraised sword in his hand. He is also known as “Venerable Star King” (see below).

My Horse Also Fell:

This asterism is the IAU constellation Virgo as renamed by the Unitarian Universalist Hysterical Society in 2024 on their Facebook page. It got this name as it is next to their asterism “I’ve Fallen and Need Help”.

Myrtilus:

This Greek asterism “Myrtilus” is the IAU constellation Auriga. Myrtilus was the divine son of the Greek God Hermes:

- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Myrtilus” as an alternate name for Auriga.
- Johann Bayer’s *Uranometria* (1603) lists “Myrtilus” as a name for Auriga, but also as an alternate name for Cygnus.
- “Myrtilus” is listed in in John Hill’s *Urania* in 1754
- “Myrtilus” is listed in English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844.
- “Myrtilus” is listed in R. H. Allen’s *Star Names* in 1899. Allen notes that this name has occasionally also been used for Cygnus.

Mysterious:

This German asterism “Arcanus” is the IAU constellation as named by German poet Philipp von Zesen (1619 – 1689).

Mysterious Nebula

This **telescopic** asterism is the HII region SH 2-124 (LBN 426) in the IAU constellation Cygnus. This name appeared in a post on the *Astrophotography* Facebook page by astrophotographer Patrick A. Cosgrove of *Gosgrove’s Cosmos* on 23 August 2025. It is also known as the “Hidden Nebula”.

Mysterious of Camelopardalis:

This **telescopic** asterism “Arcánus Camelopardális” is the lenticular galaxy NGC 2655 (Arp 225) in the IAU constellation Camelopardalis. It was discovered in 1802 by William Herschel who listed it as “I 288”. It became GC 1691 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). Stephen James O’Meara’s *Hidden Treasures Catalogue* (2007) lists this as O’Meara 48 without these names but comments that “the galaxy is defined as a low surface brightness galaxy, and as such is difficult to discern from the background.”

Mystic Mountain:

This American asterism is in the Eta Carina Nebula (NGC 3372) in the IAU constellation Carina. It was imaged by the Hubble Space Telescope’s Wide Field Camera 3 in 2010. Washington Post journalist Joel Achenbach gave it this name in his article *Mystic Mountain: Is this the Hubble Telescope’s greatest*

image? (2015 Apr 16). The name originated in the book *At the Mountains of Madness* by H. P. Lovecraft. It contains the Wolf-Rayet star WR 25.

Mystic Rose:

This German asterism with the Latin name "Rosa Mystica", "Mystica Rosa", or simply "Rose" is the IAU constellation Equuleus and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures. This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "Rosa Mystica Al Equuleus". It later appears in Edward Sherburne's *Sphere of Marcus Manilius* in 1675 and John Hill's *Urania* in 1754.

Mystical Black Pearl:

This **telescopic** Māori (Cook Islands) star "Poerava" is HIP 116084 (HD 221287) in the IAU constellation Tucana (magnitude 7.81). It was given this name in the IAU NameExoWorlds campaign. It has an exoplanet named Pipitea, which is a small white and gold pearl found in Penrhyn lagoon in the northern Cook Islands.

Na-at-tu-lum:

This Babylonian and Sumerian ziqpu from the BM 78161 tablet is Nu (ν) Boötis in the IAU constellation Boötes (Liechty 1988, Leitz 2019), is ziqpu 26 on this list, and would be part of their asterism SHU-PA (see Bright, above).

Na-at-tul-lum 2:

This Babylonian and Sumerian from the BM 78161 tablet is Xi (ξ) Boötis in the IAU constellation Boötes and the 2nd ziqpu on this list (Liechty 1988, Leitz 2019).

Na Kabiri:

This Kiribati star "Na Kabiri" is currently unidentified (Trussel and Groves 1978).

Na Kamoto:

This Kiribati star "Na Kamoto" is currently unidentified (Trussel and Groves 1978).

Na Kaua-ki-tokerau:

This Polynesian asterism from the Tuamotu archipelago is the IAU constellation Corona Borealis.

Na Kaua-ki-Tonga:

This Polynesian asterism from the Tuamotu archipelago is the IAU constellation Corona Australis.

Na Kuhi:

This Hawaiian asterism is the IAU constellation Cetus.

Na Lua-mata-o-ma-Velo:

See Na Mata-o-te-tokolua below.

Na Mata-o-te-tokolua:

This Tongan (Pukapuka Island) asterism, also known as “Na Lua-mata-o-ma-Velo”, is the IAU constellation Centaurus.

Na-pai-ka:

This Polynesian (Marquesas Islands) asterism is the IAU constellation Aries.

Na Taki-tolu-a-Mataliki:

This Tongan (Pukapuka Island) asterism is the IAU constellation Cassiopeia.

Naa:

This Micronesian asterism is made up of the star Alpha (α) Piscis Austrinis (Fomalhaut) in the IAU constellation Piscis Austrinus and the stars of the Great Square of Pegasus (see Great Square, above).

Nabilum:

This asterism is the IAU constellation Lyra. This is the name of the Phoenician harp, and this name also appeared as the Greek “Νάβλα” (“Návla”) and the Latin “Nabon”.

Naga Snake:

This Buddhist asterism is the IAU constellation Draco. It is the serpent of creation.

Nahi:

This Pahlavi asterism “Nahi” is the IAU constellation Capricornus as listed in R. H. Allen’s *Star Names* in 1899.

Nahn:

See Nose below.

Náhokosé:

This asterism appears in Western Apache and Chiricahua Apache culture as “Náhokosé”, in Jicarilla Apache culture as “Naahakosee”, and in Mescalero Apache culture as “Náaakusí”. It is similar to the Diné asterism “Náhookǫs” (see below)

Náhookǫs:

This Diné asterism “Náhookǫs” (Childrey 2008) is made up of three other asterisms, “Náhookǫs Bi’ką” (see Male Revolving One, above), “Náhookǫs Bi’áád” (see Female Revolving One, above), and “Náhookǫs Bikǫ’” (see Central Fire of Náhookǫs, above). Compare this to the Apache asterism Náhokosé (see above).

Nail:

This Syrian star “Mismār” (“needle” or “nail”), later latinized to “Mismar”, is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Hafez 2010).

This Belarussian star “Гвоздь” (“Gvozd”) is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Avilin 2009), which is part of their asterism “Small Cart” (see below). Compare this to the Estonian asterism “Põhjanael” (see North Nail, below).

Nail of the Sky:

This Finnish star “Taivaannaula” is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor.

Nail Star:

This Chukchi star is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Krupp 1983). Compare this to the Estonian “North Nail” (see below), the Belarussian “Nail” (see above), and the Old Icelandic “World Nail” (see below).

Nailfish:

This Wardaman star “Ourtba” is Delta (δ) 1 Tauri in the IAU constellation Taurus and one of the stars in their asterism “Little Fishes” (see above).

Nakara:

This Kiribati star “Nakara” is Alpha (α) Leonis (Regulus) in the IAU constellation Leo (Trussel and Groves 1978).

Naked Raver:

This American asterism is the IAU constellation Hercules and was created by Brad and Kathryn Templeton for *The Vault of Heaven* star map for the 2004 Burning Man event held in Black Rock Desert in Nevada (Kuperjanov 2006).

Naledi:

See Star, below.

nam-maš-šu-ú:

This Akkadian asterism “nam-maš-šu-ú” from the Ura = hubulla XXII lists (Block, Yigal, and Horowitz 2015) is unidentified currently. The Sumerian name is mulnu-muš-da.

Namaan:

This German asterism is the IAU constellation Aquarius as listed by German astronomer Wilhelm Schickard (1592 – 1635). Edward Sherburne lists this in his *Sphere of Marcus Manilius* in 1675 and John Hill lists this asterism in his *Urania* in 1754. Namaan was a Syrian general mentioned in the Bible.

Name of a Murdered Man:

This Inuit star “Sikuliaqsiujuittuq” is Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor (MacDonald 1998). It is also known as “He Who Never Goes Out on Newly Formed Ice” (see above).

Nanaya:

This Mesopotamian asterism is the IAU constellation Corona Borealis and is associated to their Goddess “Nanaya” ("Nanāy", "Nanaja", "Nanāja", '"Nanāya", or "Nanai"; antiquated transcription: "Nanâ"), a Goddess of love closely associated with Inanna.

Nánhǎi:

This Chinese star “Nánhǎi” from the 3 Kingdoms and Ming Dynasty Period is the star Xi (ξ) Serpentis in the IAU constellation Serpens and is and is part of their xing guan Heavenly Market East Wall (see above).

Nâno:

This “Persian” name for the IAU constellation Pisces was listed in Edward Sherburne’s *Sphere of Marcus Manilius* in 1675.

Naos:

See Ship, below.

Napoleon:

This German asterism is the belt and sword of Orion in the IAU constellation Orion and was created by staff at the University of Leipzig in 1807. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists this and attributes it to this University. *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this attribute and attributes it to the aforementioned university. R. H. Allen’s *Star Names* in 1899 lists this asterism and Allen writes that the English retaliated by renaming it “Nelson” (see Below).

Napoleon's Hat:

There are two **telescopic** Napoleon’s Hat asterisms:

- One, Picot 1, was discovered by French astronomer Fulbert Picot. It is seven 9th to 11th magnitude stars in the IAU constellation Boötes, located immediately south of the star Alpha (α) Boötis (Arcturus). Its size is 20’ X 7’. American astronomer Phil Harrington calls it a “flying saucer”. It is also listed as Leiter 10.
- One is Kronberger 44 in the IAU constellation Cygnus. René Merting describes it on the Faint Fuzzies website: “At 45x, I first see a flat, curved semicircle of six stars. On closer inspection, the star group resembles Picot 1. At 144x, some faint stars can be seen to the east of the arc, producing a slight glow and flashing alternately. Within and around the arc, some other faint stars can be seen.” Picot 1 is listed elsewhere in this handbook as Napoleon’s Hat and by Harrington as a “Flying Saucer”. The two most prominent stars are Gaia DR3 2087697363949159040 and Gaia DR3 2087886411227488768.

Narayana:

This Chinese translation “Nārāyana” or “Narayana” of the Vedic asterism Visnu from the *Xiuyao jing* (宿曜經）(759 and revised 764) is the IAU constellation Aquila (Kotyk 2017).

Narrow Cloudy Train of Female Stars:

This Latin asterism is the Pleiades cluster in the IAU constellation Taurus as described by 1st century Roman poet Marcus Manilius and listed in R. H. Allen’s *Star Names* in 1899.

Narrows:

This Arabic asterism “al-ḍayqa”, later latinized to “al Dayqa”, is the stars Kappa (κ) 1 and 2 and Upsilon (υ) Tauri in the IAU constellation Taurus.

Nash:

See Arrowhead, above.

Nashira:

See Scattering Auspice, below.

Nasti:

See Star, below.

Natem Tree:

This Netwar star "Natem" is Alpha (α) Centauri (Rigil Kentaurus) in the IAU constellation Centaurus (Ramík 2019). This is a reference to Pometia pinnata, and the name refers to their belief that when it touches this tree in the evening, it is time to plant yams.

Nathrachain:

This Celtic asterism is the IAU constellation Draco. Nathrachain is a Celtic snake deity.

Natiati:

This Kiribati star "Natiati" or "te Natiati" is currently unidentified (Trussel and Groves 1978).

Native American Bird:

This German asterism "Indianischer Vogel" is the IAU constellation Apus as listed in an abridged edition (1720) of German astronomer Johann Bayer's *Uranometria,* which came out in 1603.

Nau:

The stars of this Kiribati asterism "Nau" are unidentified at present (Trussel and Groves 1978).

Nautilus Galaxy:

This **telescopic** asterism is NGC 772 (Arp 78), an interacting spiral galaxy in the IAU constellation Aries. It was discovered by English astronomer William Herschel in 1785, who listed it as "I 112". It is GC 463 in the General Catalogue of 1864. Astronomer Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) lists it as O'Meara 8 and states that it is "nicknamed the Nautilus Galaxy… named after its resemblance to a nautilus seashell". It is also known as the "Fiddlehead" (see above).

Navel:

This Hebrew asterism "Genash" is the IAU constellation Ursa Minor as listed in John Hill's *Urania* in 1754 and as listed in Edward Sherburne's *Sphere of Marcus Manilius* in 1675.

This Chaldean asterism "Kinush" as listed in Edward Sherburne's *Sphere of Marcus Manilius* in 1675.

This Kiribati star "Buto" ("navel" or "boundary stone") is an unidentified star in the IAU constellation Scorpius (Trussel and Groves 1978).

This Estonian star "Naba" is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor and appears in the *Sky of Ests (Chudes)* by Aleksander Heintalu (Sass of Vigala) (Kuperjanov 2006).

Navel of Draco:

This **telescopic** asterism "Umbilícus Dracónis" is the barred spiral galaxy NGC 5678 in the IAU constellation Draco. It was discovered in 1789 by William Herschel who listed it as "II 894". It became GC 3937 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it "is located near what could be imagined as the belly of the dragon."

Navel of the Mare:

This Arabic star "(Surrat) al-Faras" (سُرَّة الفرس) or "Al Surrat al Faras" is Alpha (α) Andromedae in the IAU constellation Andromeda:

- "Surrat al-Faras" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- The Sloane astrolabe BM SL 54 in the British Museum which dates to 1290 – 1300 lists "Alferaz" and "Rigilasabie" (Dekker 2000).
- "Surrat al-Faras" is in the star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003).
- This was later latinized to "Alpheras" by German astronomer Johann Bayer (1572-1625), who listed it in his Uranometria (1603) and also gave it as an alternate name for Pegasus.
- "Alpheras" and "Alpharaso" are listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
- John Chilmead in his *A Learned Treatise on Globes* (1899) listed "Alfaras Alathem", which he derived from Robert Hues' *A Learned Treatise of Globes* (1659).
- French astronomer Jerome Lalande (1732 – 1807) lists it as "Alpharès".
- Other variations include "Alpheratz", "Alperat", or "Sirrah".
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists this star as "Alpheratz" in his *Celestial Atlas* and his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822)
- "Sirrah", "Alpherat", and "Sirrat-al faras" are listed by English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 and "Sirrah" appears in his *Prolegomena* in the same year.
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich list this star as "Alpheratz".
- "Sirrah" is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822.
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Alpheratz".
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as "Alpheratz".
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as "Alpheratz".
- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Alpheratz" and describes it as "the horse".
- *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Alpheratz".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list both "Alpheratz" and "Sirrah" for this star.

- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists "Alpheratz" for this star.
- The IAU approved the name Alpheratz for Alpha (α) Andromedae Aa.

This Latin star Umbilicus Andromedae" is the is Alpha (α) Andromedae (Alpheratz) in the IAU constellation Andromeda.

NOTE: Alpha (α) Andromedae (Alpheratz) is a star common to both the IAU constellations Andromeda and Pegasus, and this goes back a long way. Aratus (315 – 240 B.C.E) called it a "ξυνός ἀστήρ" ("xynós astír") or "common star" for this reason.

Navel of the True Shepherd of Anu:

This Babylonian star "LI.DUR SIPA.ZI.AN.NA" is listed in Anthony Hope's *A Guide to Ancient Near Eastern Astronomy* in 1996. Anthony describes it as "probably Alpha [α] Orionis [Betelgeuse]". This would be part of the asterism True Shepherd of Anu (see below) and seems unlikely when you look at how it is described: It seems more likely to be Epsilon (ε) Orionis as Betelgeuse is one of the "shoulders" of this "shepherd".

Navi:

This American star is Gamma (γ) Cassiopeiae in the IAU constellation Cassiopeia. It was given this name by American astronaut Gus Ivan Grissom: It is Grissom's middle name reversed. It is believed that Grissom was influenced by the stars Sualocin and Rotanev which were reversed Latinized names of Giuseppe Piazzi's assistant Nicolo Cacciatore and decided to name some other stars in this area with reversed names. This star is also known as "Chi" (see Whip, below).

Navi-Matâne:

This Chakavian asterism is the ancient asterism Argo Navis (see Ship Argus below).

Navigation:

This star "Navigatoria" ("Navigation") is the Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor. This name is listed in Johann Bayer's *Uranometria* (1603).

Navigators:

This Latin star "Navigatoria" is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor as listed in R. H. Allen's *Star Names* in 1899.

Navigator's Triangle:

This Hawaiian asterism "Huinakolu" is the Summer Triangle (see Summer Triangle below). It's three stars represent the Polynesian triangle:

- "Pira'etea" (Alpha (α) Cygni - Deneb) represents Hawaiki (Hawaii),
- "Keoe" (Alpha (α) Lyrae - Vega) represents Rapanui (Easter Island), and
- "Humu" (Alpha (α) Aquilae - Altair) represents Aotearoa (New Zealand).

Nawa:

The stars of this Kiribati asterism "Nawa" are unidentified at present (Trussel and Groves 1978).

NE-gun:

This Persian (Achaemenid Period 539 – 311 B.C.E.) star "NE-gun" is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius as listed in Ernst Weidner's *Fixsterne* in 1971.

Near the Sword of Orion:

This **telescopic** asterism "Perixíphius Oriónis" is the spiral galaxy IC 421 in the IAU constellation Orion. It was discovered by American astronomer Williamina Fleming in 1888. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Nearby Dweller of Leo:

This **telescopic** asterism "Áccola Leónis" is the lenticular galaxy NGC 3489 in the IAU constellation Leo. It was discovered in 1784 by William Herschel who listed it as "II 101". It became GC 2276 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as it is close to us (30 million light years).

Nearest Centaur:

This Scottish star "Proxima Centauri" is Alpha (α) Centauri C and is the closest star to Earth. It was discovered in 1915 by Scottish astronomer Robert Innes, who gave it the name "Proxima Centaurus". Since the 1920s this has been changed to Proxima Centauri. *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this star as "Proxima Centauri". Kunitzsch and Smart (2006) listed it as "Proxima". The IAU approved the name Proxima Centauri for Alpha (α) Centauri C in 2016.

Neatest:

This Italian star "Bellissima" is Delta (δ) Virginis in the IAU constellation Virgo as listed by Italian astronomer Father Angelo Secchi and as listed in R. H. Allen's *Star Names* in 1899.

Nebuchadnezzar:

This German asterism is the IAU constellation Centaurus as listed by German poet Philipp von Zesen (1619 – 1689), who gave the name "Nebuchadrezzar".

Nebular:

This Greek asterism "Νεφελοειδής" or "Nefeloeidís" ("nebular" or "cloudy one") is open cluster Messier 44 in the IAU constellation Cancer.

Nebulous:

This Greek asterism "νεφελοειδής" ("Nefeloeidís") is the stars Lambda (λ) Orionis (Meissa), and Phi (φ) 1 and 2 Orionis in the IAU constellation Orion as listed by Ptolemy (c.100 – c.170):

- It was translated as "Sahābi"("nebula") by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

- "Nefeloeidís" as R. H. Allen's *Star Names* in 1899. Allen writes that this was a name commonly found "in early catalogues".
- This appeared in the Altas of English astronomer John Flamsteed (1646 – 1719) as "in capite Orionis nebulosa" ("the misty head of Orion").
- NOTE: Per Collinder later catalogued this as Cr 69.

Nebulous Mass in the Breast of Cancer:

This Greek asterism is the open cluster Messier 44 in the IAU constellation Cancer (see Beehive, above). This was Claudius Ptolemy's name for it in the *Almagest* (2nd century)":

- This was translated as "al-Ishtibāk al-Sahābi" by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- This Latin asterism "Nebulosa, in pectore Cancri" is open cluster Messier 44 in the IAU constellation Cancer as listed in 16th and 17th century charts and translations of the *Almagest*.

Nebulous Smear on the Camel's Thigh:

This Arabic asterism "al-Latkhā al-Sahābiya" is the double clusters NGC 869 and 884 in the IAU constellation Perseus as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

Nebulous Star:

This Arabic asterism is the open cluster IC 2391 (Omicron Velorum Cluster) in the IAU constellation Vela. Arabic astronomer ʿAbd al-Rahman ibn ʿUmar al Sufi (903-986) recorded this as a "nebulous star" above the 37th star of Argo Navis. French astronomer Abbé Nicolas Louis de Lacaille (1713 – 1762) catalogued it as Lac II 5. It later became Caldwell 85.

Necht:

This Egyptian asterism "Necht" is located in the IAU constellation Draco, but its exact composition is unknown. R. H. Allen lists this in his *Star Names* in 1899.

Nechtan:

This Celtic (Irish) asterism may be the IAU constellation Aquarius. Nechtan was the husband of a goddess of the River Boyne (Mosenkis, date N/K).

Neck:

This Chinese xiù (lunar mansion) "Kàngxiù" (亢宿) is a shallow quadrilateral of stars in the IAU constellation Virgo: Phi (φ), Iota (ι), Kappa (κ), and Lambda (λ) Virginis. In the *Han shu*, a history of the early Han dynasty that was finished in 111 C.E. this xiù was associated to matters concerning the Yanzhou territory. It appears in the Tang Dynasty (618 – 907 C.E.) as "Kàng" (亢) and was compared to the Vedic nakshatra Svati (Kotyk 2017, see Very Good, below) which is in the nearby constellation Virgo. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese star "Kang" is HIP 69427 (HD 124294) in the IAU constellation Virgo. The IAU approved the name Kang for this star in the IAU NameExoWorlds campaign.

This Chinese Chenzhuo xing guan “Kàngxiù” is a curved line of four stars in the IAU constellation Virgo: Phi (ϕ) Virginis, Iota (ι) Virginis, Kappa (κ) Virginis, and Lambda (λ) Virginis.

This Japanese sei shuku or lunar station “Ami Boshi” (“neck” or “throat”) is a bent line of four stars in the IAU constellation Virgo: Phi (ϕ), Iota (ι), Kappa (κ), and Lambda (λ) Virginis.

This **telescopic** asterism is Vastagh 20, listed in 2009 by Hungarian astronomer László Vastagh, which is in the IAU constellation Cassiopeia. Its apparent diameter is 40’. Vastagh describes it as a “Neck-shaped [asterism] made of bright stars. The shape is opened by a V-shaped formation. At the intersection of the stems of the letter AV, the set continues and turns into an ellipse with a twist. The lower end of the ellipse is pointed… [this asterism has] 15 bright members, but a total of 50 stars can be admired in the 40’ area.”

Neck of Dragon:

This Korean asterism “Haang” is identical to the Chinese xing guan “Neck” (see above).

Necks of the Maidens:

This Arabic star “ʿAnāḳ al Banāt” is Epsilon (ε) Ursae Majoris in the IAU constellation Ursa Major and is part of their asterism Daughters of the Bier (see above):

- Catholic librarian Giuseppe Simone Assemani (1687 - 1768) listed this as “Alhaic” and translated that as “ostrich”. The Arabs had several ostriches in the sky, but none of them anywhere near Ursa Major.
- R. H. Allen writes in his *Star Names* in 1899 that “in some editions of [Ulugh Beg Mirza’s] Tables it was written Al Inak – correctly Al Inz” and translates this as “goat of the mourners.

Neck of the Snake:

There are two Arabic stars by this name:

- One is “ʿUnuq ul-Ḥayyah” (عنق الحية) or “ʿUnḳ al Ḥayyah” which is the star Alpha (α) Serpentis in the IAU constellation Serpens:
    - This is listed as “ʿUnq al-hayyah” on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992).
    - The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists “ʾunuq al-hayya”.
    - It was later latinized to “Unukalhai”, “Unuk Elhaia”, or “Unuk al Hay”.
    - The 14th century astrolabe #4560 from Christian Spain lists “ON9E”, the “9” representing a hard “C” sound, making it “ONCE” which is derived from “Unuq” (King 2002).
    - English Admiral Henry William Smyth’s *Bedford Catalogue* and *Prolegomena* of 1844 lists “Unukalhay, from ‘unk-al-hayyah, the serpent’s neck”.
    - This has been abbreviated in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852 as “Unuk”: The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822.
    - German astronomer Johann Elert Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists the abbreviated name “Unuk” for this star.
    - English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists this star as “Unukalhai”.

    - The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) lists this star as "Unukalhay".
    - The *Standard Dictionary of Facts* (1908 – 1924) lists "Uunk al Hay".
    - The IAU approved the name Unukalhai for Alpha (α) Serpentis.
- One is "'Unuk al-Shujā'" and is Alpha (α) Hydrae in the IAU constellation Hydra:
    - "'Unuk al-Shujā" It was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
    - The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists "'unuq al-shujā' wa huwa al-fard" ("the neck of the snake; it is the solitary one".
    - "Al 'Unk al Shujā'" was listed by Persian astronomer Ulugh Beg Mirza (1394 – 1449).
    - Dorn (1829) lists this as "Hydra's Neck" and describes this as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283).
    - English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Unuk al Shugja" and "Unk-esh-shujá, the serpent's neck".
    - "Al 'Unk al Shujā'" was listed in R. H. Allen's *Star Names* in 1899.

Neck of the Whale:

This Latin asterism "Collum Ceti" is Omicron (ο) Ceti in the IAU constellation Cetus.

Necklace:

This Arabic asterism "al-kilāda" is a curve of stars in the IAU constellation Sagittarius: Xi (ξ), Omicron (ο), Pi (π), 43, Rho (ρ) 1, and Upsilon (υ) Sagittarii. Note The star Psi (ψ) Sagittarii received the latinized name "Al Kiladah" or "Alkiladah". English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "el keládah, or necklace".

This Ainu Nociw ("asterism") is the IAU constellation Corona Borealis.

This Spanish **telescopic** asterism is made up of stars of the IAU constellation Cygnus. It runs from 29 Cygni through HIP 99777, HIP 99769, HIP 99719, HD 228438, HD 228426, HIP 99667, and HD 192556 to HD 192603. This was posted by Spanish astronomer "Takuan" on *Cloudy Nights* in October 2024.

Necklace Nebula:

This **telescopic** asterism is planetary nebula is PN G54.2-03.4 in the IAU constellation Sagitta. It was discovered in 2005 in the Isaac Newton Photometric H-Alpha Survey.

Necklace with Three Pendants of Corvus:

This **telescopic** asterism "Trióttis Córvi" is the lenticular galaxy IC 829 in the IAU constellation Corvus. It was discovered by French astronomer Guillaume Bigourdan in 1888. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the trio IC 829 and its neighbours MCG-2-33-36 and MCG-2-33-37… jointly resemble a triottis [which is] a necklace with three eye-like pendants".

Nectar and Sacrifice:

This Greek asterism “Νέκταρ ἡ Θυτήριον” or “Néktar i Thytírion” is the IAU constellation Ara as described by Eratosthenes (d.194 B.C.E.).

Needle Galaxy:

This **telescopic** asterism is NGC 4565 (Caldwell 38), an edge-on spiral galaxy in the IAU constellation Coma Berenices. It was discovered in 1785 by English astronomer William Herschel who listed it as “V 24”: Herschel described it as a “lucid ray 20’ long or more, 3’ or 4’ broad”. It is GC 3106 in the *General Catalogue* of 1864. It is also known as “Berenice’s Hair Clip”.

Needle’s Eye:

This **telescopic** asterism NGC 247 (Caldwell 62) is an intermediate spiral galaxy in the IAU constellation Cetus. It was discovered by English astronomer William Herschel in 1784. This is listed as GC 131 in the 1846 *General Catalogue*. It is also known as the Claw Galaxy and the Black Bottomed Galaxy (see above).

Needle of Canes Venatici:

This **telescopic** asterism “Belónis Cánum Venaticórum” is the edge on spiral galaxy NGC 5023 in the IAU constellation Canes Venatici. William Herschel listed this as “II 664”. John Herschel listed it as h 1559 and later as GC 3452 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Needlewood Hakea and Willie Wagtails:

This Boorong asterism “Tourchingboiongerra” is made up of the stars of the IAU constellation Coma Berenices. Beta (β) Comae Berenices (Diadem) forms the “stem” with one “branch” going off through 31 Comae Berenices to a cluster of faint stars as “leaves” and another “branch” going up through 35 and 40 Comae Berenices to another faint cluster of faint stars as “leaves”.

Nefertiti’s Headpiece:

This **telescopic** asterism is the open cluster NGC 6811 in the IAU constellation Cygnus. It was discovered by English astronomer John Herschel in 1829 who listed it as h 2044. It is GC 4505 in the *General Catalogue* of 1864. It is also known as the Hole in a Cluster, “83”, the Smoke Ring, the Bicycle, or the Reliquary.

Nei Auti te Mabubu:

This Kiribati asterism “Nei Auti te Mabubu” is the open cluster Messier 44 in the IAU constellation Cancer (Trussel and Groves 1978).

Neith:

This Egyptian star is Alpha (α) Carinae (Canopus) in the IAU constellation Carina as listed in the 19th dynasty Cairo Calendar (Hardy 2003). Neith is one of the oldest Egyptian Goddesses, dating back to the Predynastic Period (c. 6000 – 3150 B.C.E.). She was a Goddess of war, a creatrix, and a mother Goddess. Compare to White One of Heaven (below).

Nekkar:

See Cattleman, above.

Nelikanda:

This Estonian asterism is the Great Square asterism in the IAU constellation Pegasus (Kuperjanov 2006).

Nelson:

This English asterism is the belt and sword of Orion in the IAU constellation Orion (see Orion, below). English Admiral Henry William Smyth writes in his *Bedford Catalogue* in 1844 that this English asterism is "a disciple of the unhappy Lieutenant Brothers". *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists "Nelson" but does not identify the source. R. H. Allen writes in his *Star Names* in 1899 that staff at the University of Leipzig had used these stars to create the asterism "Napoleon" (see above) and that "a retaliating Englishman" renamed this asterism "Nelson", though Allen does not identify that Englishman.

Nembus:

This star is 51 Andromedae in the IAU constellation Andromeda. It was listed under this name in German astronomer Johann Bayer's *Uranometria* in 1603 and later in German astronomer Johann Bode's *Uranographia* in 1801. Its origin is unknown. The IAU approved the name Nembus for this 51 Andromedae in 2017.

Nemean Lion:

This Latin asterism "Nemeaeus", "Nemeas Alumnus", "Nemees Terror", "Nemeaeum Monstrum", "Violentus Leo", and "No Animal Nemaeo truculento " is the IAU constellation Leo. The Nemean Lion was a monster killed by Hercules.

- Johann Bayer's *Uranometria* (1603) lists "Nemaeus" as an alternate name for Leo.
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "the Nemean Lion".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Nemeas alumnus".

Nemesis:

This **telescopic** asterism surrounds the galaxy NGC 6118 in the IAU constellation Serpens. It is a quadrilateral whose corner stars are Gaia DR2 4358705989360395136, Gaia DR2 4358695470983042688, TYC 5038-309-1 and TYC 5038-230-1. In the middle of this quadrilateral is the galaxy NGC 6118, the Blinking Galaxy. American amateur astronomer "Aznuge" listed this in May 2025 on *Cloudy Nights*.

Nenque:

See Sun, below.

Neon Sign Galaxy:

This Cypriot **telescopic** asterism is the spiral galaxy NGC 278 in the IAU constellation Cassiopeia. It was discovered in 1786 by English astronomer William Herschel who listed it as I 159. It is GC 158 in the General Catalogue of 1864. This name was posted on the *Deep Sky Forum* in October 2015 by Rolandos Constantinides. It is also known as the "Ninja Star Galaxy" and the "Flower Like of Cassiopeia".

Neper:

This is an alternate name for the asterism Terebellum (see Drill, above). R. H. Allen describes this in his *Star Names* in 1899 as a name "referred to, in a German astronomical work of 1564 from Frankfurt" but does not identify the author.

Nephews:

This Selk'nam asterism "Sasán" represents the nephews of their mythical shaman Kwányip (see above). One of the Sasán is the star Zeta (ζ) Orionis (Alnitak) in the IAU constellation Orion. The identity of the other star is unknown at this time.

Nephews/Nieces:

This Inuit asterism "Qangimmaariik" is the sword of Orion in the IAU constellation Orion (MacDonald 1998).

Nephîlā:

This Aramaic asterism is the IAU constellation Orion.

Nephte:

This asterism is the IAU constellation Sagittarius as listed in an "Ancient Zodiac of Egypt" in *Hindu Astronomy* by W. Brennand in 1896. Brennand has labelled this illustration "from the Barberini Museum", which is probably a reference to the 17th century Palazzo Barberini, which is now the Galleria Nazionale d'Arte Antica. This depicts a centaur archer. This is probably a reference to the Egyptian Goddess Nephthys, twin sister of Isis. One of the aspects of Isis is Sopdet, who was an archer Goddess and the name of an ancient Egyptian asterism in the IAU constellation Canis Major (see Sopdet, below). Nephthe is a name for the Egyptian asterism "Pehui-tchat" (see below) in the IAU constellation Leo assigned by German Jesuit astronomer Athanasius Kircher (1602 – 1680). Brennan attributes this name for this constellation to the 5th century Roman Macrobius Ambrosius Theodosius, who believed that the Egyptians created the signs of the zodiac and that they were later adopted by the Greeks.

Neptune:

There are two Latin asterisms with the name "Neptunus":

- One is the IAU constellation Delphinus.
- One is the IAU constellation Eridanus. This is related to the myth of Nereus (see Nereus, below).

Neptune's Offspring:

This Latin asterism "Neptuni Proles" is the IAU constellation Capricornus.

Neptune's Star:

This Latin asterism "Neptuni Sidus" is the IAU constellation Pisces as listed by 1st century Roman poet Marcus Manilius and in R. H. Allen's *Star Names* in 1899.

Nereides Nebula:

This **telescopic** asterism is supernova remnant G107.5-5.2 in the IAU constellation Cassiopeia. It is the nebulosity surrounding the open cluster NGC 7438. It was the first supernova remnant discovered by amateur astronomers including Marcel Drechsler, Bray Falls, Nicolas Martino, and Yann Sainty. The

Nereides were sea nymphs who were the daughters of the Sea God Nereus and the Oceanid Doris in Greek mythology.

Nereus:

This Greek asterism is the IAU constellation Eridanus. Nereus was a sea God who was the son of the Earth goddess Gaia and was a parent of the Nereids.

This Egyptian asterism is one of the paranatellonta of the decans of Capricornus as listed in *the Sphaera Barbarica* described by Teucros (Mosenkis, date n/k) and is the IAU constellation Telescopium.

Nervia:

This **telescopic** Belgian star is HIP 32916 (HD 49674) in the IAU constellation Auriga (magnitude 8.10). It was given this name in the IAU NameExoWorlds campaign. It was named for the Nervii, a Celtic tribe. It has an exoplanet named Eburonia, which was named for the Eburones, a prominent Belgic tribe.

Nescher:

This Hebrew asterism is the IAU constellation Aquila as listed in John Hill's *Urania* in 1754.

Nest:

This Belarussian asterism "Hniazdo" is the Pleiades cluster in the IAU constellation Taurus (Avilin 2018).

Nest of Leda:

This Italian asterism "Nido di Leda" is the IAU constellation Gemini as listed by Dante Alighieri. Castor and Pollux were the sons of Leda.

Nested Bells:

This **telescopic** asterism is the open cluster Messier 35 (NGC 2168) in the IAU constellation Gemini. It was discovered by Swiss astronomer Philippe Loys de Chéseaux in 1745.It is also known as the Sky Rocket Burst and the Shoe Buckle Cluster. American amateur astronomer "Aznuge" listed this in May 2025 on *Cloudy Nights*.

Net:

This ancient Egyptian asterism "Qedty" is the IAU constellation Corona Australis. It is next to their Khanuwy Fish asterism (see above).

This Chinese xiù (lunar mansion) "Bìxiù" (毕宿) is the Hyades cluster in the IAU constellation Taurus. In the *Han shu*, a history of the early Han dynasty that was finished in 111 C.E. this xiù was associated to matters concerning the Jizhou territory. In the Tang Dynasty (618 – 907 C.E.) this xiù "Bi" (畢) was compared to the Vedic nakshatra Rohini (Kotyk 2017, see Red One, below). This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan is made up of stars of the IAU constellation Taurus, including the Hyades cluster: The central star is Gamma (γ) Tauri, from which three lines run out:

- One runs to Lambda (λ) Tauri,

- One runs through Delta (δ) 1, 2 & 3 Tauri to Epsilon (ε) Tauri, and
- One runs through 71 Tauri, Theta (θ) 1 & 2 Tauri, and Alpha (α) Tauri (Aldebaran, "Tiangao" ("Celestial High Terrace")), to Sigma (σ) 2 Tauri ("Fuer" ("Whisper (Adjunct to Net")).

This Japanese sei shuku or lunar station "Amefuri Boshi", sometimes translated as "rain", is the Hyades star cluster in the IAU constellation Taurus.

This Anutan asterism "Te Rakau Tapu" ("the net" or "the sacred timber") is the IAU constellation Crux. The handle "Te Rua Tangata" is the Pointer Stars (see Pointers below, and see Double Man, above).

This Micronesian asterism "Ceew" is the IAU constellation Corona Borealis.

Net Fisher of Hydra:

This **telescopic** asterism "Dictyúlcus Hýdrae" is the galaxy ESO 508-45 (PGC 46461) in the IAU constellation Hydra. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "this double system consists of a spiral galaxy in front of an elliptical galaxy. The spiral galaxy projects a large arc of dust bands in the direction of its companion, like a fisher throwing his net".

Net For Catching Birds:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a swastika of stars in the IAU constellation Phoenix and Sculptor. The central star is HIP 2240 and from this star four bent lines run out:

- One runs through the determinative star Alpha (α) Phoenicis to HIP 966,
- One runs through HIP 133 to Theta (θ) Sculptoris,
- One runs through HIP 2663A to HIP 5042A, and
- One runs through Lambda (λ) Sculptoris to HIP 3521.

This Chinese xing guan "Bākuí" (八魁) is made up of six stars in the IAU constellation Cetus. 6 Ceti is the middle star. One line runs through it between 3 and 7 Ceti. Another line crossing the first runs down from 9 Ceti through 6 Ceti to 2 Ceti, where it takes a bend to 1 Ceti.

This Chinese Chenzhuo xing guan "Bākuí" is a lattice of stars in the IAU constellations Grus, Phoenix, and Sculptor. The center line runs from Alpha (α) Phoenicis through Iota (ι) Phoenicis to Theta (θ) Gruis. From Alpha (α) Phoenicis lines run out to Kappa (κ) Phoenicis and Theta (θ) Sculptoris. From Iota (ι) Phoenicis lines run out to Beta (β) Sculptoris and HIP 116602. From Theta (θ) Gruis lines run out to Iota (ι) Gruis and Nu (ν) Gruis.

Net Stars:

This Hungarian asterism "Háló csillag" appears on the celestial map of Hungarian uranographer Sandor Nagy (1915) lists this asterism. NOTE: Nagy's 1915 chart is beautifully illustrated, but some of the labels are hard to make out and I find it difficult to match the hand drawn stars on his chart with actual star patterns in the sky. The stars are currently unidentified.

Nets of Makali'i:

This Hawaiian asterism "Na-koko-a-Makali'i", also known simply as "Makali'i'" ("chief's eyes" or "little eyes" or "little stars") is the Pleiades cluster in the IAU constellation Taurus.

Netted Stars:

This Elvish asterism “Remmirath” is the Pleiades cluster in the IAU constellation Taurus in the Sindarin language. It appears in the works of J. R. R. Tolkien (1892 – 1973).

Network Nebula:

This **telescopic** asterism is the supernova remnant NGC 6995 in the IAU constellation Cygnus.

Network of Dykes:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of three stars in the IAU constellation Capricornus: Starting at the determinative star Tau (τ) Capricorni it runs through HIP 102026 to Upsilon (υ) Capricorni.

This Chinese xing guan “Luóyàn” (罗堰) is a line of three stars in the IAU constellation Capricornus: Tau (τ), Upsilon (υ), and 17 Capricorni.

This Chinese Chenzhuo xing guan is a bent line of three stars in the IAU constellation Capricornus: HIP 102026, Tau (τ) Capricorni, and HIP 101507.

Never Setting:

This Latin asterism “Inoccidui” is the Big Dipper asterism in the IAU constellation Ursa Major as listed by 4th century Latin poet Claudius Claudianus.

New Fire:

This Aztec asterism “Mamalhuaztli” is the two wood sticks used to light the new fire in the commemoration “Toxiuh molpilia”, celebrated every 52 years. This coincides with the beginning of their New Year “Xiuhtzitzquilo”. One stick is the belt of Orion, and the other stick is the sword of Orion. Compare this to the Mayan asterism Fire Drill (above).

New God of Egypt:

This French asterism “Novus Aegypti Deus” is the asterism Antinous (see Antinous, above) in the IAU constellation Aquila as listed by French astronomer Joseph Jérôme Lefrançois de Lalande (1732 – 1807).

New Sieve:

This Estonian asterism “Uus Sõel” is the Pleiades cluster in the IAU constellation Taurus and appears in the *Sky of Ests (Chudes)* by Aleksander Heintalu (Sass of Vigala) (Kuperjanov 2006).

New Staff Stars:

This Estonian asterism “Uued Sauatähed” is the belt of Orion asterism in the IAU constellation Orion (Kuperjanov 2006).

New Sau Stars:

This Estonian asterism “Uued Sau Tähed” is the IAU constellation Orion.

Nga Patari:

This Māori asterism, also known as “Nga Pataritari-hau” or “Nga Patari-kai-hau” is the Large Magellanic Cloud (Orchiston 2017).

Nga Tokorua a Tai-ngarue:

This Māori asterism is the stars Beta (β) Orionis (Rigel) in the IAU constellation Orion and Alpha (α) Geminorum in the IAU constellation Gemini.

Ngā Whetu Matarau:

This Māori asterism is the Pointers, the stars Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus (see Pointers below).

Ngarlin Bulgwarr:

This Worimi asterism is the IAU constellation Crux (Lissarrague 2010).

Ngilmungngilmung:

This Wardaman star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major as listed by Cairns and Harney in 2003. They used the twinkling of this star as an indicator of windy conditions.

Ngrodo:

This Apinajé asterism "Ngrôdo" is the Pleiades cluster in the IAU constellation Taurus (Lima and De M. Figueirôa, 2007).

Ngurainya:

This Kokatha and Ngalea star is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra.

ni-i-ri:

This Akkadian asterism "ni-i-ri" from the Ura = hubulla XXII lists (Block, Yigal, and Horowitz 2015) is unidentified currently. The Sumerian name is mulMU.BU-kéš-da.

Nidhoggur:

This Norse asterism "Nidhoggur" or "Níðhöggr" (Old Norse "malice striker") is made up of the stars of the IAU constellation Scorpius (minus the tail) and was created by Canadian Bjorn Jónsson (1920 – 1995) who was trying to reconstruct traditional Scandinavian skies (Kuperjanov 2006). Níðhöggr (sometimes Anglicized as Nidhogg) is the dragon gnawing at the roots of the World Tree Yggdrasil.

Niedgierreg:

This Sami asterism "Niedgierreg" is the Pleiades cluster in the IAU constellation Taurus as listed by R. H. Allen in his *Star Names* in 1899. Allen identifies this as a "Lapland" asterism.

Niflheimur:

This Norse asterism "Niflheimur" or "Niflheim" is the Milky Way around the tail of Scorpius and was created by Canadian Bjorn Jónsson (1920 – 1995) who was trying to reconstruct traditional Scandinavian skies (Kuperjanov 2006). Niflheim is a realm of ice and cold where the well of Hvergelmir is located (see Hvergelmir, above).

Night:

This Hawaiian asterism “Po” is the seven brightest stars of the IAU constellation Orion. It was also known as “Ka Hei-Hei o Na Keiki” (see Cat’s Cradle of the Children, above) or “Ku’uku’u” (see Spider, below).

Night Equals:

This Latin asterism “Noctipares” (“the night equals”) is the IAU constellation Libra. This came from an idea that this represented the balance between night and day. Johann Bayer’s *Uranometria* (1603) lists the name “Noctipares”.

Night Owl:

This Scottish asterism “Noctua” is made up of stars of the IAU constellations Hydra and Libra: 4 Librae and 54 to 57 Hydrae. It was created by Scottish schoolmaster Alexander Jamieson in his *A Celestial Atlas* in 1822 and appeared in the star atlas of American astronomer Elijah Burritt (1794 – 1838). It is a repurposing of the constellation Solitaire (see Solitary Thrush, below): Jamieson acknowledges this by labelling it “Avis Solitaria vel Noctua” on one of his charts. Noctua is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852: The author is unknown, but it is based on Jamieson’s *Celestial Atlas*. *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this as “Owl” on its star chart.

This **telescopic** asterism is in the tail of the IAU constellation Hydra. The stars 47 and 48 Hydrae form the eyes. Brazilian astronomer Bruno Alessi lists this on his BDCC 7.6 list as “Noctus”, as does the SAC. Jeffrey Corder lists it as Corder 2578. It is also on David Ratledge’s asterism list. Size 78’.

Night Star:

This Syrian asterism “Voykodzyun” is the Pleiades cluster in the IAU constellation Taurus as listed by R. H. Allen in his *Star Names* in 1899.

Nihal:

See Camels Quenching Their Thirst, above.

Nikawiy:

See Mother, above.

Nile:

There are three Latin asterisms with the name “Nilus” (“river Nile”):

- One is the IAU constellation Eridanus:
  - “Nilus” is listed in the 11th century *De signis caeli (“of the signs of heaven*”).
  - German uranographer Johannes Stöffler’s Constance Celestial Globe (1493) depicts this as a river flowing from Orion’s left foot labelled “Fluvius sive Nilus”.
  - *Dele Stelle Fisse* (“Of the Fixed Stars”) by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as “Del fiume Eridano, o ver Nilo”. The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

    - Jesuit German mathematician Christopher Clavius (1538 – 1612) lists this constellation as "Fluvius, sive Eridanus, vel Nilus" in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).
    - Johann Bayer's *Uranometria* (1603) lists "Gyon vel Nilus".
    - Dutch navigator Frederick de Houtman's catalogue of fixed stars (1603) lists it as "Het Zuyder eyude van den Nyli".
    - The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Gyon vel Nilus".
    - "Nilus" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
    - "Nilus" is listed in Robert Hues' *A Learned Treatise of Globes* in 1659.
    - Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) labels it "Eridanus" with the subtitle "Nylus Orionis".
    - "Nilus" is listed in John Hill's *Urania* in 1754 as "Nile".
- One is the IAU constellation Hydra and is listed in Robert Hues' *A Learned Treatise of Globes* in 1659.
- One is the IAU constellation Triangulum (as it resembles the delta of that river). Johann Bayer's *Uranometria* (1603) lists "Nilus" as an alternate name for Triangulum. "Nilus" is listed in R. H. Allen's *Star Names* in 1899.

Nilometer:

This Scottish asterism "Norma Nilotica", representing a measuring staff of the time, was created by Scottish schoolmaster Alexander Jamieson for his *Celestial Atlas* in 1822. It is made up of stars east of the obsolete constellation Antinous (see above) and north of the head of the IAU constellation Capricornus: 1, 71, and 70 Aquilae. Jamieson depicts Aquarius holding this in his left hand. A nilometer is a graduated pillar or surface that indicates the height reached by the Nile during its annual floods.

Nimbus of Reticulum:

This **telescopic** asterism "Nimbífera Retículi" is the lenticular galaxy NGC 1543 in the IAU constellation Reticulum. It was discovered by James Dunlop in 1826. This became 2627 on John Herschel's list and later GC 830 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as the "cloudy ring around this galaxy is reminiscent of a nimbus".

Nimmer:

This Palawan asterism is the belt of Orion in the IAU constellation Orion. This is a name from the 1831 journals of George Augustus Robinson, a missionary.

Nimrod:

This German asterism is the IAU constellation Boötes and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures. It later appears as an alternate name for Boötes in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch, in Edward Sherburne's Sphere of Marcus Manilius in 1675 and in John Hill's *Urania* in 1754. It is a variation of the old Greek asterisms Bear Watcher (see above) and Guardian of the Bear (see above). English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists this and attributes it to "the Mosaicists".

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this name and attributes it to "the Hebrews".

This Hungarian asterism "Nimród" is the IAU constellation Orion. In Hungarian folk tales Nimród is a great hunter, father of the twins Hunor and Magor. It is also known as Archer (see above) and Reaper (see below).

Nimrod's Horse:

This Hebrew asterism is the IAU constellation Pegasus as listed in R. H. Allen's *Star Names* in 1899.

Nin-Sar u Erragal:

This Babylonian asterism from the MUL.APIN tablets is the two stars Eta (η) and Theta (θ) Lyrae from the IAU constellation Lyra. This appears in later Seleucid sky lore. Compare this to the Chaldean asterism Erragal, above.

This Persian asterism "NIN-SAR" and "IR.RA.GAL" from the list of Masu Stars from the Persian (Achaemenid) Period (539 – 331 B.C.E.) tablets is the two stars Eta (η) and Theta (θ) Lyrae from the IAU constellation Lyra (Jeremias 1929). Franz Boll lists this as "Nin.sar" and "Ur.ra.gal" in his *Ancient Observations of Coloured Stars* in 1918. Ernst Weidner lists it as "nin-sar mir-ra-gal" in his *Fixsterne* in 1971.

This Babylonian asterism "Ninsar" is the stars Beta (α) Virginis (Zavijava) and Eta (η) Virginis in the IAU constellation Virgo as listed by R. H. Allen in his *Star Names* in 1899. Allen translates it as "lady of heaven".

Nine Precious Stones:

This Latin asterism "Gemmasque Novem" or "Gemmas que novem transformat in ignes" is the IAU constellation Corona Borealis as listed by the Roman poet Publius Ovidius Naso (Ovid, b. 43 B.C.E.).

Nine Senior Officers:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty, despite the name, is a line of three stars in the IAU constellations Coma Berenices and Virgo: Starting at the determinative star Rho (ρ) Virginis it runs through 34 Virginis to 29 Comae Berenices.

This Chinese xing guan "Jiǔqīng" (九卿), despite the name, is a triangle of three stars in the IAU constellation Virgo: Rho (ρ) and 32 Virginis and HIP 61579.

Nine Territory:

This Korean asterism is an irregular oval of stars in the IAU constellation Eridanus. It starts with the star Nu (ν) Eridani and runs through Xi (ξ), Omicron (ο) 1 and 2, 56, Omega (ω), Mu (μ), and 51 Eridani, and HIP 21297.

Nine Stars:

This Hungarian asterism "Kilenc csillag" appears to be made up of stars of Leo and Virgo. Sandor Nagy (1915) depicts this asterism as a group of nine stars, including Tell Me a Picture (see below). NOTE: Nagy's 1915 chart is beautifully illustrated, but some of the labels are hard to make out and I find it

difficult to match the hand drawn stars on his chart with actual star patterns in the sky. The stars are currently unidentified.

Nine Water Wells:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is made up of stars of the IAU constellations Indus and Microscopium. It is a long line of stars with 6 lines branching off.

- The line starts at the determinative star Alpha (α) Indi and runs through Zeta (ζ) Indi, and HIP 105685 to HIP 107649.
- One line runs from Zeta (ζ) Indi to Nu (ν) Microscopii,
- From HIP 105685 two lines run out:
    - One to T Indi, and
    - One through HIP 105560 to HIP 105425.
- From HIP 107649 two lines run out:
    - One to HIP 107409, and
    - One to HIP 106429.

This Chinese xing guan "Jiŭkăn" (九坎) is the star HIP 104680 in the IAU constellation Microscopium.

This Chinese Chenzhuo xing guan "Jiŭkăn" is a lattice of stars in the IAU constellation Microscopium and Sagittarius: The center line is the stars HIP 105854, Zeta (ζ) Microscopii, and HIP 102497. From HIP 105854 lines run out to HIP 104738 and 104752. From Zeta (ζ) Microscopii lines run out to HIP 103127 and 102916. From HIP 102497 lines run out to Kappa (κ) Sagittarii and HIP 94986.

Ningirim:

This Chaldean asterism "mul.nin.girim" from the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period (Koch-Westenholz 1995) is a quadrilateral of four stars: Beta (β) Ceti (Diphda), Iota (ι) Ceti, Tau (τ) Ceti, and Upsilon (υ) Ceti. It is associated with the Goddess Ningirim, who is associated with rodents. It is also listed as "dnin.gir.su" ("Ningirsu").

This Sumerian asterism "[mu]l dnin-tu" listed in the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is a quadrilateral of four stars: Beta (β) Ceti (Diphda), Iota (ι) Ceti, Tau (τ) Ceti, and Upsilon (υ) Ceti.

This Akkadian asterism "dbe-let DIĜIR.MEŠ listed in the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is a quadrilateral of four stars: Beta (β) Ceti (Diphda), Iota (ι) Ceti, Tau (τ) Ceti, and Upsilon (υ) Ceti.

Ningišzida:

This Sumerian asterism is the IAU constellation Hydra. This is a character in an ancient myth about the priest Adapa of Eridu and his encounter with the Gods Ningišzida or Gišzida and Dumuzi.

Ninja Star Galaxy:

This American **telescopic** asterism is the spiral galaxy NGC 278 in the IAU constellation Cassiopeia. It was discovered in 1786 by English astronomer William Herschel who listed it as I 159. It is GC 158 in the General Catalogue of 1864. This name was posted on the *Deep Sky Forum* in October 2016 by Jimi Lowrey. It is also known as the "Flower Like of Cassiopeia" and the "Neon Sign Galaxy".

Ninmah:

This Babylonian asterism from the MUL.APIN tablets in the IAU constellation Cetus represents the Goddess "Ninmah" or "Ninmahk". It is a quadrilateral of four stars: Beta (β) Ceti (Diphda), Iota (ι) Ceti, Tau (τ) Ceti, and Upsilon (υ) Ceti. It appears in the later Seleucid sky lore.

This Chaldean asterism "mul.nin.mah" or "mul.min" (Koch-Westenholz 1995) from the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period is a quadrilateral of four stars: Beta (β) Ceti (Diphda), Iota (ι) Ceti, Tau (τ) Ceti, and Upsilon (υ) Ceti.

Ninmah is an aspect of the Sumerian Goddess Ninḫursaĝ, Ninursag, Ninharsag, Ninhursaga, or Damgalnuna, who is a Mother Goddess of the mountains.

Ninmu:

This Chaldean asterism "mul nin.mu" is listed in the *Great Star List* (Koch-Westenholz 1995) and the stars are not identified. Ninmu is the daughter of the God Enki and Goddess Ninhursanga.

Niqirtsuituq:

This Inuit star "Niqirtsuituq" is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (MacDonald 1998).

Nitanti:

This Vedic star from the *Taittiriya Brahmana* is 27 Tauri (Atlas) in the IAU constellation Taurus (Leitz 2019). It is part of their asterism Krttika (see Cutters, above).

Njengari:

This Kaurna star was listed by Hamacher in 2015. This is a man who created landscape and was then transformed into a star. The identity of the star is not known at present.

Noah:

This asterism is the IAU constellation Centaurus. R. H. Allen lists this as a name used "in some medieval Christian astronomy" in his *Star Names* in 1899.

Noah's Ark:

This asterism "Arca Noachi" is Ptolemy's asterism Argo's Ship (see above) and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures (Stevenson 1921). This is depicted as a ship with a mast with a fish net draped over the side.

- Johann Bayer's *Uranometria* (1603) lists "Archa Nohae".
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Arca Nohae".
- This asterism is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "Arca Nöe al Argo Navis".
- This asterism later appears in Edward Sherburne's *Sphere of Marcus Manilius* in 1675 and in John Hill's *Urania* in 1754.

- Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) depicts "Argo Navis al Arca Noe" as the front half of a galley with a ram figurehead emerging from a cloud.
- English scholar and mythologist Jacob Bryant (1715 – 1804) described the tale of Jason's argonauts as another form of the tale of Noah.

Noah's Cup:

This German asterism is the IAU constellation Crater. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists this as a "goblet of Noah" but does not identify the source.

Noah's Dove:

This asterism "Columba Noachi" was the name Flemish astronomer Petrus Plancius (1552 – 1622) gave to the IAU constellation Columba in 1592 (see Columba, above). This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661. Robert Hues lists this name in his *A Learned Treatise of Globes* in 1659. Scottish uranographer Alexander Jamieson (1782 – 1850) lists "Columba Noachi" in his *Celestial Atlas* in 1822.

Noah's Ship:

This Estonian asterism is the IAU constellation Delphinus (Kuperjanov 2006). This is from the island of Saaremaa.

Noah's Raven:

This asterism is the IAU constellation Corvus. This constellation is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as "Corb, Elia vel Noa" ("Elijah's Raven or Noah's Raven"). Noah's Raven is listed in English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 and in R. H. Allen's *Star Names* in 1899.

Noble Falcon:

This Sumerian asterism "mulmar-dú" as listed in the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is the IAU constellation Aquila.

This Akkadian asterism "a-mur-ru" as listed in the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is the IAU constellation Aquila.

This Persian asterism "Muru" is the IAU constellation Aquila as listed in R. H. Allen's *Star Names* in 1899.

This Sogdian asterism "Shad Mashir" is the IAU constellation Aquila as listed in R. H. Allen's *Star Names* in 1899.

This Khorasmian asterism "Sadmasjij" is the IAU constellation Aquila as listed in R. H. Allen's *Star Names* in 1899.

Compare this to Peregrine Falcon, below.

Noblest of Coma Berenices:

This **telescopic** asterism "Óptimas Cómae Bereníces" is the supergiant elliptical galaxy NGC 4889 (NGC 4884, Caldwell 35) in the IAU constellation Coma Berenices. It was discovered in 1785 by William Herschel who listed it as "II 391". John Herschel listed it as h 1507 and later as GC 5698 and GC 3351 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it is one of the major galaxies in the Coma Cluster, the other being NGC 4874. They describe "the situation… reminiscent of the old divide in Roman society between popular politicians and aristocratic, opulent landlords."

Noisy Footed:

This Latin asterism "Sonipes" is the IAU constellation Centaurus as described by 1st century B.C.E. Roman poet Publius Vergilius Maro (Vergil).

Non-Revolving Star:

This Seri star "HIIZOOX CAANOJ HIIMATAAX" or "Estrella que no gira" is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (see Little Dipper, above).

Nonoko-tea:

This Māori asterism is the Large Magellanic Cloud. Orchiston (2017) lists it as one of the Magellanic Clouds.

Nonoko-uri:

This Māori asterism is the Small Magellanic Cloud. Orchiston (2017) lists it as one of the Magellanic Clouds.

Nonsensical Installation:

This American asterism is made up of the stars of the IAU constellations Canes Venatici and Ursa Major and was created by Brad and Kathryn Templeton for *The Vault of Heaven* star map for the 2004 Burning Man event held in Black Rock Desert in Nevada (Kuperjanov 2006). The stars making up the back leg of Ursa Major are combined with Canes Venatici to form this.

Norma:

None of the stars of Norma are brighter than 4th magnitude and only show up in 26 of the asterisms in this handbook.

This IAU constellation (IAU abbreviation Nor) is one of twelve created by French astronomer Abbé Nicolas Louis de Lacaille in 1751. He called it "l'Équerre et la Règle" ("the Square and the Rule") and it is so labeled on his *Planisphère des Étoiles Ausralea* (1756), which depicts a carpenter's square overlapping a ruler. In 1763 he shortened and latinized the name to its current form.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "l'Équerre et la Règle" as a ruler square.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists this as "Norma Euclides" ("Euclid's Rule") in his *Celestial Atlas* in 1822.

R. H. Allen lists it in his *Star Names* in 1899 as "Norma et Regula".

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as "Lineal".

"Norma" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875): He indicates the borders of this constellation on the chart but offers no illustration of it.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts Norma as a square and ruler but does not label it.

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Norma, the Rule" as an official constellation "recognized in the catalogue of the British Association".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Norma" and describes it as a "Rule".

This constellation is shown on Italian charts as "Riga e Squadra" and on German charts as "Lineal" ("ruler") or "Winkelmass" ("angle measure" or "square").

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) redesigned the lines of Norma in his book *The Stars - A New Way to See Them* (1952). The standard IAU chart shows this constellation as a triangle of the stars Kappa (κ) Normae, Gamma (γ) 1 and 2 Normae, Epsilon (ε) Normae, and Eta (η) Normae, with a line running through the middle from Eta (η) to Gamma (γ) 2 Normae. Rey's version is a quadrilateral of the stars Gamma (γ) 1 and 2 Normae, Epsilon (ε) Normae, Delta (δ) Normae, and Eta (η) Normae. Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Norma in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik*, in the same manner as Reyersbach, as does *Sky and Telescope Magazine* their publications..

Norma's Jewel Box:

This telescopic asterism is NGC 6067 (Caldwell 89) in the IAU constellation Norma. It was discovered by Scottish astronomer James Dunlop in 1827.

Norman's Passing Pair:

This **telescopic** asterism "Norman's Passing Pair" or "NPP" is in the IAU constellation Boötes. It is named for German astronomer Norman Görlitz, who discovered it in 2018. Robert Zebahl lists it on his *Faint Fuzzies* website. Its size is 1.7' X 1'. Zebahl describes it as "located between a true physical double star with components BD+24 2733 and BD+24 2733B and a background star BD+24 2734. In the Hipparcos catalogue the double star is listed as HIP 70529. The pair with the proper motion of 1.37" per year in the southeast direction just passes the background star BD+24 2734, which has a similar brightness… and coloration… as the double star components… In 2005 the three stars formed a straight line, now the line is bent, in 2036 they will form an isosceles triangle. In 2018 the distance of the eastern double star component to the background star was 33" and it widens by about 1" per year."

North America Nebula:

This **telescopic** asterism is the HII region NGC 7000 (Caldwell 20, SH 2-117, LBN 373, Ced 183d) in the IAU constellation Cygnus. It was discovered by English astronomer William Herschel in 1786 who listed it as "V 37". It is GC 4621 in the *General Catalogue* of 1864. It was German astronomer Max Wolf that

gave it the name “America Nebula” in 1890 after examining its image on a long-exposure photographic plate. Edward Emerson Barnard, writing about Wolf in 1903, said “It was first photographed by Dr. Max Wolf some twelve years ago and has been called by him the ‘America Nebula” from its striking resemblance to North America as shown on maps and globes”. In a footnote, Barnard adds: “The ‘North America Nebula’ would perhaps be more definite, for it is North American to which Dr. Wolf intents the compliment” (Stephen Waldee 2012). Size 120’ X 30’.

North Cord:

This Polish asterism “Linum Boreum” is made up of the stars of the IAU constellation Pisces and was created as one of four subdivisions of this constellation by the Polish astronomer Johannes Hevelius (1611 – 1687). It is the stars Chi (χ) Piscium, Rho (ρ) Piscium, 94 Piscium, 97 Piscium, Eta (η) Piscium, Pi (π) Piscium, Omicron (ο) Piscium, and Alpha (α) Piscium (Alrescha).

North Fish:

This Polish asterism “Piscis Boreus” is made up of the stars of the IAU constellation Pisces and was created as one of four subdivisions of this constellation by the Polish astronomer Johannes Hevelius (1611 – 1687). It is the stars Sigma (σ), 68, 65, Psi (ψ) 1, 2 and 3, Chi (χ), Phi (φ), 91, Tau (τ), 82, and 78 Piscium.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) labels the northern “fish” of Pisces “le Poisson boreal” in a close-up chart and this also appears in the French edition of Flamsteed’s work, the *Atlas Céleste,* which was revised in 1778.

North Gate of the Military Camp:

This Chinese xing guan “Běiluòshīmén” (北落师门) is the star Alpha (α) Piscis Austrini in the IAU constellation Piscis Austrinus. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Běiluòshīmén” is the star Alpha (α) Piscis Austrini in the IAU constellation Piscis Austrinus.

North Major:

This “Persian” asterism “Haphtûrengh Mihîn” is the IAU constellation Ursa Major as listed in Edward Sherburne’s *Sphere of Marcus Manilius* in 1675.

North Nail:

This Estonian star “Põhjanael” (“north nail” or “northern nail”) is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Kuperjanov 2006). Compare this to the Belarussian asterism “Гвоздь” (see Nail, above).

North of Aldebaran:

This Micronesian (Caroline Islands) star “Jefegen Uun”, “Efang Alui”, “evang-el-ul”, or “Iefangel Uul” is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga.

North Pole:

This Korean asterism “Buggeug” (북극) is a line of five stars in the IAU constellation Ursa Minor: Gamma (γ) Ursae Minoris, Beta (β) Ursae Minoris (Kochab), 5 Ursae Minoris, and 4 Ursae Minoris and HIP 62572A. Despite the name, it does not contain the star Alpha (α) Ursae Minoris (Polaris), which is in their neighboring asterism, “Wound Lodge” (see below).

North River:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a bent line of three stars in the IAU constellation Gemini: Starting at the determinative star Beta (β) Geminorum (Pollux) it runs through Alpha (α) Geminorum (Castor) to Rho (ρ) Geminorum.

This Chinese xing guan “Běihé” (北河) is a line of two stars in the IAU constellation Gemini: Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux).

This Chinese Chenzhuo xing guan is a line of four stars in the IAU constellation Gemini: Beta (β) Geminorum (Pollux), Sigma (σ) Geminorum, Alpha (α) Geminorum (Castor), and Rho (ρ) Geminorum.

This Korean asterism (also called “Northern River”) is identical to the Chinese xing guan North River (see above).

North Seven Stars:

This Japanese asterism is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above).

North Side of Second Leap of a Gazelle:

This Latin star “Tania Borealis” is Lambda (λ) Ursae Majoris in the IAU constellation Ursa Major. It is part of their asterism Second Leap of a Gazelle (see below). The IAU approved the name Tania Borealis for Lambda (λ) Ursae Majoris A in 2016.

North Snake:

This Estonian asterism “Põhja Madu” is the IAU constellation Draco.

North Star:

This star is currently Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor. In Hipparchus’ day, Polaris was 12° 24’ away from celestial north: Hipparchus (190 – 120 B.C.E.) described the north celestial pole as a “vacant spot forming a quadrangle with three other stars” which was the “Πόλος” (“Pólos”) of the 1st century B. C. Roman poet Publius Ovidius Naso (Ovid) and the 1st century C.E. Roman poet Marcus Annaeus Lucanus (Lucan):

- Polaris got this name relatively recently, being mentioned as “stella ill aquae Polaris dictur” (“the star which is called polar”) by Dutch mathematician and cartographer Gemma Frisius in 1547: At that date it was 3° 8’ from celestial north. This Latin name “Stella Polaris” got shortened as the shorter name fit better on star charts.
- The mid 15th century Wein, Oesterr. National Bibl., manuscript Lat 5415, ff.168v-169r lists this star as “Alrucaba”.
- The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) lists this star as “Alrukaba” and “Stella Polaris”.

- English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) lists this star as "Stella Polaris".
- This star is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as "Stella Polaris".
- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) called this star "Pollaris".
- Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) lists this star as "Stella Polaris".
- The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) lists this star as "Polaire" and "l'Etoile Polaire".
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "der Polarstern".
- The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer lists this star as "Stella Polaris".
- Scottish astronomer Alexander Jamieson (1782 – 1850) listed "Polar Star" in his Celestial Atlas in 1822.
- This star is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 lists "Polaris".
- Admiral William Henry Smyth's *Prolegomena* of 1844 lists "Polaris".
- German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this star as "Polar Stern".
- English astronomers Crossley, Gledhill, and Wilson list "Polaris" in *A Handbook of Double Stars with a Catalogue of Twelve Hundred Double Stars and Extensive Lists of Measures* (1879).
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as "Polaris".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Polaris" and "the pole star".
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this as the "Pole Star".
- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Polaris".
- *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Polaris".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and the 14th edition (1959) list this star as "Polaris".
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this star as "Polaris (North Star)".
- The IAU approved the name Polaris for Alpha (α) Ursae Minoris.

NOTE: Around 2600 B.C.E. the north star would have been the star Alpha (α) Draconis (Thuban).

This Dravidian star "vata min" is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor as listed by Leitz in 2019.

This Japanese star "Hokushin" or "Hukkyoju-sei" is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Miyajima 2014) as depicted by Japanese Emperor Go-Yozei (1586 – 1611).

This Macedonian star “Severnica” is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Cenev 2014).

This Lacandon star “Xämän ek’” is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Milbrath 1999).

This Ojibwe star “Giwedin’Anung” is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Lee et al 2014).

This Finnish star “Pohjantähti” is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor.

North Wagon:

This Old Swedish asterism is the Little Dipper asterism in the IAU constellation Ursa Minor (see Little Dipper, above).

North Winds:

This Latin asterism “Aquilonius” or “Aquilonaris” is the IAU constellation Pisces. It was used as an indicator of rain from the north. NOTE: R. H. Allen notes in his *Star Names* in 1899 that Lucius Ampelius assigned Pisces to the southeast wind (“Eurus” or “Vulturnus”).

Northeastern Nations:

This Korean asterism “Bugdongbu Guggadeul” (북동부 국가들) is a quadrilateral of stars in the IAU constellation Sagittarius: 52, 55, 56, and Chi (χ) 1 Sagittarii.

Northerly Dog:

This Latin asterism “Canis Septentrionalis” is the IAU constellation Canis Minor, so called as it is north of Canis Major. This name is listed in Johann Bayer’s *Uranometria* (1603). The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Canis Septentrionalis”.

Northern and Southern Dogs:

This German asterism “Asterion and Chara” (Greek names for “stars” and “joy”), is two stars in the IAU constellation Canes Venatici: Alpha (α) Canum Venaticorum (Cor Caroli) and Beta (β) Canum Venaticorum (Chara). It was created by Polish astronomer Johannes Hevelius (1611 – 1687):

- The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts “Chara” and “Asterion” next to Boötes.
- Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists “Chara” and “Asterion” as two “jagdhunde” on leashes held by Boötes.
- In his *Urania* in 1754, John Hill lists this as “Astaroth” and “Asterion” for one dog and “Chara” for the other and describes them as “greyhounds” or “hounds” in his *Urania* in 1754.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists Asterion and Chara as the “Hounds”.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists “Asterion” and “Chara” in his *Celestial Atlas* in 1822.
- This is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852 as “Asterion” and “Chara”: The author is unknown, but it is based on Jamieson’s *Celestial Atlas*.

Northern Antenna of Corvus:

This **telescopic** asterism “Anténna Boreális Córvi” is the barred lenticular galaxy NGC 4038 (Arp 244/Caldwell 60) a pair of colliding galaxies in the IAU constellation Corvus. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): This is part of the Antennae Galaxies (see above). These galaxies were discovered by English astronomer William Herschel in 1789 who listed them as “IV 28.1” and “IV 28.2”. They are GC 2670 and GC 2671 in the *General Catalogue* of 1864. They got this name because of the two long “tails” of stars, gas, and dust ejected from the collision, resembling an insect’s antennae. This is also known as the Ring Tail Galaxy (see below), the Snorther (see below), the Antennae or Antennae Galaxies (see above), and the Mosquito Larvae (see above).

Northern Axle:

This Arabic star “Al Ḳuṭb al Shamāliyy” (“northern axle” or “northern pin”) is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor.

Northern Bear:

This is the IAU constellation Ursa Major as it is described in Walter Scott’s *Lay of the Last Minstrel* in 1805 (Pinard 2022).

Northern Bow:

This Latin star “Kaus Borealis” is Lambda (λ) Sagittarii in the IAU constellation Sagittarius. This name is derived from the Arabic “gaws” (“bow” قوس) and Latin “borealis” (“northern”). The IAU approved the name Kaus Borealis for Lambda (λ) Sagittarii in 2016.

Northern Car:

This English asterism is the Little Dipper asterism in the IAU constellation Ursa Minor as listed by Robert Hues in his *A Learned Treatise on Globes* in 1659, who cites a poem by “T. May” which describes it as the “northern carre”.

Northern Claw of Al-Jawza:

This Bedouin (Western Saudi Arabia) star “Zabin al-Ǧawza al-Šimalī” is Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion. This name appeared in "Ibn Bišir, ʿUṯmān ibn ʿAbd Allah (d. 1873), ʿInwān al-maǧd fi tarīḫ Naǧd, The title of glory on the history of Najd, (Arabic critical edition print by Dr. Muḥammad ibn Nāṣir al-Šiṯrī), Riyadh, Saudi Arabia, 2012, pg. 292." See Giant, above.

Northern Claw of the Scorpion:

This Greek star “Χηλή βόρειος” (“Chilí vóreios”) is Beta (β) Librae (Zubeneschamali) in the IAU constellation Libra.

This Arabic star “az-Zubān ush-Shamāliy” (الزبان الشمالي) or “Al Zubān al Shamāliyyah” is Beta (β) Librae in the IAU constellation Libra:

- This was later latinized to “Zubeneschamali”, “Zuben Eschamali”, “Zuben Elschemali”, “Zuben el Chamali”, or “Zubenelschamali”.

- The star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985) lists the Hebrew name "ha-me 'ubhar".
- Johann Bayer's *Uranometria* (1603) lists "Zubeneschemali".
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Zubeneschemali".
- Robert Hues lists it as "Zubeneschimali" in his A Learned Treatise of Globes in 1659.
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Zubeneschemali".
- Scottish uranographer Alexander Jamieson (1782 – 1850) listed this star as "Zuben es Chimali" in his *Celestial Atlas* in 1822.
- This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Zuben El Chimali": The author is unknown, but it is based on Jamieson's *Celestial Atlas*.
- German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this star as "Zuben Eschamali".
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich lists this star as "Zuben el Chamali".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Zuben el Chamali".
- *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns describes Beta (β) Librae as resembling Uranus.
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists this star as "Zubenesch", "Zuben el Chamali", and "Zubenelg", but his 14th edition (1959) only lists this star as "Zuben el Chamali" and "Zubenesch".
- The IAU approved the name Zubeneschamali for Beta (β) Librae.

Northern Coal Sack:

This asterism is a dark nebula, Barnard 348, in the IAU constellation Cygnus. *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), names this simply the "Coal Sack". It is listed in R. H. Allen's *Star Names* in 1899 as the "Northern Coal Sack". It is also known as the Cygnus Rift.

Northern Cross:

The Northern Cross is a stellar "swan" which appears in several Greek myths. The "upright" runs from Alpha (α) Cygni (Deneb- 19th brightest star) in the swan's "tail" to the double star Beta (β) Cygni (Albireo) in the "beak". The transverse runs from Epsilon (ε) Cygni in one "wing" to Delta (δ) Cygni in the other "wing" with the star Gamma (γ) Cygni (Sadr- 68th brightest star) in the middle. Deneb forms one of the stars of the Summer Triangle (see below). *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this name for Cygnus. *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Northern Cross" for this asterism. *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this asterism as the "Northern Cross". Jeffrey Corder lists this as Corder 4121.

Northern Cross is another name for the Quechua (Misminay) asterism "Hatun Cruz" (see Large Cross, above (Urton 1980)).

Northern Crown:

This Arabic asterism "Altaaj Alshamaliu" (التاج الشمالي) is the IAU constellation Corona Borealis. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists the Greek "Στέφαγς βόρειος" ("northern crown") and does not mention an Arabic connection. *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this name exclusively for Corona Borealis.

Northern Dagger:

This Spanish and Piemontese asterism from the Chaco region of Argentina, "Puñal del Norte", is described by Mudrik (2011) as "stars in the region of Theta (θ) and Iota (ι) Orionis" which would place it in the sword of Orion in the IAU constellation Orion.

Northern Dipper:

This Chinese xing guan "Běidǒu" (北斗) is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above). It first appeared in the *Xia xiao Zheng* (夏小正 *Small Calendar of the Xia Dynasty*) which dates to the 21st to 17th century B.C.E. and in the turtle plastrons and ox scapulae from the reigns of the last few kings of the Shang Dynasty (1250 – 1450 B.C.E.) as well as on tomb goods from the Chu state (433 B.C.E.). It also appeared as a translation of the Vedic asterism "Saptarshis" (see Seven Sages, below) in the *Xiuyao jing* (宿曜經) which appeared in 759 and was revised in 764 (Kotyk 2017). By the 9th century Buddhist astrologers in China believed that the Big Dipper governed longevity and associated each of the seven stars with a Goddess: This appears in the *Beidou qixing yanming jing* or *Sūtra of Life Extension by the Seven Stars of the Big Dipper* (Kotyk 2017). The Goddess representing the star Mizar has an attendant that represents the star Alcor. Their names for the eight stars are:

- Alpha (α) Ursae Majoris (Dubhe): "Tianshu" ("Celestial Pivot"), "Talang" ("Greedy Wolf"), or "Zheng" ("Justice"),
- Beta (β) Ursae Majoris (Merak): "Tianxuan" ("Celestial Rotating Jade"), "Jumen" ("Giant Gate"), or "Fa" ("Law).
- Gamma (γ) Ursae Majoris: "Tianji" ("Celestial Shining Pearl"), "Lucun" ("Good Fortune Star"), or "Ling" ("Command"),
- Delta (δ) Ursae Majoris: "Tianquan" ("Celestial Balance"), "Wenqu" ("Literary Star"), or "Fa" ("Crusade").
- Epsilon (ε) Ursae Majoris: "Yuheng" ("Jade Sighting Tube"), "Lianzhen" ("Clean and Chaste"), or "Sha" ("Killing").
- Zeta (ζ) Ursae Majoris (Mizar): "Kaiyang" ("Opener of Heat"), "Wuqu" ("Military Star"), or "Wei" ("Danger").
- 80 Ursae Majoris (Alcor): "Fu" ("Assistant").
- Eta (η) Ursae Majoris: "Yaoguang" ("Twinkling Balance"), "Pojun" ("Break the Enemy"), or "Bu" ("Army").

This Chinese Chenzhuo xing guan "Běidǒu" is the "Big Dipper" asterism in the IAU constellation Ursa Major: The "handle" starts at Eta (η) Ursae Majoris ("Yaoguang" ("Twinkling Brilliance") or "Pojun" ("Break the Enemy")), and runs through Zeta (ζ) Ursae Majoris ("Kaiyang" ("Opener of Heat") or "Wuqu" ("Military Star") and 80 Ursae Majoris ("Fu" ("Assistant"), and Epsilon (ε) Ursae Majoris ("Yuheng" ("Jade Sighting Tube") to Delta (δ) Ursae Majoris (""Tianquan" ("Celestial Balance") or "Wenqu" ("Literary Star") or "Fa" ("Crusade"). The "dipper" starts at Delta (δ) Ursae Majoris and runs through Gamma (γ) Ursae Majoris ("Tianji" ("Celestial Shining Pearl") or "Lucun" ("Good Fortune Star")), and Beta (β) Ursae Majoris (Merak, "Tianxuan" ("Celestial Rotating Jade") or "Jumen" ("Giant Gate") or "Fa" ("Law"), to

Alpha (α) Ursae Majoris (Dubhe, “Tianshu” (“Celestial Pivot”) or “Tanlang” (“Greedy Wolf” or “Zheng” (“Justice”).

This Korean asterism “Bugduchilseong” (북두칠성) is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above). The Korean names for the stars of this asterism are:

- “Jeong”: Alpha (α) Ursae Majoris (Dubhe).
- “Beop”: Beta (β) Ursae Majoris (Merak).
- “Ryeong”: Gamma (γ) Ursae Majoris (Phecda).
- “Beol”: Delta (δ) Ursae Majoris (Megrez).
- “Sal”: Epsilon (ε) Ursae Majoris (Alioth).
- “Wi” (“the helper”): Double stars Zeta (ζ) Ursae Majoris (Mizar) and 80 Ursae Majoris (Alcor).
- “Eung”: Eta (η) Ursae Majoris (Alkaid).

This Japanese asterism is the Big Dipper Asterism in the IAU constellation Ursa Major (Kotyk 2018).

This Vietnamese asterism “Bắc Đẩu thất tinh” is the Big Dipper Asterism in the IAU constellation Ursa Major (see Big Dipper, above).

Northern Donkey Colt:

This Greek star “Asellus Borealis” is Gamma (γ) Cancri in the IAU constellation Cancer and is part of their asterism Donkey Colts (see above):

- This star is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 with the abbreviated label “Asellus Bor”.
- Edward Sherburne calls this the “Northern Asinego” (“northern donkey”) in his *Sphere of Marcus Manilius* in 1675.
- Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists this star as ”Asellus Boreus”.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists this star as “Asellus Boreus” in his *Celestial Atlas* in 1822.
- This is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852 as “Asellus Boreus”: The author is unknown, but it is based on Jamieson’s *Celestial Atlas*.
- The IAU has approved the name Asellus Borealis for the star Gamma (γ) Cancri Aa.

Northern Eye:

This English star “Oculus Boreas” is Epsilon (ε) Tauri in the IAU constellation Taurus. It was given this name by English astronomer John Flamsteed (1646 – 1719).

Northern Fly:

This Polish asterism “Muscae Borealis” is made up of the three stars 35 Arietis, 39 Arietis, and 41 Arietis (Bharani) in the IAU constellation Aries. It was created by the Polish astronomer Johannes Hevelius (1611 – 1687), and the name is a reference to the southern IAU constellation Musca, “the fly” (see Musca, above). R. H. Allen notes in his *Star Names* in 1899 that “Houzeau attributed its formation to Habrecht, but others to Bartschius, who called it Vespa” (Bartschius being the Latin name of German astronomer Jacob Bartsch (1600 – 1633), who actually used the same stars to create his asterism *Vespa*, see Wasp, below).

- A celestial pocket globe created by British uranographer Herman Moll in 1719 labels this "Musca" and depicts it at the feet of Perseus.
- The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "la Mouche" as a fly next to "le Belier" (Aries).
- German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists it as "Fliege" as does Bode's *Vorstellung Der Gestirne* (1782).
- A celestial pocket globe created by English uranographer Dudley Adams circa 1795 labels this asterism "Musca"
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts "Musca" as a fly.
- Modern astronomers have adopted it as a **telescopic** asterism in which this line of stars forms the fly swatter, but these stars have been used time and again by sky cultures elsewhere, some predating the telescope. This is identical to the Vedic asterism Bharani (see Bearer, above), the asterism Apes (see Bee, above), and Fleur de Lis (see above).
- French charts listed it as "Mouche", German as "Fliege" and Italian as "Mosca".

Northern Horn of Al-Jawza:

This Bedouin (Western Saudi Arabia) star "Qarn al-Ǧawza al-Šimalī" (قرن الجوزا الشمالي) is Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion. See Giant, above.

Northern Horn of the Bull:

This Arabic star "Al Ḳarn al Thaur al Shamālīyyah" is Beta (β) Tauri (Elnath) in the IAU constellation Taurus.

Northern Jewel Box:

This **telescopic** asterism is the open cluster NGC 6231 (Caldwell 76) in the IAU constellation Scorpius, also known as the False Comet, The Table of Scorpius, and the Crocodile. It is located a half a degree north of Zeta (ζ) Scorpii. It was discovered by Italian astronomer Giovanni Battista Hodierna before 1654, who called it "Luminosae" (Italian for "bright"). It is listed in the *General Catalogue* of 1864 as GC 4245 and in John Herschel's catalogue as h 3652. South African astronomer Gary Lillis came up with the name "Northern Jewel Box" in 2007 in Walmer, Port Elizabeth, as this asterism resembles the Jewel Box (NGC 4755).

Northern Light:

This Babylonian star "Nura sha-Iltānu" is Beta (β) Librae (Zubeneschamali) in the IAU constellation Libra as listed in R. H. Allen's *Star Names* in 1899. Allen attributes this to German astronomer and Jesuit Joseph Epping (1835 – 1894).

Northern Lagoon Nebula:

This **telescopic** asterism is NGC 7538 (SH 2-158, LBN 542, Ced 209) in the IAU constellation Cepheus. This was discovered in 1787 by English astronomer William Herschel. This name was posted on the *Deep Sky Forum* in January 2023 by American astronomer Dragan Nikin. It is also known as the Brain Nebula (see above), and Dreyer's Object.

Northern Line of al-Nasaqān:

See Two Lines (below).

Northern of Lilium:

This French star "Līliī Boreā" is 39 Arietis in the IAU constellation Aries. French astronomer Nicolas-Louis de Lacaille (1713 – 1762) gave it this name as it was part of the now obsolete constellation Lilium (see Fleur de Lis, above) created by French architect Augustin Royer.

Northern of the Chariot:

This Persian (Achaemenid Period 539 – 331 B.C.E.) star "SUR GIGIR sa SI" ("northern [unknown part] of the chariot") is Beta (β) Tauri (Elnath) in the IAU constellation Taurus (Hunger and Sachs 1988).

Northern Part of the Head of the Lion:

This Arabic star "Ras al Asad al Shamaliyy", later latinized to "Rasalas", or "Ressalas" or "Ras Elased Borealis", is Mu (μ) Leonis in the IAU constellation Leo:

- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Rasalas, from the Arabian Rás al Asad, and further designated by Al shemáli, or borealis, to denote the northern star in Asad's head".
- R. H. Allen in his *Star Names* in 1899 translates this as "head of the lion towards the south".
- The IAU approved the name Rasalas for Mu (μ) Leonis in 2016.

Northern Part of the Scales:

This Persian (Achaemenid Period 539 – 331 B.C.E.) star "RIN sa SI" is Beta (β) Librae (Zubeneschamali) in the IAU constellation Libra (Hunger and Sachs 1988).

Northern Pole:

This Chinese xing guan "Běijí" (北极) is a line of stars in the IAU constellation Ursa Minor. The line starts with Gamma (γ) Ursae Minoris and runs up through Beta (β) Ursae Minoris (Kochab), 5 Ursae Minoris, and 4 Ursae Minoris, ending at HIP 62572A. This xing guan was used in the Three Kingdoms to Ming Dynasty period, was listed in the Han Dynasty (Didier 2009), and remained unchanged in later Chinese sky lore. The names of its stars are:

- Gamma (γ) Ursae Minoris: "Taizi" ("Crown Prince"),
- Beta (β) Ursae Minoris (Kochab): "Di" ("Emperor"),
- 5 Ursae Minoris: "Shuzi" ("Bastard"),
- 4 Ursae Minoris: "Hougong" ("Harem"),
- HIP 62572A: "Tianshu" ("Celestial Pivot") or "Niuxing" ("Ancient Star"). This is the determinative star

This Chinese Chenzhuo xing guan "Běijí" is a line of stars in the IAU constellation Ursa Minor: Starting at Gamma (γ) Ursae Minoris ("Taizi" ("Crown Prince") it runs through Beta (β) Ursae Minoris (Kochab, "Di" ("Emperor")), 5 Ursae Minoris ("Shuzi" ("Bastard") and 4 Ursae Minoris ("Hougong" ("Harem") to HIP 65595 ("Tianshu" ("Celestial Pivot") or "Niiuxing" ("Ancient Star").

Northern Press:

This Latin star “Torcularis Septentrionalis” is Omicron (ο) Piscium in the IAU constellation Pisces and appeared in the 1515 manuscript of the *Almagest*. It was derived from the Greek word “ληνός” ('full'), which was mistranslated as “λίνος" ('linen') and later contracted to “Torcular”. In 2017 the IAU approved the name Torcular for the star Omicron (ο) Piscium A.

Northern Shepherd:

See Shepherd, below.

Northern Shining One:

This Arabic star “Alsaatie Alshamaliu” (الساطع الشمالي) is Alpha (α) Canis Minoris (Procyon).

Northern Shi’ra:

This Arabic Star “al-Shi’ra al-Shāmīya” is Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor. It is called “al-Shāmīya” as it sets from the location of “al-Sham” (Greater Syria).:

- “al-Shi’ra al-Shāmīya” is listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists “al-shi’rā al-sha’āmiya”.
- This is also known as the Bleary-Eyed Woman (see above).

Northern Southern Cross:

This **telescopic** asterism Cseh 3 (Földvári 12) listed by Hungarian astronomer Viktor Cseh is in the IAU constellation Ursa Major. This asterism, which resembles the Southern Cross (see below) includes the stars 51 Ursae Majoris, HIP 54178A, HIP 54235, and HIP 54210.

Northern Streamer:

This **telescopic** asterism is dark nebula is Barnard 218 in the IAU constellation Taurus.

Northern Suhail:

See Solitary, below.

Northern Tail of the Eagle:

This Latin star “Deneb al Okab Borealis” (“northern tail of the eagle”) or “Deneb el Okab”, is Epsilon (ε) Aquilae in the IAU constellation Aquila and is part of their asterism Tail of the Eagle (see below). John Hill lists the name “Okab” as the Arabic name of the constellation Aquila in his *Urania* in 1754, incorrectly translating it as “black eagle”. Hill is confusing it for their asterism Black Eagle (see above). The IAU approved the name Okab for the star Zeta (ζ) Aquilae A in 2018.

Northern Tail of the Sea Monster:

This Arabic star “dhanab qayṭas al-shamālī” (ذنب قيطس الشمالي) is Iota (ι) Ceti in the IAU constellation Cetus:

- This is listed as “Dhanab al-qītus shamāli” on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992).

- The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.170v-171r lists "Scudo Kaytoz".
- This was later latinized to "Deneb Kaitos Shemali", "Schemali", "Deneb Kaitos", "Baten Kaitos Shemali", or "Schemali".
- English Admiral Henry William Smyth lists it as "Dheneb Kaïtos shemáli, the northern branch of the Whale' tail in his *Bedford Catalogue* in 1844.
- This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Deneb Kaitos schemali": The author is unknown, but it is based on Jamieson's *Celestial Atlas*.
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists Deneb Kaitos shemali" for this star but his 14th edition (1959) does not list it.
- Compare this to Southern Tail of the Sea Monster, below.

Northern Tent:

This Arabic asterism is a quadrilateral of stars in the IAU constellations Auriga, Camelopardalis, and Lynx: Delta (δ) Aurigae, 15 Lyncis, Alpha (α) Camelopardalis, and Beta (χ) Camelopardalis.

Northern Tray of the Scale:

This Arabic star "Kiffah shamāli" is Beta (β) Librae (Zubeneschamali) in the IAU constellation Libra as listed on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992):

- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists the Latinized name "Kiffa Borealis", from the Arabian al kiffah al shemáliyah, the northern scale".
- R. H. Allen lists "Kiffa Borealis" in his *Star Names* in 1899, describing it as an "Arabic and Latin" star.

Northern Trifid Nebula:

This **telescopic** asterism is HII region NGC 1579 (SH 2-222, vdB 70, LBN 767, Ced 35) in the IAU constellation Perseus. This was discovered by English astronomer William Herschel in 1788 who listed it as "I 217". It is GC 853 in the General Catalogue of 1864.

Northern Weight:

This Arabic star is Beta (β) Librae (Zubeneschamali) in the IAU constellation Libra:

- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) listed it as "Vazneschemali".
- "Northern Weight" is listed in R. H. Allen's *Star Names* in 1899.

Northernmost of the Triad of Leo:

This **telescopic** asterism "Triadobórius Leónis" is the spiral galaxy with a prominent dust lane NGC 3628 in the IAU constellation Leo. This was discovered by English astronomer William Herschel in 1784 who listed it as "V 8" in his catalogue. It is GC 2378 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). It is also known as King Hamlet's Ghost (see below), the Hamburger Galaxy (see above), Sarah's Galaxy (see below), and the Vanishing Galaxy (see below). It is part of the Leo Triplet (see below).

Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) lists this as O'Meara 58 and lists the names "Hamburger Galaxy" and "Sarah's Galaxy".

Northernmost Scale:

This Latin star "Lanx Septentrionalis" is Beta (β) Librae (Zubeneschamali) in the IAU constellation Libra as listed in R. H. Allen's *Star Names* in 1899.

Nose:

This Persian asterism "Nahn" is two stars in the IAU constellations Cancer and Leo: Xi (ξ) Cancri and Lambda (λ) Leonis. Compare this to the Coptic asterism Piautos (see Eye, above). The IAU approved the name Nahn for the star Xi (ξ) Cancri A in 2018.

This Arabic star "al-Anf" (الأنف) is Epsilon (ε) Pegasi in the IAU constellation Pegasus:

- This was later latinized to "Enif", "Enf", and "Enir".
- NOTE: The Sloane astrolabe BM SL 54 in the British Museum which dates to 1290 – 1300 lists the name "MENkEB" as Alpha (α) Cephei, but the location given is for Epsilon (ε) Pegasi (Dekker 2000).
- French scholar Joseph Justus Scaliger (1540 – 1609) listed it as "Enf Alpharas".
- In the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch it is listed as "Enifalpheraz".
- German astronomer Wilhelm Schickard (1592 – 1635) lists this star as "Aniphol Pharasi".
- Johann Bayer's *Uranometria* (1603) lists the names "Enif" and "Enf Alpheras" for this star and attributes the latter to French scholar Joseph Justus Scaliger (1540 - 1609).
- Robert Hues lists it as "Enif Alfaras" in his *A Learned Treatise of Globes* in 1659.
- German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists "Enif" for this star.
- English Admiral Henry William Smyth's *Prolegomena* of 1844 lists "Enif" and his *Bedford Catalogue* in 1844 lists "Enif… from the Arabic word enf, the nose".
- *An Improved Moveable Planisphere* (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, lists this star as "Enif".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Enif".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list both "Enif" and "Eniph" for this star.
- The IAU approved the name Enif for the star Epsilon (ε) Pegasi.

Nostril:

This Arabic star "al-Minkhar" (المنخر) is Alpha (α) Ceti in the IAU constellation Cetus:

- This was later latinized to "Menkar" in the *Alfonsine Tables* (Kunitzsch 1986), or "Menkab".
- The Sloane astrolabe BM SL 54 in the British Museum (1290 – 1300) lists "MENkAR" (Dekker 2000).
- The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.170v-171r is hard to read but appears to label this star "Mentakarbon"

- The celestial globe (1480) of German mechanic Hans Dorn (c 1430 – 1506) lists "MENTVM" for this star.
- The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists "Menckar" for this star.
- Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) lists this star as "Menkar".
- Johann Bayer's *Uranometria* (1603) lists "Menkar" and "Monkarelkeitos".
- It is listed as "Monkar" and "Monkar Elkaitos" by French scholar Joseph Justus Scaliger (1540 - 1609).
- Robert Hues lists it as "Menkar" in his *A Learned Treatise of Globes* in 1659.
- John Hill gives the name "Meukar Alketus" in his *Urania* in 1754, translating it as "Whale's Nose".
- "Menkar" is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661.
- Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) labels this star "Ceti Mandibula" ("jaws of a whale").
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Menkar".
- William Herschel lists "Menkar" in his *Catalogue of 500 new Nebulae* in 1802.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists this star as "Menkar" in his *Celestial Atlas* in 1822.
- German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists Menkar.
- English Admiral Henry William Smyth's *Prolegomena* in 1844 lists "Menkab" and his *Bedford Catalogue* in 1844 lists this as "Menkab, corrupted from Al minkhir, the nose or snout".
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich list this star as "Menkar".
- *An Improved Moveable Planisphere* (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, lists "Menkar".
- This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 lists "Menkar": The author is unknown, but it is based on Jamieson's *Celestial Atlas*.
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Menkar".
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as "Menkar" and translates it as "nose".
- R. H. Allen lists it as "Al Minħar" in his *Star Names* in 1899.
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists "Mekab", "Menkab", and "Menkar" for this star, but his 14th edition (1959) lists only "Mekab" and "Menkar" as names for this star.
- The IAU approved the name Menkar for Alpha (α) Ceti.

Nostril of the Brave One:

This Arabic star "minkhar ash-shujā" (منخر الشجاع) is Sigma (σ) Hydrae in the IAU constellation Hydra:

- This was later latinized to "Minchir" or "Minkalshuja".
- John Hill lists this star as "Minchir Al Asad" in his *Urania* in 1754.

- "Minchir es-schudscha" is listed in Bode's *Uranographia* in 1801
- It appeared in as "Al Minliar al Shuja" in Frank Schlesinger's *Yale Bright Star Catalogue* in 1930
- The IAU approved the name Minchir for Sigma (σ) Hydrae in 2017.

Not Walking Star:

This Apache star is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (see Little Dipper, above). Compare this to the Pawnee asterism "Star That Does Not Walk" (see below).

Notches:

This Kamilaroi asterism "Mundewur" or "Mubirr" is an "S" shaped line of stars in the IAU constellation Serpens or Scorpius that to them represented notches cut into the bark of a tree to enable climbing (William Ridley 1875, Fuller et al 2014, Clarke 2015).

Nothing is a Gift:

This Latin asterism "Nili Donum" is the IAU constellation Triangulum as listed in John Hill's *Urania* in 1754.

Nourisher:

This Vedic nakshatra (lunar mansion) "Pushya" or "Pusya" (Ivanković 2021), which means "to nourish", and is also known as "Sidhya" (see Auspicious, above), is in the IAU constellation Cancer and is the stars Gamma (γ), Delta (δ), and Theta (θ) Cancri. It is listed as "Púsya" in the *Atharveda* (Leitz 2019, Ivanković 2021) on the nakshatra list of the scholar Varahamihir but Leitz identifies the star as "Cancri or Cancer": Of course, Cancri is a suffix that could be applied to any star in Cancer. The ancient *Brhad Samhita* text lists three stars. Ivanković (2021) lists it as "Púsya", translates it as "blossom/flower/best of anything", and associates it with the Vedic fire God Brihaspati or Brhaspati. W. Brennand lists "Pushya" as Delta (δ) Cancri in his Hindu Astronomy in 1896 but also lists it as this nakshatra, though he translates it as "an arrow". Bhagwath (2019) lists its symbols as a cow's udder, a lotus, or an arrow and a circle.

This Myanmar nekkhat (lunar mansion) "Hpusha" (ဖုသ္သ) is in the IAU constellation Cancer and is the stars Gamma (γ), Delta (δ), and Theta (θ) Cancri.

This Tibetan gyukar (lunar house) "Rgyal", "Gyal", or "Gyalme" is in the IAU constellation Cancer and is the star 5 Cancri (Johnson-Groh 2013).

Nosaxa:

See Spring, below.

Nu nu ware:

This Kiribati asterism is made up of stars surrounding Alpha (α) Carinae (Canopus) in the IAU constellation Carina (Trussel and Groves 1978). One of their names for Canopus is Te Waro (see below).

Nu Tsir Da:

This Euphratian asterism is the IAU constellation Ophiuchus, perhaps including stars of Serpens, as listed in R. H. Allen's *Star Names* in 1899.

Nuada:

This Celtic (Irish) star may be Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes (Mosenkis, date N.K.). Nuada Airgetlám ("Nuada of the Silver Hand") is a king of the Tuatha Dé Danaan, who lost his arm in battle and had it replaced with a silver one.

Nu'aish:

This Arabic star "Nu'aish" is Zeta (ζ) Ursae Majoris in the IAU constellation Ursa Major as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

Nubecula Major:

See Major Little Cloud, above.

Nubecula Minor:

See Little Cloud (above).

Nukunuku Rope:

This Rapanui asterism "Taura Nukunuku" is Alpha (α) Canis Minoris (Procyon) and Beta (β) Canis Minoris (Gomeisa) in the IAU constellation Canis Minor (Edwards and Edwards 2010, Edwards and Edwards 2016, Edwards et al 2018).

Numushda:

This Babylonian asterism from the MUL.APIN tablets represents the God "Numusda" or "Numushda", a deity of wild nature, which is made up of stars of the IAU constellations Centaurus and Crux:

- His "body" is the rectangle of the stars Theta (θ) Centauri, Iota (ι) Centauri, HIP 65373 and Zeta (ζ) Centauri.
- From his "shoulders" to lines run out to "hands":
    - One from Theta (θ) Centauri to Eta (η) Centauri, and
    - One from Iota (ι) Centauri to n Centauri.
- From his "hips" two lines of stars form "legs":
    - From Zeta (ζ) Centauri to a "knee" at Epsilon (ε) Centauri to a "foot" which is the stars Alpha (α) Centauri (Rigil Centaurus) and Beta (β) Centauri (Hadar), which they call "Shullat and Khanish" (see Shullat, below, and Khanish, above).
    - From HIP 65373 to a "knee" at Gamma (γ) Centauri and a "foot" which is the Southern Cross asterism (see below).

This Chaldean asterism "mul nu.mus.da" from the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period is the IAU constellation Centaurus (Koch-Westenholz 1995).

This Babylonian and Sumerian asterism "nu mus-da" appears in the Babylonian star catalogue BM 78161 (Liechty 1988) but is listed only as the star Eta (η) Centauri.

This appears in later Seleucid sky lore.

Nunki:

See Star of Eridu, below.

Nurong:

This Wurundjeri asterism is the stars Alpha (α) Scorpii (Antares), Tau (τ) Scorpii, and Sigma (σ) Scorpii in the IAU constellation Scorpius. Nurong is the brother of the creator, Bunjil, and is represented by the star Antares, with the stars on either side being his wives.

Nursery:

This French asterism "la Poussiniere" is the Pleiades cluster in the IAU constellation Taurus was listed as a "vulgar name" of this star cluster in the French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719).

Nurturing:

This Coptic lunar station "Ermelia" is the stars Epsilon (ε), Gamma (γ), Delta (δ), Eta (η), and Theta (θ) Cancri in the IAU constellation Cancer.

Nusakan:

See Two Arrays, below.

Nushagak:

This **telescopic** American star is HIP 13192 (HD 17156) in the IAU constellation Cassiopeia (magnitude 8.16). It was given this name in the IAU NameExoWorlds campaign. It is named for a river near Dilingham in Alaska. It has an exoplanet named Mulchatna, which is a tributary of the Nushagak River.

Nut:

Nut is the Egyptian Goddess of the sky, water and fertility. She represents the entire night sky, her husband Geb is the Earth, and her children are the Gods Osiris and Set, and the Goddesses Isis and Nephthys.

This Latin asterism "Nux" as the IAU constellation Orion. R. H. Allen points out that French astronomer Jérôme Lalande wrote that the stars Lambda (λ) Orionis (Meissa), and Phi (ϕ) 1 and 2 Orionis "look like a set of three nuts, which has caused this constellation to be called Nux [Latin for "nut"], or Juglans, Stella jugular". "Nux" is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: This name is shown next to the star Phi (ϕ) 2 Orionis. (See Joined, above).

This Turkish asterism "Kus" is the IAU constellation Gemini as listed in John Hill's *Urania* in 1754. He translates this word as "nut".

Nut of Coma Berenices:

This **telescopic** asterism "Núx Cómae Bereníces" is the lenticular galaxy NGC 4251 in the IAU constellation Coma Berenices. It was discovered in 1785 by William Herschel who listed it as "I 89". It became GC 2836 in the *General Catalogue* of 1864.This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name because "the big central bulge makes this edge-on galaxy look like a nut".

Nutshell of Lepus:

This **telescopic** asterism "Cárinus Léporis" is the spiral galaxy NGC 1954 in the IAU constellation Lepus. It was discovered in 1786 by William Herschel who listed it as "III 590". It became GC 1160 in the *General*

Catalogue of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Nya:

This Tibetan khyim "Nya" is the IAU constellation Pisces (Johnson-Groh 2013). It is their version of the Vedic rashi Mina (see above).

Nyamien:

This **telescopic** Akan star is WASP-15 in the IAU constellation Centaurus (magnitude 10.91). It received this name in the IAU NameExoWorlds Campaign. Nyamien is the supreme creator deity in Akan mythology. It has an exoplanet named Asye: Asye was their Earth Goddess.

O-nga-tangata:

This Tongan asterism, also known as "Tautanga-ufi", "Mamangi-Halahu", and "Mau-kuo-mau" is the IAU constellation Centaurus.

O Rongo's Darkness:

This Rapanui star "Po'o", "Po Rongo", or "Po Orongo" is probably Alpha (α) Eridani (Achernar) in the IAU constellation Eridanus (Edwards and Edwards 2010, Edwards and Edwards 2016, Edwards et al 2018)

Oak Leaf:

This **telescopic** asterism is emission nebula NGC 2024 (SH 2-277, LBN 953, Ced 55p) in the IAU constellation Orion. It was discovered by English astronomer William Herschel in 1786 who listed it as "V 28" in his catalogue. It is GC 1227 in the *General Catalogue* of 1864. Size 30' X 30'. It is also known as the Maple Leaf (see below), the Tank Tracks (see below), the Flame Nebula (see below) and the "Christmas Tree" (see above). This particular name is attributed to Donald J. Ware by the DOCdb database.

Oak Royal:

See Charles' Oak, above.

Oak Tree:

This Yucatec asterism "tin oh bèek" is an unidentified constellation along the Milky Way representing the roble or oak tree (Milbrath 1999).

Oar for Visitor:

This Korean asterism "Bangmunjaui No" (방문자의 노) is a hexagon of stars in the IAU constellation Boötes: 15 Boötis and HIP 68498, 68707, 69389, 70400, and 70327.

Oath Star:

There are seven Arabic stars with this name:

- One, "Al-MuḤlifayn" or "'al-Muḥlifayn" (محلفين) is Gamma (γ) Centauri in the IAU constellation Centaurus:
    - This was later latinized to "Muhlifain".
    - English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Muhlifain".

- One, “Al Suhail al-MuḤlifayn” (“Suhail of the Oath”), or “’al-Muḥlifayn” (محلفين), latinized to “Muḥtalīfaïn”, or “Muḥnithaïn” is Gamma (γ) Canis Majoris in the IAU constellation Canis Major:
    - This was later latinized to “Muliphein” and “Mirza”.
    - R. H. Allen lists “Muliphen” in his *Star Names* in 1963. The IAU approved the name Muliphein for Gamma (γ) Canis Majoris.
- One, latinized to Muliphen, is Gamma (γ) Ophiuchi in the IAU constellation Ophiuchus.
- One is the Arabic and Bedouin star “Miḥlif” (محلف), al-Muhlif (المحلف) or al-Muhnith (المحنث) is Alpha (α) Eridani (Achernar) in the IAU constellation Eridanus.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists several variations, including:
    - Alpha (α) Columbae (Phact) and Beta (β) Columbae (Wazn) in the IAU constellation Columbus, listed as “Muliphein, from al muhlefein”, and
    - “ζ [Zeta], λ [Lambda] , and γ [Gamma] Argo” which would be Zeta (ζ) Puppis, Lambda (λ) Velorum, and Gamma (γ) Velorum.
- One, “Muhlifain” or “Muhnithain” is either Alpha (α) Centauri (Rigil Kentaurus) or Beta (β) Centauri (Hadar) in the IAU constellation Centaurus as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010): Sufi isn’t sure which star is connected to this name.

Obelisk:

This Latin asterism “Obelus” is the IAU constellation Sagitta. Johann Bayer’s *Uranometria* (1603) lists “Obelus” as an alternate name for Sagitta. R. H. Allen’s *Star Names* in 1899 lists “Obelus” and Allen attributes this name to “ancient grammarians”.

Oblate of Hydra:

This **telescopic** asterism “Oblátus Hýdrae” is the lenticular galaxy NGC 3585 in the IAU constellation Hydra. It was discovered in 1784 by William Herschel who listed it as “II 269”. It became GC 2341 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Oblique Cross:

This **telescopic** asterism, also known as the Starfish, is the open cluster Messier 38 (NGC 1912), discovered by Italian astronomer Giovanni Battista Hodierna before 1654 in the IAU constellation Auriga. This was listed in the *General Catalogue* of 1864 as GC 1119. British astronomer Rev. Thomas Webb (1807 – 1885) described it as a “noble cluster arranged as an oblique cross” in the 3rd edition of *Webb’s Celestial Objects for Common Telescopes*, and I agree with this description. The popular American astronomer Walter Scott Houston in his *Sky and Telescope* column *Deep-Sky Wonders* in 1857 also mentions early astronomers describing it as a cross shape. The 14th edition of British schoolmaster Arthur P. Norton’s *A Star Atlas* (1959) describes this as a “striking, loose, cruciform cluster”.

Oblong One of Sextans:

This **telescopic** asterism “Oblóngus Sextántis” is the edge-on spiral galaxy NGC 3365 in the IAU constellation Sextans. It was discovered in 1828 by John Herschel who listed it as h 747 and later as GC

2191 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Obscure One:

This Arabic star is Delta (δ) Ursae Majoris in the IAU constellation Ursa Major as listed by Arabic navigator Ibn Majid (d. ~1500) and is still used by Red Sea fishermen (Khalid AlAjaji).

Obscure One of Camelopardalis:

This **telescopic** asterism "Scotinus Camelopardális" is the barred spiral galaxy UGC 4841 in the IAU constellation Camelopardalis. It was discovered by Erik Bertil Holmberg, and is known as Holmberg III. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it is a "faint and inconspicuous galaxy".

Obsidian:

This Akkadian asterism "Surru" (Hunger 1992) from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) is an unidentified star in the IAU constellation Scorpius.

This Babylonian asterism "MUL.sur-ru" (Hunger 1992) from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) is an unidentified star in the IAU constellation Scorpius.

Obstructor:

This Arabic star "al-cayyūq", "cAyyūq", or "al-Ayyuq" (العيوق) is the star Alpha (α) Aurigae (Capella) in the IAU constellation Auriga as listed by 'Abd al-Rahman al-Sufi (903 – 986) and Ibn Qutayba. This comes from an old Arabic story that Al-Ayyuq is obstructing Aldebaran (see Follower above) from meeting the Pleiades (see Al-Thurayya, above), which is why it is also known as "Aqyuq Al-Thurayya":

- NOTE: "al-'Ayyūq" is given as one of the names of the star Alpha (α) Canis Majoris in the IAU constellation Canis Major rather than Capella by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- The star list of Abraham Bar Hiyya in 1104 (Goldstein 1985) lists the Arabic name of this Capella as "al-'ayyūq" and the Hebrew name of this star as "moshekh ha-resen".
- The star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985) lists the Arabic name "al-ayyūq" and the Hebrew name "ha-nilham".
- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists "Al-'ayyūq" .
- An anonymous Hebrew star list from 1392 (Goldstein 1985) lists the Arabic name "al-'ayyūq" and the Hebrew name "moshekh ha-resen".
- The Sloane astrolabe BM SL 54 in the British Museum (1290 – 1300) lists "ALhAIOC" (Dekker 2000).
- The rete of the 14th century Spanish astrolabe NMM AST0570 lists "Alhaioc" (Dekker 2000).
- This is listed on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992) as "'Ayyūq" and Savage-Smith calls it "untranslatable".
- Variations of this name appeared in Medieval accounts, including "Alhaior", "Althaiot", "Alhaiset", "Alhatod", "Alhojet", "Alanac", "Alanat", "Ayyūḳ", "Alhajoc", "Alhajoth", "Alathod", "Alkatod", "Alatudo", and "Alioc".

- A celestial globe (1522) of German polymath Johann Schöner (1477 – 1547) lists this star as "Alhajoth".
- Johann Bayer's *Uranometria* (1603) lists "Alhaiot" and "Alharod".
- Robert Hues lists it as "Alhaick" in his *A Learned Treatise of Globes* in 1659 and translates it as "he-goat". Hues also attributes the name "Alatod" to Joseph Justus Scaliger (1540 – 1609).
- Edward Sherburne lists the "Arabic" names as "Aiynk" and "Atud" in 1675 in his *The Sphere of Manilius*.
- Catholic librarian Giuseppe Simone Assemani (1687 - 1768) listed it as "Alchaela".
- John Hill lists the "Arabic" names as "Atud" and "Ayuk" in his *Urania* in 1754.
- The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) lists "Alhatod" as an "Arabic" name for this star.
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782 lists this star as both "Capella" and "Alhajoth".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "el-'áyyúk, a word of doubtful origin and signification" and writes "the Arabs distinctly termed it the Guardian of the Pleiades", which is clearly a reference to the Arabic asterism Obstructor and the Posts (see below).

Obstructor and the Posts:

This Arabic asterism "al-Ayyuq and the Posts" is made up of stars of the IAU constellation Auriga and Taurus as listed by Ibn Qutayba:

- The star Alpha (α) Aurigae (Capella) is "al-Ayyuq" (see Obstructor, above)
- The star Iota (ι) Aurigae is the "Foot of Al-Ayyuq"
- The "Posts" or "Associates of Al-Ayyuq" are:
    - Post 1: Beta (β) Aurigae (Menkalinan),
    - Post 2: Theta (θ) Aurigae, and
    - Post 3: Beta (β) Tauri (Elnath)

Ocean:

This Latin asterism "Oceanus" is the IAU constellation Eridanus and relates to the 8th century B.C.E. poet Homer's Ocean Stream flowing around the Earth.

- Johann Bayer's *Uranometria* (1603) lists "Oceanis" for this constellation.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Oceanis" as a name for Eridanus.
- "Oceanus" is listed in John Hill's *Urania* in 1754.

Ocean Storm:

This Latin asterism "Pelagi Procella ("ocean storm") is the IAU constellation Capricornus. Johann Bayer's *Uranometria* (1603) lists "Pelagi Procella" as a name for Capricornus. John Hill lists it as "Procella" ("storm") or "Procella Pelagi" in his *Urania* in 1754.

Ocelot:

This postclassic Mayan asterism from the Paris Codex is the IAU constellation Aries.

Oclazos:

This Greek asterism is the IAU constellation Hercules as listed in John Hill's *Urania* in 1754.

Octans:

None of the stars of Octans are brighter than 4th magnitude and only show up in 23 asterisms in this handbook.

This IAU constellation (IAU abbreviation Oct) was created by French astronomer Abbé Nicolas Louis de Lacaille in 1752. He originally named it "l'Octans de Reflexion" ("the reflecting octant" – the octant being a navigational instrument), and some referred to this constellation as "Octans Hadleianus", in honor of English mathematician John Hadley, who invented the octans in 1730. Lacaille's *Planisphère des Étoiles Ausralea* (1756) depicts "l'Octans de Reflexion" as an octant.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "l'Octans Reflexion" as an octant.

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Reflectierender Oktant" and depicts it as an octant.

American uranographer Elijah Burritt's *The Constellations for each Month in the Year* (1835) depicts Octans: Unfortunately, the copy of the chart I obtained has blurred the caption to make it unreadable, but it does depict an octant.

"Octans" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875): He indicates the borders of this constellation on the chart but offers no illustration of it.

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Octans, the Octant" as an official constellation "recognized in the catalogue of the British Association".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Octans" and describes it as an "Octant".

The 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) lists "Octans" and gives the "original form" as "Octans Hadleianus, Hadley's Octant".

This constellation is shown on French charts as "Octant", German charts as "Oktant", and Italian charts as "Ottante".

Standard IAU charts depict Octans as the triangle of stars Gamma (γ) Octantis, Delta (δ) Octantis, and Beta (β) Octantis.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Octans in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik*, in the same manner as on IAU charts except that they add a line from Beta (β) Octantis to Theta (θ) Octantis.

Octans Hadleianus:

See Octans, above.

October Salt and Pepper Cluster:

See Salt and Pepper, below.

Octopus:

This Greek asterism “Οκτάπους” or “Oktápous” is the IAU constellation Cancer.

This Latin name “Octipes” (“eight-footed”) the IAU constellation Cancer as described by Roman poet Publius Ovidius Naso (Ovid) and Roman poet Sextus Propertius (55 – 15 B.C.E.).

- Johann Bayer’s *Uranometria* (1603) lists “Octipes” as an alternate name for Cancer.
- “Octipes” is listed by Edward Sherburne in his *Sphere of Marcus Manilius* in 1675.
- “Octipes” is listed by John Hill in his *Urania* in 1754.

There are three **telescopic** “octopus” asterisms:

- One is the open cluster NGC 6819 in the IAU constellation Cygnus. It was discovered by English astronomer Caroline Herschel in 1784. It is GC 4511 in the *General Catalogue* of 1864. It is situated on the border between the IAU constellations Cygnus and Lyra. It contains about two dozen 10^{th} to 12^{th} magnitude stars with many fainter stars. It is also known as the Fox Head (see above), and has also been described as a letter “U”, “K”, or “X”.
- One is the open cluster NGC 1664 in the IAU constellation Auriga. This was discovered by English astronomer William Herschel in 1786 who listed it as “VIII 59” in his catalogue. It is GC 907 in the *General Catalogue* of 1864. It was given the name “Octopus” by American astronomer Wayne Schmidt. It measures 12 X 8 arcminutes.
- One is the open cluster NGC 3114 in the IAU constellation Carina. It was discovered by Scottish astronomer James Dunlop in 1827 who listed it as h 3224 in his catalogue. It is GC 2007 in the General Catalogue of 1664. South African astronomer Auke Slotegraaf described this in 1994 as a spider or octopus. It is also known as the Hand (see above).

Octopus Tentacle:

This Anutan asterism **“**Kaavei” is a line of three stars in the IAU constellation Aries, starting with the star Beta (β) Arietis (Sheratan), running through Alpha (α) Arietis (Hamal) and ending at the double star c Arietis.

This Hawaiian star “Keawe” is Alpha (α) Pegasi (Markab) in the IAU constellation Pegasus.

Odd One of Andromeda:

This **telescopic** asterism “Insólitus Andrómedae” is the spiral galaxy NGC 523 (Arp 158) in the IAU constellation Andromeda. It was discovered in 1784 by English astronomer William Herschel who listed it as “III 170”. It became GC 306 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name due to its shape.

Odin’s Wagon:

This Norse asterism “Óðins vagn” or “Óðinn's Wagon" is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above). Cleasby, Vigfusson, and Grimm (1874) all suggest that while there is no direct evidence of this name, it is similar to the Dutch asterism Wotan’s Wagon (see below) and Old High German and Anglo Saxon “Wodan’s Wagon” (see below) and in Old Norse poetry one finds kennings (compound expressions) for their God Óðinn such as “vagna verr” (“wagon’s lord”) or “vagna grimnir” (“the wagon of Grimnir”), Grimnir being one of the heiti (synonyms) for Óðinn. In the Eddaic poem Sigrdrífumál verse 17 one finds the kennigs “valdr vagnbrautar” (“ruler of the wagon-road") and

“Reið Rôgnis” (“the conveyance of Rôgnir’ or ‘Rôgnir's wagon’), Rôgnir being another heiti of Óðinn (Eysteinn's Lexicon of Kennings Analytical Glossary). In 1882 Grim lists “vagns-höll” (“wagon’s hall”), “vagn-ræfr” (“wagon’s roof”), and “vagn-braut” (“wagon road”) as names for the sky, so the “road of the wagon” is the Milky Way. R. H. Allen lists “Wagon of Odin, Woden, or Wuotan” in his *Star Names* in 1899.

Oebalus:

This Latin asterism “Oebalii” or “Oebalidae” of the Roman poet Ovid (b. 43 B.C.E.), Statius, and 1st century Roman poet Valerius Flaccus is the IAU constellation Gemini. King Oebalus of Sparta was the grandfather of Castor and Pollux.

Of a Thousand Colours:

This French star “Barāḳish” is Alpha (α) Canis Majoris in the IAU constellation Canis Major as listed by French astronomer Dominique François Jean Arago (1786 – 1853).

Of Special Importance:

This Latin star “Praecipua” is 46 Leonis Minoris in the IAU constellation Leo Minor as named by Polish astronomer Johannes Hevelius (1611 – 1687) and Italian astronomer Giuseppe Piazzi (1786 – 1846) in his *Palermo Catalogue*. American uranographer Elijah Burritt (1794 – 1838) listed it as Leo Minor’s principal star. The IAU has approved the name Praecipua for 46 Leonis Minoris.

Of the Daybreak:

This Romanian star “Zorilă” is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Ottescu 2009).

Of the Vines:

This Lithuanian asterism “Vergiliae” is the Pleiades open cluster in the IAU constellation Taurus.

Offering:

This **telescopic** asterism is made up of stars of the IAU constellation Ara: Beta (β) Arae and Gamma (γ) Arae. It is Lorenzin 19 on Tom Lorenzin’s list. It is called this, of course, because it represents an offering on Ara, the Altar.

Officer for Cart:

This Korean asterism “Kateu Jang-gyo” (카트 장교) is two lines of stars in the IAU constellation Cygnus which are joined at the star Theta (θ) Cygni. The two lines from this star are:

- One going out through Iota (ι) Cygni to Kappa (κ) Cygni, and
- One going out to HIP 92689.

Officer for Chariot:

This Korean asterism “Jeoncha Jang-gyo” (전차 장교) is made up of stars in the IAU constellation Cassiopeia. The central star is Beta (β) Cassiopeiae (Caph). From this star four lines run out to the four stars Gamma (γ) Cassiopeiae, Eta (η) Cassiopeiae, Alpha (α) Cassiopeiae (Shedar) and Zeta (ζ) Cassiopeiae. The Koreans call the star Gamma (γ) Cassiopeiae “CheonSa” (“the whip”).

Officer for Family:

This Korean asterism “Gajog-eul Wihan Jang-gyo” (가족을 위한 장교) is a quadrilateral of stars in the IAU constellation Ophiuchus: 74 Ophiuchi and HIP 91237, 91217, 90313, and 89772.

Officer for Jewel:

This Korean lunar mansion “Duu” is a line of two stars in the IAU constellation Hercules: 29 and Omega (ω) Herculis.

Officer for Opinion:

This Korean asterism “Uigyeon Damdang-gwan” (의견 담당관) is a series of four lines of stars radiating out from the star HIP 77277 in the IAU constellation Ursa Minor:

- One line goes out to the star HIP 75696,
- One line goes out to the star HIP 75256,
- One line goes out to the star HIP 75260, and
- One line goes out to the star HIP 75974.

Officer of Honour:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is the star 2 Comae Berenices in the IAU constellation Coma Berenices.

This Chinese xing guan “Xìngchén” (幸臣) is the star GK Comae Berenices in the IAU constellation Coma Berenices.

This Chinese Chenzhuo xing guan “Xingchen” is the star 2 Canum Venaticorum in the IAU constellation Canes Venatici.

Officer of Kitchen:

This Korean lunar mansion “Ryu” in the IAU constellation Hydra is a curling line of stars resembling a letter “P”: Theta (θ), Omega (ω), Zeta (ζ), Epsilon (ε), Delta (δ), Sigma (σ), Eta (η), and Rho (ρ) Hydrae.

Officer of Tomb:

This Korean lunar mansion “Zaang” is in the IAU constellation Hydra and is a diamond shape of five stars with lines running out of either end. The “diamond” is the stars Mu (μ), Lambda (λ), and Upsilon (υ) 1 and 2 Hydrae and HIP 48615. The two lines at either end run:

- From Mu (μ) to Phi (ϕ) Hydrae, and
- From Upsilon (υ) 1 to Kappa (κ) Hydrae.

Officers of the Imperial Guard:

This complex Chinese xing guan from the Three Kingdoms to the Ming Dynasty is made up of stars of the IAU constellation Coma Berenices. A jagged oval of stars starts at the determinative star 4 Comae Berenices and runs around through FM Comae Berenices, HIP 60168, 12 Comae Berenices, 13 Comae Berenices, 17 Comae Berenices, HIP 60880, 16 Comae Berenices, 14 Comae Berenices, Gamma (γ) Comae Berenices, HIP 60018, HIP 59923, HIP 59489, and HIP 59364. Three lines run across the middle of this oval:

- One from HIP 59923 to Gamma (γ) Comae Berenices,
- One from HIP 59489 through 9 Comae Berenices to 14 Comae Berenices,

- One from HIP 59364 through HIP 60170 to 16 Comae Berenices.

This Chinese xing guan “Lángwèi” (郎位) is a jagged line of stars in the IAU constellation Coma Berenices. It starts at Gamma Comae Berenices and then zig-zags through 14, 16, 17, 13, 12, 21, 18, 7, 23, 26, 20 and 5 Comae Berenices, ending at 2 Comae Berenices.

This Chinese Chenzhuo xing guan “Lángwèi” is the open cluster Melotte 111 (Cr 256) in the IAU constellation Coma Berenices.

Official for Earthworks and Buildings:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of two stars in the IAU constellation Pisces: 34 Piscium (the determinative star) and HIP 1465.

This Chinese xing guan “Tǔgōng” (土公) is a line of two stars in the IAU constellation Pisces: 32 and 45 Piscium.

This Chinese Chenzhuo xing guan “Tǔgōng” is a line of two stars in the IAU constellation Pisces: 64 and 57 Piscium.

Official for Irrigation:

This Chinese xing guan “Shuǐfǔ” (水府) is a quadrilateral of four stars in the IAU constellation Orion: Nu (ν), Xi (ξ), 72 and 69 Orionis. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan is a “box” of stars in the IAU constellation Gemini and Orion: HIP 31277, 74 Orionis, 75 Orionis, and HIP 31119.

Official for Materials Supply:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of two stars in the IAU constellation Pegasus: Zeta (ζ) Pegasi (the determinative star) and Xi (ξ) Pegasi.

This Chinese xing guan “Tǔgōnglì” (土公吏) is a line of two stars in the IAU constellation Pegasus: 31 and 36 Pegasi.

This Chinese Chenzhuo xing guan “Tǔgōnglì” is a line of two stars in the IAU constellation Pegasus: Zeta (ζ) Pegasi and Xi (ξ) Pegasi.

This Korean asterism is identical to the Chinese xing guan Official for Materials Supply (above).

Official for the Royal Clan:

This Chinese xing guan “Zōngzhèng” (宗正) is a line of two stars in the IAU constellation Ophiuchus: Beta (β) Ophiuchi (Cebalrai) and Gamma (γ) Ophiuchi. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Zōngzhèng” is two stars in the IAU constellation Ophiuchus: Beta (β) Ophiuchi (Cebalrai) and Gamma (γ) Ophiuchi.

Official in Charge of Pasturing:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a quadrilateral of stars with a line running off one end in the IAU constellation Pisces. The quadrilateral is the stars HIP 7359, 97

Piscium, Eta (η) Piscium, and 105 Piscium. A line runs from HIP 7359 to 107 Piscium (the determinative star).

This wedge shaped Chinese xing guan “Yòugēng” (右更) is made up of stars in the IAU constellation Pisces: 104, 110, 102, Eta (η), and Rho (ρ) Piscium.

This Chinese Chenzhuo xing guan “Yòugēng” is made up of stars of the IAU constellation Pisces: This is an angular loop of the stars HIP 7359, 7 Piscium, Eta (η) Piscium, and 105 Piscium. From HIP 7359 a line runs out to 107 Piscium.

Official in Charge of the Forest:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is an oval of stars with a line running off one side in the IAU constellation Aries. The oval of stars is HIP 10795, Eta (η) Arietis, 15 Arietis, Theta (θ) Arietis, and HIP 10767. From HIP 10795 a line runs to the determinative star, HIP 11670.

This Chinese xing guan “Zuǒgēng” (左更) is a “J” shaped asterism in the IAU constellation Aries: Eta (η), Sigma (σ), Omicron (ο), Mu (μ), and Nu (ν) Arietis.

This Chinese Chenzhuo xing guan “Tiānqūn” is made up of stars of the IAU constellation Aries: This is an angular loop of the stars HIP 10795, Eta (η) Arietis, 15 Arietis, and Theta (θ) Arietis. From HIP 10795 a line runs out to HIP 11670.

Official of Religious Ceremonies:

This Chinese xing guan “Zōngrén” (宗人) is a triangle of stars in the IAU constellation Ophiuchus: 66, 67, 68, and 70 Ophiuchi with 67 Ophiuchi being the determinative star. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Zōngrén” is four stars in the IAU constellation Ophiuchus: From the star 70 Ophiuchi three star lines emerge:

- One to 66 Ophiuchi,
- One to 67 Ophiuchi, and
- One to 68 Ophiuchi.

Official of the Royal Archives:

This Chinese xing guan “Zhushi” from the Three Kingdoms to the Ming Dynasty is the star Chi (χ) Draconis in the IAU constellation Draco.

This Chinese xing guan “Zhùshǐ” (柱史) is the star Phi (φ) Draconis in the IAU constellation Draco.

This Chinese Chenzhuo xing guan “Zhushi” is the star Psi (ψ) Draconis in the IAU constellation Draco.

Offramp:

This asterism from the Saguaro Astronomy Club asterism database is also known as the “thumb” and consists of the Milky Way from Epsilon (ε) Aquilae in the IAU constellation Aquila to Beta (β) Ophiuchi (Cebalrai) in the IAU constellation Ophiuchus.

Ogma:

This **telescopic** star is HIP 80838 (HD 149026) in the IAU constellation Hercules (magnitude 8.14). It was given this name in the IAU NameExoWorlds campaign in 2015. Ogma was a Celtic father God. This has an exoplanet named Smertrios, which was the Gallic God of War.

Ogre:

This Japanese sei shuku or lunar station “Tamahome Boshi”, sometimes translated as “devil” or “ghost”, is a quadrilateral of stars in the IAU constellation Cancer: Delta (δ), Gamma (γ), Eta (η) and Theta (θ) Cancri.

Oisin:

This Irish asterism is the IAU constellation Hercules. This asterism is found in Julie Ormonde’s *Constellation Stories of Ancient Ireland* (2015). Oisin was regarded as the greatest poet of Ireland and a warrior in the Ossianic or Fenian cycle of myths.

Okab:

See Northern Tail of the Eagle, above.

Old Adze:

This Barasana asterism “Sioruhu Bukura” is probably Sigma (σ), Epsilon (ε), and Eta (η) Canis Majoris in the IAU constellation Canis Major (Hugh-Jones 2006).

Old Algarrobo Tree:

This Mocoví asterism “Mapiqo’xoic” is made up of the stars and dark nebulosity in the IAU constellation Sagittarius: Xi (ξ) 1 and 2, Omicron (ο), Pi (π) 1 and 2, Rho (ρ) 1 and 2, and Nu (ν) Sagittarii form the “crown”, Delta (δ), Gamma (γ) and Upsilon (υ) Sagittarii form the “trunk and branches” and the dark nebulosity (dark nebulae Barnard 87 and 90) are the “foliage” (Lopez 2021).

Old Bag of the Night:

This San (Nyae Nyae !Kung) asterism is the Coal Sack Nebula (Alcock 2014, Slotegraaf 2013, Holt and Slotegraaf 2022). Old in this context means “worn out”.

Old Camp:

This Cheyenne asterism is the IAU constellation Corona Borealis.

Old Cart:

This Estonian asterism is the IAU constellation Lyra (Kuperjanov 2006).

Old Dthillar:

This Kamilaroi/Euahlayi asterism is in the IAU constellation Taurus. Old Dthillar is a Wiringin, in this case the Wiringin guarding the Birray Birray, the uninitiated boys in the belt of Orion who pine for the Mai Mai or Miyaay Miyaay (Seven Sisters) in the Pleiades cluster who are Dthillar’s nieces. Old Dthillar is the star Alpha (α) Tauri (Aldebaran), and he stands there to protect the sisters from the Birray Birray. The "V" shape of the Hyades cluster is Old Dthillar's “gunya” (“hut”).

Old Gao:

This Jū/Wãsi and Nama star “ǂN!a” is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus and is part of their asterism Three Zebras (see below).

Old Man:

This Chinese xing guan “Lǎorén” (老人) is the star Alpha (α) Carinae (Canopus) in the IAU constellation Carina. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Laoren” (“Old Man”) or “Nanjilaoren” (“Southernmost Old Man”) is the star Alpha (α) Carinae (Canopus) in the IAU constellation Carina.

This Japanese star “Nankyoku Rōjin” is Alpha (α) Carinae (Canopus) in the IAU constellation Carina (Miyajima 2014) as listed by Japanese astronomer Shibukawa Harumi (1639 – 1716).

This Babylonian asterism “MUL.EN.ME.SAR” (Hunger 1992) from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) is part of the IAU constellation Perseus.

This Babylonian asterism from the MUL.APIN tablets “SI.GU” is made up of stars of the IAU constellations Andromeda, Perseus, and Triangulum. This appears in the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) as “MUL.SI.GI” (Hunger 1992). and in the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period as “mul su.gi” (Bartel van der Waerden 1974, Koch-Westenholz 1995, Belmonte Esteve 2018). This is how it is made up:

- The old man’s “head” is a triangle of stars: Gamma (γ) Persei, k Persei, and Eta (η) Persei,
- His “neck” is a line between Gamma (γ) Persei and Alpha (α) Persei (Mirfak)
- An “arm” runs from Mirfak through Iota (ι) Persei to a “hand” formed by a narrow triangle of stars: Theta (θ) Persei, 65 Andromedae, and 64 Andromedae.
- A “walking stick” is a line between 64 and 65 Andromedae and 14 Trianguli.
- His “body” is a line from Mirfak to Delta (δ) Persei.
- From Delta (δ) Persei to lines form “legs”:
    - One runs to a “knee” at Beta (β) Persei (Algol) to a foot formed by Rho (ρ) Persei and 16 Persei.
    - One runs through Epsilon (ε) Persei and Xi (ξ) Persei to a foot formed by Zeta (ζ) Persei and Omicron (o) Persei.

Bartel van der Waerden describes this asterism as the IAU constellation Perseus and the northern part of Taurus in his *Science Awakening II: The Birth of Astronomy* in 1974. This asterism appears in later Seleucid star lore. It is sometimes depicted in their skies as a charioteer.

This Babylonian asterism “SHU.GI” or “shibu” as listed in Anthony Hope’s *A Guide to Ancient Near Eastern Astronomy* in 1996 is the IAU constellation Perseus. Hope also lists it as “EN.ME.SHÁR.RA” and describes it as “Zeta (ζ) and Omicron (o) Persei with, perhaps, the northern stars of Taurus”.

This Assyrian asterism “SHU.GI” (Bartel van der Waerden 1974) is identical to the Babylonian asterism “SI.GU” above.

This Akkadian asterism “Enmessara” or “Enmesara” (Hunger 1992, Sanders 2023) from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) and “Šību” or “Sibu” (Hunger 1992, Parpola 1993) from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) is identical to the Babylonian asterism “SI.GU” above.

This Persian asterism "SU.GI" from the list of Lumasi and Tikpi Stars from the K250 and VAT 9418 lists of the Persian (Achaemenid) Period (539 – 331 B.C.E.) as listed in Franz Boll's *Ancient Observations of Coloured Stars* in 1918 and "su-gi" in Ernst Weidner's *Fixsterne* in 1971 is made up of the stars of the IAU constellation Perseus plus some stars north of the Hyades cluster in the IAU constellation Taurus (Jeremias 1929).

This star is Alpha (α) Orionis in the IAU constellation Orion as listed by R. H. Allen in his *Star Names* in 1899. Unfortunately, he only identifies this as an "Amazon River myth" without naming the precise culture or source. Allen writes that the old man chases "Peixi Boi" (see below), which he does not translate.

This Hungarian asterism "Óstoros" is the star 80 Ursae Majoris (Alcor) in the IAU constellation Ursa Major. He is the old man pulling the shaft of Göncöl's Wagon (see above). The celestial map of Hungarian uranographer Sandor Nagy (1915) lists this asterism.

Old Man and a Boy in a Canoe:

This Tupi Guarani asterism is the stars Alpha (α) Orionis (Betelgeuse) and Gamma (γ) Orionis (Bellatrix) in the IAU constellation Orion (Lima and De M. Figueirôa, 2007). They are chasing a peixe-boi (Amazonian manatee) which is represented by a nearby dark spot in the sky (see Manatee, below).

Old Man with a Stick:

This Tupi Guarani asterism "Homem Velho" is made up of the stars of the IAU constellations Eridanus, Orion, and Taurus. This is not the usual "body" associated with the seven brightest stars of Orion:

- His "head" is the Hyades star cluster,
- His "body" is a line between Alpha (α) Tauri (Aldebaran) and Gamma (γ) Orionis (Bellatrix),
- One "foot" is Alpha (α) Orionis (Betelgeuse),
- His other "leg" runs from Bellatrix through the belt of Orion (which they call "Joykexo") to the star Kappa (κ) Orionis (Saiph),
- One "hand" is the stars 11 and 15 Orionis,
- His "arms" are a line from 11 Orionis to Eta (η) 1, 2 and 3 Orionis,
- From the "hand" at Eta (η) 3 Orionis, a "walking stick" extends down through Eta (η) 5 Orionis, and Beta (β) Eridani (Cursa), ending at the tip of the stick with the star Beta (β) Orionis (Rigel), and
- The Pleiades cluster (which they call "Eixu" or "Bees") is the "feather" in the old man's cap.

Compare this to the Pemon asterism Jilijoaibu, above.

Old Marine:

This Latin asterism "Senex Aequoreus" is the IAU constellation Cepheus.

Old Sieve:

This Estonian asterism "Vana Sõel" is the Hyades cluster in the IAU constellation Taurus and appears in the *Sky of Ests (Chudes)* by Aleksander Heintalu (Sass of Vigala) (Kuperjanov 2006).

Old Serpent:

This German asterism is the IAU constellation Draco and represents the serpent who tempted Eve.

Old Staff Stars:

This Estonian asterism “Vanad Sauatähed” is three stars in the IAU constellation Aquila (Kuperjanov 2006): Beta (β) Aquilae (Alshain), Alpha (ε) Aquilae (Altair) and Gamma (γ) Aquilae.

Old Star Thing:

This Barasana star “Nyokoaro Bukura” is Lambda (λ) Orionis in the IAU constellation Orion. Hugh-Jones (2006) describes it as Lambda (λ) and Phi (ϕ) 1 and 2 Orionis. It is in the part of the Milky Way that the Barasana call the “Old Star Path”. It is associated with a mythical heroine “Meneridyo” (“Ingá Woman”).

Old Wheels:

This Estonian asterism is the Little Dipper asterism in the IAU constellation Ursa Minor (Kuperjanov 2006). It is from the island of Saaremaa.

Old Wiringin:

To the Kamilaroi/Euahlayi, a Wiringin is a "Clever Man" or Aboriginal doctor. Old Wiringin is in the Small Magellanic Cloud where he controls who can go on to Bulimah after death. If the person who died is not initiated, they are not allowed, because they don't know the rules, so he sends them to Wadhaagudjaaylwan (see Birth Spirit, above) in the Large Magellanic Cloud. This birth spirit will send the uninitiated back to Earth as a new baby, so they can be initiated. This Wiringin is represented in every Aboriginal cemetery as the Wilga tree (Native Willow). Compare with their asterism Wise Man (see below).

Old Wife:

This Russian asterism “Baba” is the Pleiades cluster in the IAU constellation Taurus as listed by R. H. Allen in his *Star Names* in 1899.

Old Wives:

This Polish asterism “Baby” is the Pleiades cluster in the IAU constellation Taurus as listed by R. H. Allen in his *Star Names* in 1899.

Old Woman:

This Kamilaroi/Euahlayi star is Alpha (α) Lyrae (Vega) in the constellation Lyra.

This Irish star is one of the stars of the Pleiades cluster in the IAU constellation Taurus (Boutet 2014). She is also known as “Bui” (“yellow”), wife of Lugh, the Sun God.

Old Woman Returning from the Garden with Crop in Her Bag:

This Sesivi (Daakaka) asterism “Éteto an Véavin” is the sword of Orion in the IAU constellation Orion (Ramik 2019). The quadrilateral formed by the stars Kappa (κ) Orionis (Saiph) and Beta (β) Orionis (Rigel) and the stars of the belt of Orion is “Kasulia Kuakua” or “Kasulia Reparep” (see “Short Yoke” below), which is the yoke this stellar woman is using to carry things.

Old Woman’s Cot:

This Gond asterism is a quadrangle of stars in the IAU constellation Ursa Major: Alpha (α) Ursae Majoris (Dubhe), Beta (β) Ursae Majoris (Mirak), Gamma (γ) Ursae Majoris, and Delta (δ) Ursae Majoris (Vahia

2014). Compare this to the Kolam asterism Cot (see above) or the Kolam asterism Cot of the Dead (see above).

Old Woman's Distaff:

This Finnish asterism "ämmänrukki" is the belt of Orion in the IAU constellation Orion (Persson 2022).

Old Woman's Grandchild:

This Apsáalooke star is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (see Little Dipper, above).

Olive Leaf of Antlia:

This **telescopic** asterism "Olivifólium Ántliae" is the spiral galaxy NGC 3281 in the IAU constellation Antlia. John Herschel listed this as h 3269 and later as GC 2136 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Olive of Pisces:

This **telescopic** asterism "Olivia Píscium" is the elliptical galaxy NGC 315 in the IAU constellation Pisces. It was discovered in 1784 by English astronomer William Herschel who listed it as II 210. This is GC 176 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010).

Olive of Virgo:

This **telescopic** asterism "Oliva Vírginis" is the elliptical galaxy NGC 4697 (Caldwell 52) in the IAU constellation Virgo. William Herschel listed this as "I 39". It became GC 3227 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Olwen's Hall:

This Welsh asterism listed by Victorian folklorist Marie Trevelyan (1852 – 1922) in her *Folk-lore and Folk-stories of Wales* (1909) is currently unidentified.

Olympic Rainy Capella:

This Latin asterism "Oleniae sidus pluviale Capellae" is the IAU constellation Auriga and related to the asterism Capra (see Kids, below) and appears in 1st century B.C.E. poet Ovid's *Metamorphoses*. This constellation marked the rainy season.

This Latin asterism "Olenia", "Capra Olenie", "Olenie", is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga. Roman poet Publius Ovidius Naso (Ovid, b. 43 B.C.E.) lists it as "Olenium Astrum" ("Olenium Star") in his *Heroides*. It apparently comes from the Greek poet Aratus' epithet "Ωλενίη" or "Olenií". Compare this to Rainy Goat Star, below.

Omega:

This Gallic asterism is the IAU constellation Lyra. The Gallo-Roman historian and Bishop Gregory of Tours (538 – 594) created this to help monks use certain stars in the sky to determine the time for prayers. It is part of his asterism "Crux Maior" (see Major Cross, above).

Omega Centauri:

This **telescopic** asterism is the globular cluster NGC 5139 (Caldwell 80) in the IAU constellation Centaurus. It is also known as the "Star in the Cloud on the Horse's Back" (see below), which was how it was described by Ptolemy (c.100 – c.170), the Ice Cream Cone (see above) and the 3D Christmas Light Ball (see above). It was first identified as a non-stellar object by English astronomer Edmond Halley in 1677 in his observations from St. Helena. German uranographer Johann Bayer (1572-1625) used Ptolemy's data in his 1603 *Uranometria*, listing it as "Omega Centauri". Swiss astronomer Jean Philippe de Chéseaux listed it as a nebula in 1746, as did French astronomer Abbé Nicolas Louise de Lacaille in 1755, who described it as "like a big diffuse comet". It is listed in the *General Catalogue* of 1864 as GC 3531 and in John Herschel's catalogue as h 3504.Boston meteorologist Todd Gross describes it as a "perfectly symmetrical bright cotton ball" in his observing notes from 1998 in Cancun.

Omega Nebula:

This asterism is the HII region Messier 17 (NGC 6618, SH 2-45, RCW 160, LBN 60, Cr 377, Ced 161), in the IAU constellation Sagittarius, discovered in 1745 by Swiss astronomer Philippe Loys de Chéseaux and catalogued by French astronomer Charles Messier in 1764:

- The shape of the nebula resembles the Greek letter omega (ω): This was noted by English astronomer William Herschel.
- John Herschel lists this in his 1864 *General Catalogu*e as GC 4403.
- German astronomer Hermann Joseph Klein (1844 – 1914) lists the "Omega Nebula" in his *Star Atlas* (1893).
- The Omega Nebula is listed in R. H. Allen in his *Star Names* in 1899.
- The 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) lists this as the "Omega Nebula".
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this both as the "Omega Nebula" and the "Swan Nebula".
- It is also known as the Checkmark Nebula, Swan Nebula, Lobster Nebula, and Horseshoe Nebula.

Omphale of Hercules:

This **telescopic** asterism "Ómphale Hérculis" is the barred spiral galaxy NGC 6166 in the IAU constellation Hercules. William Herschel listed this as "II 875". John Herschel listed this as h 1961 and later as GC 4208 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as it dominates the Abell 2199 cluster. Omphale was queen of Lydia, whom Hercules had to serve as a punishment.

Omphta:

This asterism is the IAU constellation Libra as listed in an "Ancient Zodiac of Egypt" in *Hindu Astronomy* by W. Brennand in 1896. Brennand has labelled this illustration "from the Barberini Museum", which is

probably a reference to the 17th century Palazzo Barberini, which is now the Galleria Nazionale d'Arte Antica. This depicts a male holding a long staff in his left hand and a set of scales in his right hand. In ancient Egyptian skies some of the stars of Libra were included in their asterism Selkis (see below) and in later Seleucid skies were the "claws" of their asterism Scorpion (see below). Omphta is a name for the Egyptian asterism "Ṭepā-khentet" (see below) in the IAU constellation Libra assigned by German Jesuit astronomer Athanasius Kircher (1602 – 1680). Brennan attributes this name for this constellation to the 5th century Roman Macrobius Ambrosius Theodosius, who believed that the Egyptians created the signs of the zodiac and that they were later adopted by the Greeks. Brennand recognized that the stars of Libra were originally the "claws" of Scorpius, but claims that "Scorpio was converted to Typhoon, and became the Greek Mars". Mars is a Roman name for the Greek God Ares. NOTE: There is a Coptic lunar mansion "Klaria" (see Armlet, above) which was given the name "Bestia seu Statio Typhonis" ("beast or typhoon station") by R. H. Allen in his *Star Names* in 1899, but this was described as Betelgeuse in Orion, not stars in Libra.

On Fire:

This Arabic asterism "Al Yumkin 'Iiqafuh" (لا يمكن إيقافه) is the IAU constellation Cepheus:

- Cepheus was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his Book of the Fixed Stars in 964 (Hafez 2010) as "al-Multaheb".
- This was later latinized to "Inflammatus", "Flammiger", and "Incensus". From these Latin names Arabs translated it back into "Al Multahab".
- Johann Bayer's *Uranometria* (1603) lists "Flammiger" and "Incensus Sonans" as alternate names for Cepheus.
- Robert Hues lists "Flammiger" in his *A Learned Treatise of Globes* in 1659.
- John Hill lists "Multahab" in his *Urania* in 1754.
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Inflammatus" and "Flammiger", as well as "al Multahab, the flaming".
- Compare this to the asterism "Lady of the Flame" (above) and "Fire Kindler (above).

On It Daylight Comes:

This Dakelh star "Ukwe'eyəłkaih" is an unidentified morning star at present (Cannon 2021).

One:

This Babylonian asterism is the Great Square of Pegasus (see Great Square, above). It is also known as "Field" (see above).

One Behind:

This Inuit star "Kingulliq" ("the one behind") is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra, which they call "The Old Woman" (MacDonald 1998). It is related to their asterism "Sivulliik" (Two in Front- see below).

This Iñupiat star "A.gru.la.bwuk" ("the one behind") is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra.

One He is Carrying Back In:

The stars of this Dena'ina asterism "Udunuyultali" are unidentified at present (Cannon 2021). This may be a reference to their asterism "Yuq'eltani" (see Traveler, below): Yuq'eltani is said to carry his child (begguya) in a pack.

One Hundred Healers:

See Comprising a Hundred Physicians, above.

One in the Tail:

This Persian star "Avdem" is Beta (β) Leonis (Denebola) in the IAU constellation Leo as listed in R. H. Allen's *Star Names* in 1899.

One-Legged Hunter:

This Carib asterism "Epietembo" is made up of stars of the IAU constellation Orion. This is the stars Alpha (α) Orionis (Betelgeuse), Lambda (λ) Orionis, Gamma (γ) Orionis, and the belt of Orion forming his body and a line from Delta (δ) Orionis to Beta (β) Orionis (Rigel) his leg. He is the one-legged hunter, and the rising of this asterism marks the middle of the hunting season. He is the twin brother of "Macunaimá" the One-Legged Man.

One-Legged Man:

This Athabaskan (Alaskan and Western Canadian) asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Berezkin 2005).

This Carib asterism "Manbokouicayen" or "Macunaimá" is the IAU constellation Orion (Magaña, and Jara, 1982). He is the twin brother of "Epietembo", the One-Legged Hunter.

This Tamanako Carib asterism "Peti-Puni" is the IAU constellation Orion (Magaña, and Jara, 1982).

One Next to the Leader:

This Sogdian lunar station "Fasariva" or "Gasarwa" is two stars in the IAU constellations Libra and Virgo: Delta (δ) Librae and Mu (μ) Virginis. This is listed in R. H. Allen's *Star Names* in 1899.

This Khorasmian lunar station "Sara-fasariva" is two stars in the IAU constellations Libra and Virgo: Delta (δ) Librae and Mu (μ) Virginis. This is listed in R. H. Allen's *Star Names* in 1899.

One of a Duo of Libra:

This **telescopic** asterism "Dúovir Líbrae" is the barred spiral galaxy NGC 5597 in the IAU constellation Libra. It was discovered in 1784 by William Herschel who listed it as "III 122". It became GC 3866 in the General Catalogue of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They state that "the name Douviri, indication a board with two magistrates, is a suitable name for these rather similar looking galaxies. Thus each member deserves to be called Duovir". NOTE: the other galaxy in this pair is NGC 5595 (III 121, GC 3864).

One of Four Racing Horses of Telescopium:

This **telescopic** asterism "Quadrigális Telescópii" is the galaxy NGC 6845A in the four interacting galaxies NGC 6845 the IAU constellation Telescopium. It was discovered in 1834 by John Herschel who listed it as

h 3803 and later as GC 4526 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it appeared to them as one of four horses pulling a quadriga.

One of Many of Cetus:

This **telescopic** asterism "Unusemúltis Céti" is the edge on spiral galaxy NGC 779 in the IAU constellation Cetus. This was discovered by William Herschel in 1785. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name due to its appearing as a "common individual among many similar ones".

One of Three of Hydra:

This **telescopic** asterism "Triádice Hýdrae" is the elliptical galaxy NGC 3280B in the IAU constellation Hydra. It is part of a triad with NGC 3280A and NGC 3280C. It was discovered by American astronomer Andrew Ainslie Common in 1880. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to its large size.

One of Two Stars near Sirius:

This Arabic star "Al-kawkab ahad alladayn 'inda 'l-shi'rā" ("one of two stars near Sirius") is Beta (β) Columbae in the IAU constellation Columba as listed on the star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003).

One on the Tail:

This Dena'ina star "kala q'edi" is an unidentified star in the handle of the Big Dipper asterism (Cannon 2021).

One Over the Sky:

This is the Dena'ina name, "Yuq'eltani", for the Traveler (see Traveler, below (Cannon 2021)).

One That Rotates Over Us:

This Dena'ina asterism "Naqahdghuqesi" is the Big Dipper asterism in the IAU constellation Ursa Major (Cannon 2021). Variations include "Naq'eltaeni" ("One Above Us"). Another version called "náq'óčkdéldáni" is the IAU constellation Ursa Minor.

One Who Always Does Ingula Dances:

This Yupik star "Ingularturayuli" is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major. When it does not flicker, fine weather is coming, if it does, it will be windy.

One Who Closes His Eye:

This Hebrew star "ha-soger 'eyno" ("one who closes his eye") is Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor as listed on the star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985).

One Who Continuously Walks:

This Lower Tanana asterism “Nogheyoli” is cognate with the Gwich’in asterism “Yahdii” (see Traveler, below). He is also known as “Ch’etitadhkanenh” (“one who started paddling among things”) or “Yochwx” (“Big Sky”). He is made up of stars of the IAU constellations Auriga, Camelopardalis, Cancer, Cassiopeia, Draco, Gemini, Hydra, Lynx, Taurus, Ursa Major, and Ursa Minor (Cannon 2021):

- His “tail” (becha’) is the Big Dipper asterism,
- His “torso” (bezrek) is Iota (ι) Ursae Majoris, Kappa (κ) Ursae Majoris, Theta (θ) Ursae Majoris, 23 Ursae Majoris, and Omicron (ο) Ursae Majoris,
- His “heart” (bedraya’) is 21 Lyncis,
- His “nose” (bentsiyh) is the Pleiades cluster,
- His “eyes” (benagha’) is Iota (ι) Aurigae and Beta (β) Tauri (Elnath),
- His “hair” (begho’) is Psi (ψ) 2, 4, 5, 7, and 10 Aurigae,
- His “left ear” (tl’egheyh ts’ena’) is Eta (η) Geminorum, Mu (μ) Geminorum, and Nu (ν) Geminorum,
- His “right ear” (xwzrunh ts’ena’) is Zeta (ζ) Tauri,
- His “left arm” (tl’egheyh ts’ena’bego) is Beta (β) Geminorum (Pollux), Gamma (γ) Cancri, and Delta (δ) Cancri,
- His “left hand” (tl’egheyh ts’ena’ belo’) is Delta (δ) Hydrae, Eta (η) Hydrae, Epsilon (ε) Hydrae, Rho (ρ) Hydrae, Zeta (ζ) Hydrae, and Sigma (σ) Hydrae,
- His “right arm” (xwzrunh ts’ena bego) is Delta (δ) Aurigae, Beta (β) Camelopardalis, HIP 17884, and Epsilon (ε) Cassiopeiae,
- His “right hand” (xwzrunh ts’ena’ belo’) is:
    - His “palm” (belok’a), Gamma (γ) Cassiopeiae,
    - His “fingers” (belots’ula’) are:
        - “little finger”: Beta (β) Cassiopeiae (Caph)
        - “ring finger”: Alpha (α) Cassiopeiae (Shedar),
        - “middle finger”: Eta (η) and Zeta (ζ) Cassiopeiae,
        - “index finger”: Theta (θ) Cassiopeiae,
        - “thumb” (belochetth): Delta (δ) Cassiopeiae,
- His “left leg” (tl’egheyh ts’ena’) is Psi (ψ) Ursae Majoris, Nu (ν) Ursae Majoris, and Xi (ξ) Ursae Majoris,
- His “left foot” (tl’egheyh ts’ena’ beka’) is:
    - “heel” (bekatwtl): Beta (β) Leonis (Denebola),
    - “left toes” (bekalats’ula’):
    - “big toe”: Delta (δ) Leonis
    - “middle toe”: Theta (θ) Leonis,
    - “little toe”: Iota (ι) Leonis,
- His “right leg” (xwzrunh ts’ena’) is Lambda (λ) Draconis, Kappa (κ) Draconis, Beta (β) Ursa Minoris (Kochab), Gamma (γ) Ursae Minoris, and Zeta (ζ) Ursae Minoris (NOTE: his “right knee” (begwt) Kochab and Gamma (γ) Ursae Majoris),
- His “right foot” (xwzrunh ts’ena’ beka’) is Beta (β) Draconis (Rastaban) and Gamma (γ) Draconis,
- His “pack” (beghala’) is Alpha (α) Geminorum (Castor), Beta (β) Geminorum (Pollux), Iota (ι) Cancri, Alpha (α) Lyncis, 38 Lyncis, 10 Ursae Majoris, and 31 Lyncis,

- His “staff” (bedechena’) is the line of stars between Lambda (λ) Geminorum, Beta (β) Cancri (Tarf), and Alpha (α) Hydrae (Alphard).

One Who Crosses the Belt:

This Hebrew star“’over ha-afudda” (“one who crosses the belt”) is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major as listed in the star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985). This is a reference to the Arabic story of Suhayl and the sisters.

One Who Eats His Mother:

This Quechua asterism “Mamana Micuc” is made up of a zig zag line of stars in the IAU constellation Puppis (Urton 1981): Xi (ξ), Pi (π), Sigma (σ), Nu (ν), and Tau (τ) Puppis.

One Who is Touched of Canes Venatici:

This **telescopic** asterism “Táctus Cánum Venaticórum” is NGC 5395 (Arp 84), part of a pair of interacting galaxies NGC 5394 and NGC 5395 in the IAU constellation Canes Venatici. These were discovered by English astronomer William Herschel in May 1787, who listed them as “I 191” and “I 191”. They are GC 3730 and GC 3731 on the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “this elegant galaxy gently touches its companion NGC 5395”. It is also known as the “Heron” (see above).

One Who Kneels on Both Knees:

This Arabic asterism is the IAU constellation Hercules:

- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “El játhi ‘ald rukbeteihi, the man who kneels on both his knees” as an Arabic name for this constellation.
- Compare this to “Al Rukbah al Dajājah” (“one who kneels on both knees”) which was a name for Delta (δ) Cassiopeiae (see Knee above).

One Who Paddled Among Things:

This is an alternate Koyukon name, “K’etetaalkkaanee”, for their asterism “Naagheltaale” (see That Which is Revolving, above (Cannon 2021)).

One Who Paddled Around the Edge of the Sky/World:

This is an alternate Dena’ina name, “Yubugh Tayqan”, for their asterism “Yuq’eltani” (see Traveler, below (Cannon 2021).

One Who Stands Still:

This T’atsaol’ine and Wiidiideh star “ʔ ɬǫ wheɔǫ” is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Cannon 2021).

One Who Started Out Paddling Among Things:

This Gwich’in asterism “Ch’iteehàakwaii”, “Ch’ataiiyuukaih”, or “Atachuukaii” is a variation of their “Yahdii” asterism (see Traveler, below (Cannon 2021)). Cannon notes that this figure “is sometimes conflated or interchanged with the more comical figure Vasaadihdzak (Variants include Weesagajake,

Vansangitik, Sakeethuk, the Dëne Suhne Wisáketcak, the Sahtúotine Haskitjack, and the Dane-zaa Watc'agic) who appears in presumably borrowing from the analogous [Ininew] figure Wesakidjak" (see Trickster, below).

NOTE: This character shows up in several other First Nations cultures. The Hän called him "Chetatchekih" or "Tsà' Wëzhaa", the Lower Tanana "Ch'etitadhkanenh", the Upper Kuskokwim "Ch'ititazkane", the Koyukon "K'etetaalkkaanee", and the Dena'ina "K'uzhaghalen".

One Who Started Paddling Among Things:

This is an alternate Lower Tanana name, "Ch'etitadhkanenh" for their asterism "Nogheyoli" (see One Who Continuously Walks, above).

One Who Touches of Canes Venatici:

This **telescopic** asterism "Tángens Cánum Venaticórum" is NGC 5394 (Arp 84), part of a pair of interacting galaxies NGC 5394 and NGC 5395 in the IAU constellation Canes Venatici. These were discovered by English astronomer William Herschel in May 1787, who listed them as "I 191" and "I 191". They are GC 3730 and GC 3731 on the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "this elegant galaxy gently touches its companion NGC 5395". It is also known as the "Heron" (see above).

One Who Went Angrily Around the Edge of the Water:

This Tanacross name, "Tuumaagh Telch'eegh", is an alternate name for their asterism "Neek'e'elteen" (see That Which Moves Following Us, below (Cannon 2021)).

One Who Went Angrily Around the Sky:

This Tanacross name, "Yaamaagh Telch'eegh", is an alternate name for their asterism "Neek'e'elteen" (see That Which Moves Following Us, below (Cannon 2021)).

One Who Went Around the Edge of Sky:

This Upper Tanana name, "Yamaagn Teeshyaay", is an alternate name for their asterism "Yihdaa" (see Traveler, below).

One Who Went Around the Edge of the Water/Ocean:

This Ahtna name "Yabaaghe Tuu Teeshyaay" is an alternate name for their asterism "Nek'eltaeni" (see That Which Moves Over Us, below (Cannon 2021)). Variations include "Yabaaghe Tezyaann". NOTE: This appears in other First Nations Cultures: Upper Tanana "Yaatu' Maagn Teeshyaay", "Yambaa Teeshyaay", or "Tsa' Ushyaa".

One Who Went Around the World:

This is an alternate Sahtúotine name, "Yámǫréya" ("one who went around the world" or "one who departed to go around the world"), for their asterism "Yidha" (see Traveler, below).

One with Spreading Antlers:

This Ukrainian asterism is the IAU constellation Ursa Major.

Ones on the Dawning:

The stars of this Dena'ina asterism are unidentified at present (Cannon 2021).

Only Son of Life:

This Latin asterism "Athamas" is the IAU constellation Aries as named by Roman writer Lucius Iunius Moderatus Columella (4 – 70 C.E.). R. H. Allen writes that this came from a "Euphratian Tammuz Dum-uzi" in his *Star Names* in 1899.

Open Piercing:

This Rapanui star "Pau" is undetermined at this time (Edwards and Edwards 2016, Edwards et al 2018). It was an ill omen when it appeared in October/November.

Open Up:

This Hawaiian star "Maweke" is Gamma (γ) Cephei (Errai) in the IAU constellation Cepheus.

Opener of Heat:

This Chinese star "Kaiyang" from the Three Kingdoms to the Ming Dynasty is Zeta (ζ) Ursae Majoris (Mizar) in the IAU constellation Ursa Major.

This Chinese Chenzhuo xing guan "Kaiyang" is the star Zeta (ζ) Ursae Majoris in the IAU constellation Ursa Major. It is part of their xing guan Northern Dipper.

Opening the Door Star:

This Venda star "Musasi" is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus. It was unpopular with Venda women as it was the star they saw when they opened their door on winter mornings when they needed to start stamping grain.

Ophiuchus:

The brightest star of Ophiuchus, Alpha (α) Ophiuchi (Rasalhague) is only the 57th brightest star in the sky, but its stars do appear in 253 of the asterisms in this handbook.

This IAU constellation (IAU abbreviation Oph) was first mentioned in Aratus' poem *Phaenomena* (270 B.C.E.) and is one of Ptolemy's 48 original constellations: Ptolemy (c.100 – c.170) called it "Ὀφιοῦχος" ("Ofioúchos" from "ophis" = "snake" and "okhos" = "holder"). There is no definite asterism that predates it. To the ancient Greeks it represented the God Apollo struggling with a snake. Later Greek myths associate them with Laocoön, the Trojan priest of Poseidon, who was slain by serpents. This later got latinized to "Ophiulchus", "Ophiulcus", "Ophiultus", "Ophiuculus", and "Ophiulculus", and between the 16th and 17th centuries to "Afeichus", "Afeichius", and "Alpheichius".

Ptolemy described the "Serpent Bearer" like this in his *Almagest:*

- His "body" had "shoulders" at the stars Beta (β) Ophiuchi and Kappa (κ) Ophiuchi with the base of his "neck" at HIP 85333 and a "head" at Alpha (α) Ophiuchi (Rasalhague),
- One "arm" ran from Kappa (κ) Ophiuchi through Iota (ι) Ophiuchi to an "elbow" at Lambda (λ) Ophiuchi and a "hand" of the stars Epsilon (ε) and Delta (δ) Ophiuchi,

- The other “arm” runs from Beta (β) Ophiuchi through Gamma (γ) Ophiuchi to a “hand” of the stars Nu (ν) and Tau (τ) Ophiuchi,
- His “hips” are the stars 47 Ophiuchi and HIP 82693,
- One “leg” runs from HIP 82693 to a “knee” at Zeta (ζ) Ophiuchi through the stars Phi (ϕ), Chi (χ), and Psi (ψ) Ophiuchi to a “foot” of the stars Omega (ω) and Rho (ρ) Ophiuchi,
- The other “leg” runs from 47 Ophiuchi to a “knee” at Eta (η) Ophiuchi through Xi (ξ) Ophiuchi to a “foot” of the four stars 51, 44, Theta (θ) and 36 Ophiuchi, and
- He is holding the asterism “Snake” (see below).

1st century Roman writer Lucius Junius Moderatus Collumela called it “Anguifer” (“snake bearer”) and this later appeared as “Anguiger” and Roman statesman Marcus Tullius Cicero (106 – 43 B.C.E.) called it “Anguitenens” (“serpent holding”).

This constellation is typically depicted as a man holding a snake, this “snake” being the IAU constellation Serpens: The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) depicts this constellation as a nude male with his right hand raised as if waving and holding a snake in his left hand. This is how it is depicted by German uranographer Johann Bayer (1572 – 1625) in his *Uranometria* in 1603.

The globe of the 2nd century Farnese Atlas depicts “Serpentarius” as a nude male viewed from the rear, facing to our left, holding a snake in front of him which runs between his legs (Stevenson 1921).

This constellation appears in the 8th century *Revised Aratus Latinus*:

- In several editions (Dresden DC 183, Paris BN 12957, Prague IX. C. 6) Ophiuchus is depicted as standing on Scorpius as well as depicting Scorpius separately,
- In the Vat Reg lat 1324 and Cologne 83 II editions Ophiuchus is shown alone,
- In two editions (St Gall 250, St Gall 902) Ophiuchus is a nude figure holding a flat snake.
- In several editions (Paris BN 12957, Prague IX. C. 6., Gottweig 7 (146), Siena L. IV. 25, Cologne 83 II) Ophiuchus is nude, facing left, with the snake wrapped around his body twice,
- In the Dresden DC 183 edition he is nude, facing away from us, with the snake knotted around his body,
- The Paris BN n.a. 1614 and Vat Reg 1324 editions are the same as the Dresden version except that he is facing right.

This constellation appears in the Leiden *Aratea* (816) as “Serpentarius” and is depicted as a nude male viewed from the rear who is holding a snake in his hands in front of him (Katzenstein & Savage-Smith, 1988): He is shown standing on Scorpius.

The Oxford Laud 644, Padua 27 and Venice VIII 22 manuscripts of the 11th century *De signis caeli (“of the signs of heaven*”) depicts Ophiuchus walking to the left, a snake wrapped around his body making an “X” crossing at his waist, with the snake facing him. The Klosterneuberg 685, Paris BN 5239, Paris BN 5543, Vat lat 643, Montecassino 3, and Zwettl 296 manuscripts of *De signis caeli* depict Ophiuchus standing on Scorpius.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi’s son depicts Ophiuchus as a clean-shaven male in knee-length robes, wearing a turban. He is holding Serpens, which runs behind his back with its head on our right on one page. On the other page he is turned slightly the other way with the serpent’s head on his left.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Ophiuchus as a male facing us in knee length clothing and wearing a qalansowa ṭawīla (tall conical hat). He is holding Serpens in front of his body.

Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) depicts Ophiuchus as a male wearing a stacked conical hat.

The BAV *Astronomia* text, Vatican. lat. 3110 - Florence, ca. 1370; owned by Coluccio Salutati (1331-406) and the Madrid texts (Bibl. Nacional, Matritensis 1983, fol. 116v and Vatican, BAV, Vat. lat. 3121, fol. 12r., Bibl. Nacional, Matritensis 1983, fol. 115v and Vatican, BAV, Vat. lat. 3121, fol. 10v.) depict Ophiuchus standing on the back of Scorpio Mc Gurk, Patrick (1966).

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Ophiuchus as a male dressed in a calf length robe and some sort of helmet. He is holding Serpens with both hands: Serpens runs behind his back.

The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.168v-169r depicts "Serpentarius" as a nude male with curly hair as viewed from behind. Serpens is wound around both of his wrists and once around his middle. His left foot is resting on the back of Scorpius.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.71v-72r depicts Ophiuchus as a nude male viewed from behind. Serpens is wrapped around his wrists and three times around his waist. He is looking to his right.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Ophiuchus as a male in a thigh length tunic turned slightly to our left. He is holding Serpens, which is tied in a knot around his waist. His right foot is on the back of Scorpius. It is not labelled.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Ophiuchus as a nude male walking to our left, turned so that we can only see his back. He is looking over his left shoulder. He is holding a serpent which coils around his midsection. He is standing with both feet on the back of Scorpius.

De Astronomica ("the astronomy"), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This labels the constellation both "Ophiulcus" and "Serpentarius" and depicts a nude male walking holding a serpent which is wound around his waist.

The *Germanicus Aratea* (Siciliensis, c. 1469) as well as the *Germanicus Aratea* with scholia Strozziana (c. 1475) depicts "Ophiochus" as a nude male facing to our left with a serpent wrapped around his middle, the serpent's head being on the left side of the illustration and with the serpent bearer's hands holding ends of the serpent. He is standing on a scorpion which is facing to our left.

The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts "Serpentarius vel Anguitenens" is a male in colorful garments as viewed from behind. His head is turned towards Hercules and he is holding Serpens, which is wound around his lower arms and waist. One of his feet rests on Scorpius.

The early 16th century Real Academia de Historia, manuscript D-97, f.102v – 103r depicts Ophiuchus as a nude male looking to his left. In his hands he holds Serpens, which runs between his legs. It is not labelled. His left foot is on the back of Scorpius.

The "Nuremburg Maps" *(Die Karte des Nördlichen Sternenhimmels* inv.-Nr. Hz 5576), a pair of celestial hemispheres made in 1503 by Conrad Heinfogel, depicts "OPHIVLCVS" as a nude male striding away from us holding a serpent which is knotted around his midsection and wound around his arms.

The *imagines coeli septentrionales cum duodecint imaginibus zodiaci* ("images of the northern sky with twelve images of the zodiac"), commonly known as the *Northern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius (Dekker & Lippincott, 1999) depicts "Ophiuchus" as a nude male striding away from us holding a serpent which is knotted around his midsection and wound around his arms.

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts "Serpentarius" as a nude male as viewed from behind, holding a serpent which is wound around his waist. On his 1522 globe the name listed is "Ophiuchus".

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts "OPHIVCHVS" as a nude male facing away from us holding a serpent which is coiled around his waist.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts Ophiuchus in the same manner as Dürer et al.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts "Ophiuchus" as a nude bearded male viewed from the rear with a serpent around his waist.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as the "Serpent Carrier" and the "Snake Holder".

The Northern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Ophiuchus as a bearded nude male with his back to us striding to our right. Serpens is wound around his arms and knotted about his waist. His left foot is tucked behind the side of Scorpius.

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists this constellation as "Ophiuchus, seu Serpentarius" in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts Ophiuchus as a male wearing a hat and a kilt-like garment holding a snake labelled "Anguis" which is wrapped around his middle: This male is not labelled.

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicted "Ophiucus, seu Serpentarius" ("Ophiuchus or Serpentarius") as a nude male viewed from the rear, holding a serpent across his back with both hands.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts this constellation as a nude male facing us, holding a serpent across the front of his body. The label is unintelligible.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts “Serpentarius” as a nude male viewed from behind, looking to his right. Serpens is wound around his arms and waist.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts “Serpentarius” as a nude male viewed from the rear who is holding a serpent which is wound twice around his middle.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) depicts “Ophiuchus” as a nude male standing on “Scorpius” holding a serpent in front of him which is labelled “Anguis”.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) lists this constellation as “Serpentarius” with the subtitle “Ophiuchus” and depicts it as a nude bearded male viewed from behind holding Serpens, which passes between his legs.

This constellation is listed by Danish astronomer Tycho Brahe’s *Astronomiae Instauratae Progymnasmata* (1602) as both “Ophiuchus” and “Serpentarius”.

On one chart German astronomer Johann Bayer (1572-1625) depicts Ophiuchus in his *Uranometria* in 1603 as a bearded man as viewed from behind holding a serpent in front of him in his hands: The serpent has a barb resembling an arrowhead on its tongue. On another chart in his *Uranometria* Bayer depicts Serpens without Ophiuchus. In Bayer’s Uranometria (1603) he lists these names for Ophiuchus: “Serpentarius, Serpentinarius, Anguitenens, Anguiger Columellae, Effoeminatus, Ophiuchulus, male Ophilutus, Carnabons, Triopas, Hercules, Glaucus, Aesculapius, Alahague, Alangue, Afeic hius, Mauris Grus, Ciconia Serpenti, Elhague, Serpentis lator.”

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicted “Ophiucus, seu Serpentarius” (“Ophiuchus or Serpentarius”) as a nude male viewed from the rear, holding a serpent across his back with both hands.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) labels this constellation “Serpentarius”.

Johann Bayer’s *Uranometria* (1603) lists “Anguitenens” and “Anguiger Columellae” (“Anguiger of Colemella”): This is a reference to Roman writer Lucius Iunius Moderatus Columella (4 – 70 C.E.).

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Ophiuchus” is listed on the *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) and depicted as a nude bearded male as viewed from behind holding Serpens, which is wrapped around his waist and running between his legs. Blaeu also lists the name “Serpentarius”, “Anguitenens” and “Anguiger”.

“Ophiuchus” is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and depicted as a male in a sort of kilt facing us holding Serpens across the front of his body. Bartsch lists “Anuitenens”, “Anguiger” and “Serpentis Lator” (“the serpent’s bearer”) as alternate names for Ophiuchus.

Giovanni Paolo Gallucci's *Theatrum Mundi, et Temporis* (1614) labels this constellation "Serpentario" and "Orphicus" and depicts him as a clean-shaven nude male viewed from behind. He is holding a serpent which crosses behind his back.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the names "Ophiuchus" and "Serpentarius" for this constellation.

The *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) lists this constellation as "Serpentarius" and depicts him as a male holding Serpens.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius labels this constellation "Ophiuchus" and "Serpentarius".

The huge *Gottorf Globe* (c1650) made for the Duke of Holstein, Frederick III, one of the world's first planetariums, depicts only the upper half of Ophiuchus, depicting the head and shoulders of a bearded man viewed from behind who is looking to his left. You can just see parts of Serpens along the edge of the dome.

This constellation is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "Serpentarius" and "Ophiuchus".

Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) labels this constellation "Serpentarius" with the subtitle "Ophiuchus" and depicts him as a nude male viewed from the rear holding a serpent which is wrapped around his waist.

The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678 by English uranographer James Clerk depicts "Serpentarius" as a nude male viewed from the rear holding a serpent which passes between his legs.

English uranographer John Seller's *A coelestiall planisphere* (1678) depicts "Serpentarius" as a nude male viewed from the rear holding a serpent in front of him which runs between his legs.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts "Serpentarius" as a nude bearded male viewed from the rear, holding the serpent Serpens in front of him. He has his left foot on the side of Scorpius.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this "Le Serpentaire", "Serpentarius", and "Ὀφιοῦχος" and depicts it as a bearded male with drapery wrapped around his midsection. Serpens is coiling around his left forearm and he is holding Serpens with his left hand.

Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) labels this "Serpentarius" with the subtitle "Ophiuchus".

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, labels this constellation "Serpentarius" and depicts Ophiuchus as a balding bearded male in a green toga holding the snake Serpens, which is wound around his waist: He is standing on the back of Scorpius.

Ophiuchus is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729: He is depicted as a bearded male in a toga holding Serpens in both hands, with this snake running between his legs.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 Ophiuchus is depicted as a nude male facing away from us holding a snake which runs between his legs.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts "Serpentarius" as a male facing away from us holding a snake ("Serpens Ophiuchi") across the front of his body.

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) labels this constellation "Serpentarius" and depicts it as a bearded male facing away from us holding a serpent in his hand in front of him.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Ophiuchus as a bearded male viewed from behind. He has a drapery wrapped around him and is looking to his left. He is holding Serpens in front of him

John Hill lists this asterism as "Anguinitens" in his *Urania* in 1754. Hill then relates this figure to "Engonasin, expressing a man kneeling" which is a clear reference to the IAU constellation Hercules as it appeared in the 2nd century in Ptolemy's *Almagest* (see Kneeler, below): from the remarks that follow it appears that he thinks that this term is another name for this asterism involving Ophiuchus.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) labels this constellation "le Serpentaire" and depicts it as a man in a toga facing away from us holding a serpent across the front of his body.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts Ophiuchus as a nude male facing away from us holding a serpent which passes between his legs.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "le Serpentaire" as a male in a toga holding "le Serpent", which passes between his legs.

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Der Schlangenträger und die Schlange" as well as "Ophiuchus".

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as "Offiuco" his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Der Schlangenträger und die Schlange".

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer labels this constellation "Serpentarius" and depicts him as a nude male viewed from the rear holding Serpens in front of him.

Ophiuchus is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801) as "Ophiucus of Slangendrager" ("Ophiuchus or Snake Carrier"): He is depicted has holding a snake which runs between his legs.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as "Ophiuchus" and depicts it as a man facing away from us holding a serpent in his hands.

American uranographer William Croswell (1760 – 1834) depicts "Serpentarius vel Ophiuchus the Serpent Bearer" on his *Mercator Map of the Starry Heavens* in 1810 as a bearded male in a tunic viewed from the rear holding the serpent Serpens, which runs between his legs.

Scottish uranographer Alexander Jameison's *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822) depicts "Ophiuchus" as a bearded male in a toga holding a snake.

"Ophiuchus" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as a bearded, long haired male viewed from the rear, holding Serpens in front of him.

English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Anguitenens of Cicero [and] the Anguifer of Columella". Smyth also lists "Serpentarius", but his is actually a name for Serpens (see above).

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depict "Ophiuchus" as a male in a skirt viewed from the rear. He is holding a snake (Serpens) with four coils which has coiled around his left leg.

"Ophiuchus" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): He is depicted as a bearded male facing us in a thigh length tunic holding Serpens in front of him.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this constellation as "Serpentarius, or Ophiuchus, the serpent bearer" and describes it as "a man grasping in both hands a prodigious serpent, which is writhing in his grasp". On Steele's charts it is labelled "Serpentarius".

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Ophiuchus, The Serpent-Bearer" as an official constellation "recognized in the catalogue of the British Association".

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as one: "Ophiuchus et Serpens, the Serpent-bearer and the Serpent".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Ophiuchus" in his *Star Atlas* (1893) and describes it as "Ophiuchus".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Ophiuchus" and describes it as the "Serpent carrier".

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Ophiuchus: The Snake Bearer".

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) redesigned the lines of Ophiuchus in his book *The Stars - A New Way to See Them* (1952). A standard IAU chart shows this constellation as a loop of the stars Eta (η) Ophiuchi, Beta (β) Ophiuchi (Cebalrai), Alpha (α) Ophiuchi (Rasalhague), Kappa (κ) Ophiuchi, Epsilon (ε) Ophiuchi, and Zeta (ζ) Ophiuchi, with a single line running from Eta (η) Ophiuchi to 51 Ophiuchi. Rey's version has been expanded considerably:

- His "head" is the triangle of stars Beta (β) Ophiuchi (Cebalrai), Alpha (α) Ophiuchi (Rasalhague), and Kappa (κ) Ophiuchi,
- His "body is the rectangle of stars Kappa (κ) Ophiuchi, Zeta (ζ) Ophiuchi, Eta (η) Ophiuchi, and Cebalrai,
- One "arm" runs from Cebalrai to an "elbow" at Gamma (γ) Ophiuchi to a "hand" at 70 Ophiuchi, with a bending line of stars from Theta (θ) 1 Serpentis through 72 Ophiuchi, 70 Ophiuchi, Eta (η) Serpentis, 64 Ophiuchi, 56 Serpentis, Xi (ξ) Serpentis, to Nu (ν) Serpentis forming one side of the "serpent",
- One "arm" runs from Kappa (κ) Ophiuchi to a "shoulder" at Iota (ι) Ophiuchi through Lambda (λ) Ophiuchi to a "hand" at Delta (δ) Ophiuchi, with a bending line of stars from Upsilon (υ) Ophiuchi through Epsilon (ε) Ophiuchi, Delta (δ) Ophiuchi, Mu (μ) Ophiuchi, Epsilon (ε) Serpentis, Alpha (α) Serpentis (Unukalhai), Lambda (λ) Serpentis, and Delta (δ) Serpentis forming the other half of this "serpent" with the "head' being the triangle of stars Gamma (γ), Kappa (κ), Iota (ι), and Beta (β) Serpentis (Nasak Shamiya).
- One "leg" runs from Eta (η) Ophiuchi through Xi (ξ), b, Theta (θ), and 36 Ophiuchi to 45 Ophiuchi, and
- One "leg" runs from Zeta (ζ) Ophiuchi through Phi (ϕ), Chi (χ), and Psi (ψ) Ophiuchi to Omega (ω) Ophiuchi.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Ophiuchus in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik*, in this manner:

- His "head" is a bent line of the three stars Kappa (κ) Ophiuchi, Alpha (α) Ophiuchi (Rasalhague), and Beta (β) Ophiuchi (Cebalrai),
- His "body" is the oval of stars Cebalrai, Delta (δ) Ophiuchi, Lambda (λ) Ophiuchi, Epsilon (ε) Ophiuchi, Zeta (ζ) Ophiuchi, Eta (η) Ophiuchi, Xi (ξ) Ophiuchi, Nu (ν) Ophiuchi, and Gamma (γ) Ophiuchi,
- One "leg" runs from Eta (η) Ophiuchi to Theta (θ) Ophiuchi,
- One "leg" runs from Zeta (ζ) Ophiuchi through Phi (ϕ) Ophiuchi to Omega (ω) Ophiuchi.

Sky and Telescope Magazine, founded in 1941, depicts Ophiuchus in their magazine and publications like this:

- His "head and body" are a pentagonal of the stars Alpha (α) Ophiuchi (Rasalhague), Kappa (κ) Ophiuchi, Zeta (ζ) Ophiuchi, Eta (η) Ophiuchi, and Beta (β) Ophiuchi (Cebalrai),
- One "arm" runs from Cebalrai through Gamma (γ) Ophiuchi to a "hand" Nu (ν) Ophiuchi,
- One "arm" runs from Kappa (κ) Ophiuchi through Lambda (λ) Ophiuchi to a "hand" at Delta (δ) and Epsilon (ε) Ophiuchi,
- One "leg" runs from Eta (η) through Theta (θ) to 45 Ophiuchi,

- One “leg” runs from Zeta (ζ) through Phi (ϕ), Chi (χ) and Psi (ψ) Ophiuchi to Rho (ρ) Ophiuchi, and
- Serpens runs across in front of Ophiuchi, connecting at Delta (δ), Eta (η), Zeta (ζ) and Delta (δ) and Epsilon (ε) Ophiuchi.

Ophiuchus Nebula:

This **telescopic** asterism is the Rho (ρ) Ophiuchi cloud complex in the IAU constellation Ophiuchus. This consists of the star forming cloud L1688 and two filaments (L1709 and L1755). This name appears in *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed. This is also known as the “Dark River Clouds” or the “Rho Ophiuchi Streamers”.

Ophiultus:

This German star is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga as listed by German astronomer Johann Bayer (1572-1625). R. H. Allen describes the name in his *Star Names* in 1899 as “unintelligible”.

Orb and the Cross:

See Leopold’s Orb, below.

Orc:

This **telescopic** asterism is the planetary nebula NGC 6960 (C 34, LBN 191, PGC 3517;684, Ced 128a) in the IAU constellation Cygnus. It was discovered by English astronomer William Herschel in 1784 who listed it as “V 15”. It is GC 4600 in the *General Catalogue* of 1864. American astronomer Wayne Parker posted a photo of this on the RASC Facebook page on 2 April 2024 and Halifax RASC member Jason Schella posted: “Very nice. Looks like one of the orcs for Lord of the Rings tho.” This is also known as the Filamentary Nebula, Cirrus Nebula, the West Veil Nebula, or Witch’s Broom Nebula.

Order of Sky:

This Korean asterism “Haneul-ui Jumun” (하늘의 주문) is a long, bending line of stars in the IAU constellations Hercules and Lyra. It starts at Delta (δ) Herculis and runs through Lambda (λ), Mu (μ), Xi (ξ), Nu (ν), and 104 Herculis, HIP 88836, and Kappa (κ) Lyrae, ending at Mu (μ) Lyrae.

Orderly of Cetus:

This **telescopic** asterism “Ordinárius Céti” is the spiral galaxy NGC 1070 in the IAU constellation Cetus. It was discovered in 1784 by English astronomer William Herschel who listed it as “II 273”. It became GC 601 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as it “occupies a middle position in the morphological sequence”.

Ordinary of Eridanus:

This **telescopic** asterism “Gregárius Erídani” is the flocculent spiral galaxy NGC 1325 in the IAU constellation Eridanus. It was discovered in 1799 by English astronomer William Herschel who listed it as “IV 77”. It became GC 705 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as they considered it “a rather inconspicuous member of the Eridanus cluster”.

Ordinary of Virgo:

This **telescopic** asterism "Vulgáris Vírginis" is the lenticular galaxy NGC 4124 (4119) in the IAU constellation Virgo. It was discovered in 1784 by William Herschel who listed it as "I 33" and "II 60". It became GC 2734 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Oreb:

This Hebrew asterism is the IAU constellation Corvus as listed in John Hill's *Urania* in 1754.

Orendel's Toe:

See Aurvandil's Toe, above.

Orferealem:

This Turkish asterism is the IAU constellation Sagitta as listed in John Hill's *Urania* in 1754.

Oriel:

This is one of the Archangel Stars (see above), Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius.

Origin of All Things:

This Chinese star "Yuanshi" is the star Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor and is part of their xing guan Curved Array (see above).

Orion:

The stars of the constellation Orion appear in the asterisms of 1033 sky cultures around the world.

This IAU constellation (IAU abbreviation Ori) has very ancient roots. The earliest depiction of this constellation appears to be on a mammoth ivory carving found in a cave in the Ach Valley in Germany in 1979 which is believed to be 32,000 years old. It appears in Babylonian skies in the MUL.APIN tablets as "SIPA.AN.NA" (see True Shepherd of Heaven, below). Greek mythology describes Orion as a supernaturally strong hunter. Around 490 B.C.E. the Greek name "Ὠαρίων" ("Oaríon") was used, and it has been pointed out that as its heliacal rising marked the beginning of the harvest and of summer, the name originated in the Indo-European root "⋆ōsar" ("summer") which would make this name mean "Man of Summer" (Guglielmino, Cipolla, and Giudice 2017). The Greek lyric poet Pindar (518 – 438 B.C.E.) named it "Ὠαριώνειος" ("Oarióneios"), but by the time of the Greek tragedian Euripides (480 – 406 B.C.E.) it was "Ὠρίων" ("Oríon"). Roman poet Catullus (84 – 54 B.C.E.) named him "Oarion", which got shortened to "Aorion". Orion is listed in *De Natura Rerum Liber ("book on the nature of things*") by Isidori Hisapensis (Isidore of Seville, ca 560 – 636 C.E.) as both a "star" and "stars". The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) depicts this constellation as a male in a knee length tunic. The Mainz Globe from the eastern end of the Roman empire (c. 150 – 220 C.E.) depicts Orion as a nude male facing away from us, walking to the left, with some sort of club raised in his right hand and some sort of fabric concealing his outstretched left arm: Three circles represent the "belt" and another line of five circles the "sword".

This constellation comes up three times in the Bible: Job 9:9 (“He is the maker of the Bear and Orion”), Job 38:11 (“Can you loosen Orion’s belt?”) and Amos 5:8 (“he who made the Pleiades and Orion”).

The 8th century B.C.E. poet Homer spelled it “Ωρίων” or “Orion” (Guglielmino, Cipolla, and Giudice 2017). Variations include “Οὐρίον” (“Ouríon”), “Οὖρον” (“Ouron”), or “Υριών” (“Yrión”). The original *Alfonsine Tables* in 1483 list this constellation as “Urion”. Terms used to describe Orion include “aquosus” (“watery”), “nimbosus” (“stormy”) and “saevus” (“cruel”), which were used by 1st century B.C.E. Roman poet Publius Vergilius Maro (Vergil), “tristis” (“sad”), which was used by Quintus Horatius Flaccus (Horace (65 – 8 B.C.E.)).Pliny the Elder (24 – 79) listed it as “horridus sideribus” (“shivering with the stars”). Compare this to the asterism Hyrieus, above. In the *Fasti*, Roman poet Ovid (b. 43 B.C.E.) relates a later version of Orion’s myth that the God’s Zeus, Poseidon, and Hermes rewarded Orion’s elderly father with a son by pouring their semen into a bull’s hide. Hyrieus named the infant “οὐρέω” or “Ourion” which means “to urinate” (Guglielmino, Cipolla, and Giudice 2017).

Orion appears in Homer’s *Iliad and Odyssey* (8th century B.C.E.), in Hesiod’s poem *Works and Days* (late 8th century B.C.E.), and in Virgil’s *Aeneid* (Book 1). Aratus mentioned it in his poem *Phaenomena* (270 B.C.E.) and Ptolemy (c.100 – c.170) listed him in the *Almagest* as “᾽Ωρίων” (“᾽Oríon”).

This constellation is listed in editions of the 8th century *Revised Aratus Latinus*:

- The St Gall 250 and St Gall 902 editions show him holding a sword aloft in his left hand,
- In the Vat Reg lat 1324 edition shows him with a short cape and holding a book in his right hand.

Orion is depicted in the Leiden *Aratea* (816) as a man in a short exomis tunic standing facing away from us, with a sword and scabbard on his left hip, with a curved stick in his right hand and a leopard skin over his left arm (Katzenstein & Savage-Smith, 1988): He is wearing winged sandals.

The 9th century Berlin 130, Madrid 3307, Monza F.9/176 and Vat lat 645 manuscripts of the *De ordine ac positione stellarum in signis* depict Orion facing to the front, with his left hand on his sword scabbard and his right hand raised. The Munich 210 and Vienna ÖNB 387 manuscripts of the *De ordine ac positione stellarum in signis* depict Orion carrying a curved stick in his right hand and having his left arm completely covered by his cloak. The Austin, TX, Ransom Ms 29, Paris BN, n.a. 1614, and St. Petersburg, Q.V. IX, no.2 manuscripts of the *De ordine ac positione stellarum in signis* depict Orion with his right hand on his sword hilt. The Paris BN, 12117 manuscript of the *De ordine ac positione stellarum in signis* depicts Orion carrying a long sword in his right hand. The Los Angeles, Getty Ludwig XII, 5 and Paris BN lat 8663 manuscripts of the *De ordine ac positione stellarum in signis* depict Orion in a cloak with a long sword in his right hand with tufts of hair that look like horns.

The Oxford Laud 644, Padua 27 and Venice VIII 22 manuscripts of the 11th century *De signis caeli (“of the signs of heaven*”) depict Orion wearing a knee length toga holding a sword upright in his right hand and with his left hand on his scabbard. The Klosterneuberg 685, Paris BN 5239, Paris BN 5543, Vat lat 643, and Zwettl 296 manuscripts of *De signis caeli* depict Orion walking to the left with a cape draped over his extended forearm with an empty scabbard at his side. The Laon 422 manuscript of *De signis caeli* depicts Orion holding what looks like a feather duster. The Rouen 26 manuscript of *De signis caeli* depicts Orion holding a flower. The Durham Hunter 100 manuscript of *De signis caeli* depicts Orion walking to the left with a cloak completely covering his right hand and arm. The Montecassino 3 manuscript of *De signis caeli* depicts Orion without a scabbard.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi's son depicts Orion on one page as a clean-shaven male in knee length robes and a turban, kneeling on his left knee facing to our left. He is brandishing a bent club above his head in his left hand and has a sword sheathed on his left hip. He is brandishing what appears to be a skin or cloth with his left hand. The other page has him facing to our right, with the club in his right hand, the cloth in his left hand, and the sword on his right hip.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Orion as a male facing us in thigh length clothing and a turban. He is holding a scimitar over his head in his left hand and holding a length of cloth or a pelt in his right hand.

A Hebrew translation of the Almagest from Catalonia (c1361), Philadelphia (USA), University of Pennsylvania Libraries, Lawrence Schoenberg Collection, ms. ljs057 (old Ms.Sassoon 823), ff.56v, 57r, depicts Orion as a male in a red knee-length tunic. He facing to our left holding a lion's skin in his right hand and is brandishing a club over his head with his left hand. No sword is depicted.

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Orion as a male charging to our right. He is dressed in a cap and knee length robes. He is brandishing a club over his head with his right hand and holding a length of cloth or a pelt in his left hand. He has a long sword in his belt.

The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.170v-171r depicts "Orion" as a armoured male as viewed from behind. His head is tilted back to look straight upwards. He has a sword in his belt. He is holding aloft an animal pelt in his left gauntlet, and brandishing a club in his right hand.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.72v-73r depicts Orion as a figure as viewed from the rear. It seems to be wearing some sort of upper armour but has no helmet. It is holding aloft an animal pelt in its left hand and a scimitar in its right hand, and has a sword sheathed in its belt. It is not labelled and is poorly drawn.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Orion as a male running to our left, looking over his right shoulder. He has a sword in his belt on his left side. His left hand is holding an animal skin aloft and he is brandishing a club over his head with his right hand. It is not labelled.

The vault of the Old Sacristy of the Basilica di S. Lorenzo in Firenze, Italy (1442) depicts Orion as a male in a knee length tunic running to our left. He is holding aloft a club in his right hand and a shield in his left hand. He has a sword in his belt.

The Vault of Cappella de'Pazzi of the Basilica di S. Croce in Firenze, Italy (1459-60) depicts Orion as a figure in a knee length tunic running to our left. He is holding aloft a club in his right hand and has an oval shield on his left arm.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Orion as a male in Medieval plate and mail armour wearing a brimmed helmet facing towards our left. He is holding a shield resembling a bearded face in his left hand and brandishing a long sword over his head with his right hand. He has a sword sheath on

his left hip. The *Liber de signis* of Scottish polyglot Michael Scot "Orion" is depicted as holding an ox hide by its head in his raised left hand: This relates to the myth of his birth. Another page depicts a nude male brandishing a club over his head in his right hand and having a lion's pelt draped over his extended left arm.

The *Germanicus Aratea* (Siciliensis, c. 1469) depicts Orion as a male walking to our right looking over his left shoulder. He is wearing a tunic and cape and has a sword raised in his left hand.

The *Germanicus Aratea* with scholia Strozziana (c. 1475) depicts Orion as a male walking to our right. He is wearing a tunic and cape and has a sword raised in his left hand.

Orion appears on the *Imagines constellationum Australium* chart of Romanian theologian Johannes Honter (1498 – 1549) as a bearded, armoured male facing us holding aloft a club in his right hand and a tasseled cloth in his left hand: His helmet has ram's horns and he is standing on the back of Lepus.

De Astronomica ("the astronomy"), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This depicts "Orion" as a male wearing full medieval plate armour but no helmet, with a club raised in his right arm and a shield with the design of a face on his left hand. He is wearing a sword at his hip.

The Constance Celestial Globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts "Orion" as a male viewed from the rear in medieval armour, but no helmet. He is looking skyward holding an ox hide by its head in his raised left hand and brandishing aloft a club in his right hand. He has a sword in his belt on his right side.

The early 16th century Real Academia de Historia, manuscript D-97, f.104v – 105r depicts Orion as a nude male with a sword at his waist running to our right. He is brandishing a bent club over his head with his right hand and is holding a pelt of some sort out in front of him with his left hand. It is not labelled.

The "Nuremburg Maps", a pair of celestial hemispheres made in 1503 by Conrad Heinfogel depicts Orion as a male holding aloft a club in one hand and a cloth in the other.

The *Southern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius depicts Orion as an armoured male with no helmet, his back to us. He is looking straight up at the sky holding aloft a club in his right hand and a cloth in his left hand. He has a sword sheathed on his right hip.

The woodcut of the southern sky by Albrecht Dūrer (1515) depicts Orion as an armoured warrior viewed from the back looking upwards, brandishing a cloth aloft in his left hand and a club aloft in his right hand.

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts "Orion" as a fully armoured knight facing away from us. He is holding up a hide in his left hand and is brandishing a bent club over his head in his right hand. He has a sword sheathed at his left waist. NOTE: On his celestial globe for 1522, Schöner depicts Orion in the same fashion as the 1517 globe, despite changing other figures on his globe that were armoured in 1517 to nude figures.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts Orion as a male facing to our left holding a lion's skin in one hand and a club in the other.

The *Horoscopion generale* (1533) of Petrus Apianus (1495 – 1552) depicts Orion as an armoured male facing to our left. He is holding a curved club over his head in his right hand and holding some sort of pelt in his left hand.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts "Orion" as an armoured male facing away from us. He is holding aloft a club in his right hand and some sort of skin in his left hand.

Dele Stelle Fisse ("Of the Fixed Stars") by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as "Di Orione". The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as "Orion".

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts Orion in the same manner as Dürer et al.

The Southern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Orion as an armoured male with no helmet as viewed from behind. His legs are concealed beneath the spring from which the river Eridanus is flowing. He is looking straight up at the sky and his holding aloft a cloth in his right hand and a club in his right hand. He has a sword sheathed on his left hip.

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists Orion in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts "Orion" as an armoured male viewed from behind holding aloft a club in his right hand and an animal skin in his left hand.

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicts "Orion" as an armoured male kneeling. He is viewed from behind. He has a spiky shield raised on his left arum and a club raised aloft in his right hand. A sword is in his belt on his right side.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts "Orion" as an armored warrior holding aloft a round shield in his left hand and a club in his right hand.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts Orion as an armoured male facing away from us. Lepus is running between his legs, so only his right leg is visible. He is holding aloft a club in his right hand and an oval shield in his left hand. He has a sword sheathed on his left hip.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts "Orion" as a male in Roman style armour with a plumed helmet as viewed from the rear. He is looking to

his left and brandishing aloft a club in his right hand and brandishing a slain animal in his left hand. There is a sword sheathed on his left side.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) lists "Orion" as an armoured male viewed from the rear, holding a club over his head in his right hand and having a shield on his left arm.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) depicts Orion as a younger male viewed from behind. He is dressed in a thigh-length tunic and sandals. In his raised right hand he is wielding a hooked stick and he has a lion's skin draped over his left arm.

Orion is listed in Danish astronomer Tycho Brahe's *Astronomiae Instauratae Progymnasmata* (1602).

German astronomer and uranographer Johann Bayer (1572-1625) depicts Orion as a bearded male viewed from behind, with a club raised aloft in his left hand and a lion's skin draped over his right arm, wearing a sword at his waist. Bayer lists these names for this constellation: "Orion, Arion, Hyriades, Audax, Furiosus, Sublimatus, Gigas, Bellator Fortissimus, Jugula, Elgeuze, Sugia, Asugia, Elgebar, Algebar, Algebra, Kesil, Geuze".

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts "Orion" as a bearded male in a short tunic facing away from us to our left. He has a club raised in his right hand and a lion's skin draped over his left arm. Blaeu also lists the name "Arion", which is more often associated with Lyra.

"Orion" and "Urion" are names listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and depicted as a man in armour facing us, his helmeted head turned to our right. He has a club raised over his head in his right hand and some sort of cloth draped over his left arm.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the name "Orion" for this constellation.

"Orion" is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a helmeted male viewed from behind. He has a shield raised on his right arm and a club raised in his left hand.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts "Orion" as an armoured male facing away from us, turned slightly to our left. His helmet has a rooster design. He is brandishing a club over his head in his right hand and holding up a round shield in his left hand. He does not appear to have a sword sheathed at his waist.

The huge *Gottorf Globe* (c1650) made for the Duke of Holstein, Frederick III, one of the world's first planetariums, depicts only the upper half of Orion. He is a bearded male viewed from behind and looking to his right. He is brandishing a club aloft in his left hand and brandishing an animal's pelt in his right hand.

Orion is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661: He is depicted wearing a helmet and holding a shield on his left arm with a club raised in his right hand.

Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) depicts Orion as a male in a toga as viewed from behind holding aloft a club in his right hand and a lion's skin in his left hand.

English uranographer John Seller's *A coelestiall planisphere* (1678) depicts Orion as viewed from his left side and only shows him from the waist up. He has a club raised in his right hand and a lion's skin draped over this right arm.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts "Orion" as a male in armour and feathered helmet as viewed from behind, holding aloft a club in his right hand and a round shield on his left arm.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this "Orion" and "Ὼαρίων" and depicts it as a bearded male in Roman style armor with no helmet. His left foot is on the ground and his right leg is raised up as if he is trying to step onto or over something. He is brandishing a club over his head with his left hand and is holding aloft an animal skin in his right hand. He has a sword in his belt.

Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) labels this "Orion" with the subtitles "Orion ex urina Iovis Neptuni et Mercurii netus" ("Orion was born from the urine of Jupiter, Neptune and Mercury") and "Magnus Vinator" ("a great hunter") and depicts him as an armoured male raising a club in his left hand and with a round shield on his right arm.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, depicts Orion as a bearded male in a pink toga viewed from behind: He is holding a club aloft in his left hand and an animal skin aloft in his right hand.

Orion is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729: He is depicted as a bearded male holding aloft a club in his right hand with a lion's skin draped over his extended left arm.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts "Orion" as an armoured male facing away from us with a club raised in his left hand and curved shield on his left arm.

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) depicts Orion as an armoured male holding a round shield in front of him with his left arm and a club raised over his head in his right hand.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) depicts "Orion" as a bearded male in a toga running to our left with a lion skin draped over his right forearm and a club raised in his left hand.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "Orion" as a bearded male holding aloft a club in his right hand with a lion's skin draped over his extended left arm, as does the 1778 edition.

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Orion".

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as "Orione" in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts "Orion" as a male viewed from the rear, wearing a helmet, with a shield on his left arm and a club raised in his right hand.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts "Orion" as an armoured male holding aloft a round shield in his right arm and holding aloft a club in his left hand.

American uranographer William Croswell (1760 – 1834) depicts Orion on his *Mercator Map of the Starry Heavens* in 1810 as a bearded male viewed from the rear with a club raised in his right hand and a lion's skin draped over his left arm: He is dressed in a kilt-like garment and wearing a sword on his waist.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Orion in his *Celestial Atlas* and his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822): He is depicted as a bearded, armoured male with a sort of kilt with a lion's skin draped over his extended left arm and brandishing a club with his left hand.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as "Orion" and depicts it as an armoured male facing away from us wearing a winged helmet holding aloft a club in his left hand and with a shield on his right arm.

"Orion" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as a bearded male viewed from behind, holding aloft a lion's skin in his right hand and a club in his left hand. He has a sword on his left hip.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts "Orion" as a male in a thigh length tunic as viewed from the rear, facing to our left. He has a club raised over his head in his right hand and an animal skin draped over his left arm.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts "Orion" as a male dressed in tunic, kilt, and boots holding aloft a club in his right hand and having a lion's skin draped over his left arm.

Orion is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: He is depicted kneeling on his right knee, brandishing a club in his right hand and holding a lion's skin in his left hand.

"Orion" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): he is depicted as a bearded male facing us with a club raised in his right hand and an animal skin in his left hand.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) describes Orion as "a hunter attaching Taurus".

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Orion, The Giant Hunter" as an official constellation "recognized in the catalogue of the British Association".

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation simply as "Orion".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Orion" in his *Star Atlas* (1893).

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Orion" and does not describe it.

The part of the IAU constellation Orion which most people are familiar with consists of seven of the brightest stars in the sky: These are the stars that make up the shoulders, feet, and belt of Orion.

- The "left shoulder" is the variable star Alpha (α) Orionis (Betelgeuse- 10th brightest star).
- The "right shoulder" is the star Gamma (γ) Orionis (Bellatrix- 26th brightest star).
- The "left foot" is the star Kappa (κ) Orionis (Saiph- 59th brightest star).
- The "right foot" is the star Beta (β) Orionis (Rigel- 7th brightest star).
- The three stars of the "belt" of Orion (the brightest group of three stars in the sky) are, left to right: Zeta (ζ) Orionis (Alnitak- 33rd brightest star), Epsilon (ε) Orionis (Alnilam- 29th brightest star) and Delta (δ) Orionis (Mintaka- 67th brightest star).
- Orion's "sword" consists of the double star 42 Orionis (Mizan Batil I) and 45 Orionis surrounded by the Running Man Nebula (NGC 1977) at the top, the Orion Nebula (Messier 42, NGC 1976) and the star Theta (θ) 1 and 2 Orionis (Becklin's Star and Mixan Batil II) in the middle and the star Iota (ι) Orionis (Hatysa or Nair al Saif) at the bottom.

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) has a similar description of Orion compared to the above in his book *The Stars - A New Way to See Them* (1952), the difference being that the line of stars from Omicron (ο) Orionis through g Orionis, and Pi (φ) 1, 2, 3, 4, 5 and 6 Orionis has become a "shield".

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Orion in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* with the "body" depicted on standard IAU charts minus the arms.

The Orion Nebula is one of the two nebulae in the Northern hemisphere visible to the unaided eye in a dark sky.

In Southeast Asia the spring trap to kill animals of any size from an elephant to a porcupine is seen everywhere. Variations in Malaysia include b'lantek (slapping spring-spear), b'lantek paut (draw-back spring spear), and b'lantek terbang (flying spring-spear), and all these cultures identify Orion with this spring trap.

Orion Nebula:

This asterism the "Orion Nebula" or "Great Orion Nebula" is the HII region Messier 42 (NGC 1976, SH 2-281, LBN 974, Ced 55d) in the IAU constellation Orion. It is one of the two nebulae visible to the unaided eye, the other being the Lagoon Nebula (see above). This nebula isn't mentioned in Ptolemy's *Almagest* in the 2nd century or 'Abd al-Rahman al-Sufi's *Book of Fixed Stars*, nor is it mentioned by Galileo:

- The first mention of the nebulous nature of this nebula is attributed to the French astronomer Nicolas Claude Fabri de Peiresc, who recorded it in November 1610.
- The first recorded observation was by Jesuit astronomer Johann Baptist Cysat of Lucerne in 1619.
- French astronomer Charles Messier added it to his list in 1769.
- English astronomer John Herschel described it in the mid 1800's as a "surface strewn with flocks of wool – or like the breaking up of a mackerel sky".
- It is listed in the 864 General Catalogue as GC 1179.

- John Herschel listed it as h 360.
- It is listed as the "Great Nebula in Orion" in the third edition of Rev. Thomas William Webb's *Celestial Objects for Common Telescopes* in 1873.
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this as the "Orion Nebula".
- Johan Dreyer refers to NGC 1976 in the 1888 *New General Catalogue* as "[Theta] θ Orionis and the great nebula".
- English astronomer William Denning's *Telescopic Work for Starlight Evenings* (1891) lists it as the "Great Nebula in Orion".
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this as the "Great Nebula" and the "Great Orion Nebula".
- German astronomer Hermann Joseph Klein (1844 – 1914) lists "The Great Nebula in Orion" in his *Star Atlas* (1893).
- *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists this as the "Great Nebula".
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this as the "Orion Nebula".

Orion's Backpack:

This is a Canadian name for the IAU constellation Capricornus. Lauri Roche of the Victoria Centre RASC shared this with me in 2023, but I believe that it originated with the Halifax Centre (Judy Black 2023). Compare to Orion's Underpants, below.

Orion's Collarbone Nebula:

See Kissing Crescents Nebula above.

Orion's Cudgel:

This asterism is a five-sided figure in the IAU constellation Orion. It starts at Nu (ν) Orionis and runs around through Xi (ξ) Orionis, 69 Orionis, Chi (χ) 2 and Chi (χ) 1 Orionis.

Orion's Dog:

This Greek star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major as described by the 8th century B.C.E. poet Homer in the *Iliad* Rhapsody XXII (Theodossiou et al 2011, Guglielmino, Cipolla, and Giudice 2017). The heliacal rising of Sirius was connected with a period of very hot weather in ancient Greece which they called "kynica kavmata" ("canine burnings") and in ancient Rome "dies caniculariae" ("dog days") as they believed that only dogs would be crazy enough to go out in the heat. This is the source of the modern expression "dog days of summer".

This Latin star "Canis Orionis" is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major.

This asterism "Canis Orionis" is the IAU constellation Canis Minor as listed in the *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638).

Orion's Head:

This **telescopic** asterism is the star cluster Collinder 69 in the IAU constellation Orion. This is O'Meara 27 in astronomer Stephen James O'Meara's *Hidden Treasures Catalogue* (2007). It is also known as the "Lambda Lambda Cluster" and the "Handgun".

Orion's Shield:

This asterism is a curve of six stars in the IAU constellation Orion: Pi (π) 1, 2, 3, 4, 5, and 6 Orionis.

Orion's Sword:

This asterism is made up of stars of the IAU constellation Orion. It includes the Coal Car Cluster (NGC 1981), the Orion Nebula (Messier 42) and De Mairan's Nebula (Messier 43), and the Lost Jewel of Orion cluster (NGC 1980).

Orion's Underpants:

This is a Canadian name for the IAU constellation Capricornus which was created by Halifax Centre RASC member Quinn Smith. The star line of the "waist strap" runs from Delta (δ) Capricorni to Alpha (α) Capricorni (Prima Geidi). The line then continues down to Omega (ω) Capricorni and back up to Delta (δ) Capricorni. Compare this to Orion's Backpack.

Orkulÿtje:

This Chakavian asterism is the IAU constellation Cetus.

Ornate Hawk-Eagle's Flutes:

This Kalapalo asterism "Kutsu Anangagi" is made up of stars in the IAU constellations Crux and Musca: Alpha (α) and Beta (β) Muscae and Alpha (α) and Kappa (κ) Crucis.

Orpheus:

This Greek asterism is the IAU constellation Hercules. Johann Bayer's *Uranometria* (1603) lists "Orpheus" for Hercules. John Hill's *Urania* in 1754 lists "Orpheus" for this constellation. Orpheus is a legendary musician and prophet in Greek mythology.

This Latin asterism "Orphei" or "Orphica" ("Orphic") is the IAU constellation Lyra. Johann Bayer's *Uranometria* (1603) lists the name "Orphica" for this constellation. This asterism is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

Orfis:

This Greek asterism "Ορφίς" ("Orfis"), "Ορφός" and "Ορφώς" ("Órfós"), "Orphas" or "Orphus" is the IAU constellation Cetus. German astronomer Johann Bayer (1672 – 1625) listed Orphas and Orphus. John Hill listed it as "Orphys" in his *Urania* in 1754. This is a term for a species of cetacean (whale, dolphin, porpoise).

Orsilochus:

This Greek asterism "Orsilochus" is the IAU constellation Auriga as listed in John Hill's *Urania* in 1754. Orsilochus is a character in many Greek myths, and in one he is described as the inventor of the quadriga.

Orthrus:

This Greek asterism is the IAU constellation Canis Minor as listed by Hesiod and Mosenkis in his *Mycenaean Oecumene* (date n/k). Orthrus was a two-headed dog who guarded Geryon's cattle and was killed by Heracles. This is related to their asterism Cerberus (see above): Cerberus was the brother of Orthrus.

Oryx:

See Dark Camel, above.

Oryxes:

This Arabic asterism is a quadrilateral of stars in the IAU constellation Cetus, Eridanus, and Taurus: It runs from a corner at the star Lambda (λ) Tauri to a corner at Kappa (κ) 1 Ceti through 10 Tauri to a corner at 32 Eridani to a corner at Mu (μ) Tauri.

Osawa's Star:

This rotating variable star is V436 Cassiopeiae (HIP 116210, HD 221568) in the IAU constellation Cassiopeia. It is named for astronomer Kiwoteru Osawa.

Osiris:

This Egyptian asterism from the *Pyramid Texts* and as depicted in the Ramesseum (c. 3285 B.C.E.), the mortuary temple of Rameses II at Thebes, and the Dendera temple is the IAU constellation Orion (Krupp 1979, Hoffman 2017), depicted at Dendera as a deified Egyptian king holding a staff. In Egyptian mythology Osiris was slain but reanimated by his sister Isis and thus seen as a ruler in the afterlife. They see him in the sky as sailing in a celestial boat and he is absent from the sky for 70 days, representing his journey in the afterlife.

The Temple of Khnum at Esna has a Latopolitan zodiac on the ceiling of the pronaos dating to the age of Ptolemy II Euergetes (246 – 221 B.C.E.) depicts Osiris walking to our right (Bullinger 1882, Seiss 1882).

This asterism is the IAU constellation Taurus as listed in an "Ancient Zodiac of Egypt" in *Hindu Astronomy* by W. Brennand in 1896. Brennand has labelled this illustration "from the Barberini Museum", which is probably a reference to the 17th century Palazzo Barberini, which is now the Galleria Nazionale d'Arte Antica. This "Ancient Zodiac of Egypt" also lists the name "Apis" for this constellation (See Apis, above), though the Egyptians definitely associated their God Osiris with the IAU constellation Orion, not Taurus. Brennand also associates Osiris with Leo, and attributes this and the association with Taurus to the 5th century Roman Macrobius Ambrosius Theodosius, who believed that the Egyptians created the signs of the zodiac and that they were later adopted by the Greeks.

NOTE: English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 associates Osiris with Alpha (α) Canis Majoris (Sirius).

Osiridis:

This Latin asterism is Ptolemy's asterism Argo's Ship (see above). It is a reference to the Egyptian God Osiris, who sails across the sky.

R. H. Allen writes in his *Star Names* in 1899 that English essayist J. F. Hewitt (1835 – 1908) identifies the IAU constellation Lepus as the Boat of Osiris. This constellation is next to the asterism Argo's Ship (see above).

'**Osleki**:

This Kaykavian asterism is the IAU constellation Cancer.

Osprey:

This Latin asterism "Aquila Marina" (literally "sea eagle") is the IAU constellation Lyra. Johann Bayer's *Uranometria* (1603) lists the names "Marina" and "Aquila Marina" for this constellation.

This Greek asterism is the IAU constellation Lyra as described by the Greek poet Aratus (315 – 240 B.C.E).

Ostrich:

There are three Arabic stars named "al-ẓalīm" (ظَلِيم) or "Al Thalim":

- One is the star Alpha (α) Piscis Austrini (Fomalhaut) in the IAU constellation Piscis Austrinus.
- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists "al-zalīm" for Theta (θ) Eridani in the IAU constellation Eridanus:
    - Persian astronomer Ulugh Beg Mirza (1394 – 1449) lists this star as "al-ẓalīm".
- In his *Geography of the Heavens* in 1833, American uranographer Elijah Burritt transferred the latinized name "Dalim" to the star Alpha (α) Fornacis in the IAU constellation Fornax and gave it the additional name "Fornacis".
    - In 2017 the IAU approved the name Dalim for Alpha (α) Fornacis A.

A Piemontese (Chaco region, Argentina) asterism, "el avestruz", is the dark nebulosity in the Milky Way stretching from its "head" in the Coal Sack Nebula (see Coal Sack Nebula, above), with the "body" extending to the IAU constellation Scorpius and the legs reaching the IAU constellation Sagittarius. Compare this to Rhea (below).

Ostrich Chicks:

This Arabic star "Zibal" is Zeta (ζ) Eridani in the IAU constellation Eridanus. Zibal is an old misinterpretation of "ri'al" (رئل). It was applied to a number of stars near Omicron (ο) 1 Eridani (Beid) and 40 Eridani (Keid). The IAU approved the name Zibal for the star Zeta (ζ) Eridani Aa.

Ostrich Eggs:

This /Xam asterism is the Magellanic Clouds (Alcock 2014).

Ostrich Nest:

There are three Arabic asterisms with this name:

- One, "ʾudḥiyy (an-naʿām)" (أدحي النعام), listed by Persian astronomer Zakariya al-Qazwini (1203 – 1283) and listed as "Āshiyānah" (اشيانه) is a curve of stars in the IAU constellations Cetus and Eridanus starting with the Star Gamma (γ) Eridani and runs through Tau (τ) 5, 3, 2 and 1 Eridani, and Pi (π) Ceti and ends at Eta (η) Eridani:

    - This was later latinized to “Ashiyane” and miscopied as “Azha” (أرحى) in medieval manuscripts:
    - NOTE: The stars in this curve are called “The Eggs and Egg Shells” and their asterism Hen Ostriches (see above) is nearby.
    - English Admiral Henry William Smyth lists it as “Udh-ha, a little nest” and elsewhere as “udh-hi” and mentions the miscopied “Az-ha” in his *Bedford Catalogue* in 1844.
    - The name Azha was approved for the star Eta (η) Eridani by the IAU.
- One, “al-udḥā al-naʿām”, later latinized to “Aludhi” (I, II, and III) was listed by Persian astronomer Zakariya al-Qazwini (1203 – 1283) and is the stars Rho (ρ) 1, 2, and 3 Eridani in the IAU constellation Eridanus.
- One, “Al Udḥiyy” or “al-udhi”, is the curve of stars in the IAU constellation Sagittarius: Xi (ξ), Omicron (ο), Pi (π), 43, Rho (ρ) 1, and Upsilon (υ) Sagittarii (Adams 2016). R. H. Allen lists this as in his *Star Names* in 1899 as the stars Nu (ν) 1 and 2 Sagittarii, Tau (τ) Sagittarii, Psi (ψ) Sagittarii, Omega (ω) Sagittarii, 60 Sagittarii, and Zeta (ζ) Sagittarii.

This Persians asterism Ôshyôneh is identical to the Arabic asterism Ashiyanah.

NOTE: John Hill lists this as a name for the IAU constellation Corona Borealis in his *Urania* in 1754. He gives the name “Ae’ha Al Naam”, which indicates that he is mistaking this for “al-udḥā al-naʿām”, which is made up of stars of the IAU constellation Eridanus (above). Kemp et al (2022) list this as an Arabic name for Corona Borealis.

Ostriches:

This Arabic and Bedouin manzil “Al-Naayem”, “Al-Naʿāyem” (النعايم), or “ʾAn-Naʿāʾam” (ٱلنَّعَائِم) or “an-na’a’im”, is in the IAU constellation Sagittarius and is the stars Zeta (ζ) Sagittarii (Ascella), Phi (ϕ) Sagittarii, Delta (δ) Sagittarii (Kaus Media) and Epsilon (ε) Sagittarii (Kaus Australis):

- Dorn (1829) translates this as “Camels going to pasture” and describes it as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya’ al-Qazwini (1203 – 1283).
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists this as “al-na’ámát, the ostriches”.
- W. Brennand lists this as “Al-Naaim” in his *Hindu Astronomy* in 1896. There are three other versions of this Arabic asterism:
- One version of this is the Teapot of Sagittarius asterism (see Teapot below) with the star Eta (η) Sagittarii added. The “handle” of the “teapot” they call “al-Naʿām al-Ṣādir” (see Returning Ostriches, below) and the “spout” of the “teapot” (plus Eta (η) Sagittarii) is “al Naʿāma al Wārida” (see Drinking Ostriches, above), the “river” being the Milky Way.
- The poems of Muhammad al-Mukri and Mohammed al-Qadhi include the star Lambda (λ) Sagittarii.

The Bedouin asterism “al-Dawāsir and Yām” or “Al-Naʿāyem” is the stars Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus.

Compare this to Hen Ostriches (see above).

This Yemeni manzil “Na’ā’im” is made up of stars in the IAU constellation Sagittarius (Varisco 1995): Zeta (ζ) Sagittarii, Tau (τ) Sagittarii, Gamma (γ) Sagittarii, Phi (ϕ) Sagittarii, Delta (δ) Sagittarii, Eta (η) Sagittarii

and Epsilon (ε) Sagittarii. This appears in the *Kitāb al-Tabṣira Fī'ilm al-Nujūm* of 13th century Rasulid ruler al-Malik al-Ashraf 'Umar ibn Yūsuf (d 1296).

Otehocut:

This Boorong asterism is the IAU constellation Delphinus (Hamacher 2011).

Otter:

This Tukano asterism "Diayo" or "Lontra" is from the Tiquié river region, where Tukanos describe this as the IAU constellation Crux (Cardoso 2007). Other Tukanos associate it with the star Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major.

The stars of this Kogi asterism "Nebbi-yéldyi" are currently unidentified (Kelley & Milone 2011).

This Ainu Nociw ("asterism") is made up of stars of the IAU constellation Boötes. The star Alpha (α) Boötis (Arcturus) is the otter's neck and the star Epsilon (ε) Boötis is its hindquarters, with Sigma (σ) and Rho (ρ) Boötis forming a tail. It is depicted holding a paddle in its mouth.

This Carib asterism "Awarepuyayuman" or "Awarepuya" represents the otter (Lutra brasiliensis). Its present location is unknown (Magaña, and Jara, 1982).

This Arawak asterism "Silelekuya" or "Sileleyuman" represents the otter (Lutra brasiliensis). Its present location is unknown (Magaña, and Jara, 1982).

Otter and Ball:

This **telescopic** asterism is the open cluster NGC 6633, discovered by Swiss astronomer Jean-Philippe Loys de Chéseaux in 1745-6 in the IAU constellation Ophiuchus. English astronomer Caroline Herschel rediscovered it in 1783 and her brother William Herschel listed it as VIII 72. It is GC 4410 in the *General Catalogue* of 1864. It was given this name by American astronomer Wayne Schmidt, who describes it as 30 arc minute tall sea otter reaching for a ball. It is also known as the Tweedledum Cluster (see below), the Captain Hook Cluster (see above), and "Kermit the Tadpole" (see above).

Otter's Rack:

This Barasana asterism "Timia Ya Kasabo" is the Hyades cluster in the IAU constellation Taurus (Hugh-Jones 2006). It is also known as "Wai Kasabo" (see Fish Grill, above) and "Masu Ya Kasabo" (see Man's Rack, above).

Our Lady's Wand:

This Catholic asterism is the belt of Orion in the IAU constellation Orion as listed in English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 and R. H. Allen's *Star Names* in 1899. Smyth and Allen only identify the source as "Catholics".

Our Riddle:

See Test, below.

Our Star:

This **telescopic** Nias star "Dofida" is HIP 66047 (HD 117618) in the IAU constellation Centaurus (magnitude 7.17). It was given the name Dofida in the IAU NameExoWorlds campaign. It has an exoplanet named Noifasui ("revolve around").

Outer Fence:

This Chinese xing guan “Wàipíng” (外屏) is made up of a line of stars in the IAU constellation Pisces: the binary star Alpha (α) Piscium (Alrescha), Xi (ξ) Piscium, Nu (ν) Piscium, Mu (μ) Piscium, Zeta (ζ) Piscium, Epsilon (ε) Piscium, and Delta (δ) Piscium. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore. The Korean asterism “Outer Folding Screen” (see below) has one more star but is otherwise identical.

This Chinese Chenzhuo xing guan “Wàipíng” is a line of stars in the IAU constellation Pisces: Delta (δ) Piscium, Epsilon (ε) Piscium, Mu (μ) Piscium, Nu (ν) Piscium, Xi (ξ) Piscium and 113 Piscium.

Outer Folding Screen:

This Korean asterism “Oebu Byeongpung” (외부 병풍) is made up of a line of stars in the IAU constellation Pisces: the binary star Alpha (α) Piscium (Alrescha), Xi (ξ) Piscium, Nu (ν) Piscium, Mu (μ) Piscium, Zeta (ζ) Piscium, Epsilon (ε) Piscium, Delta (δ) Piscium, and 51 Piscium. The Chinese xing guan “Outer Fence” (see above) has one less star but is otherwise identical.

Outer Kitchen:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is an oval of stars in the IAU constellation Hydra: Starting at the determinative star C Hydrae, the line runs through 3 Hydrae, F Hydrae, 14 Hydrae, HIP 43142 and HIP 42028.

This Chinese xing guan “Wàichú” (外厨) is a bent triangle of stars in the IAU constellations Hydra and Monoceros: HIP 43142, 14 Hydrae, 30 Monocerotis and 31 Monocerotis.

This Chinese Chenzhuo xing guan “Wàichú” is a loop of stars in the IAU constellations Hydra and Monoceros: 31 Monocerotis, 14 Hydrae, HIP 43142, HIP 42028, 30 Monocerotis, and 3 Hydrae.

This Korean asterism “Oebu Jubang” (외부 주방) is a curve of stars in the IAU constellations Hydra and Monoceros: 30 Hydrae, Zeta (ζ) Monocerotis, 27 Monocerotis, HIP 38474B, HIP 37901 and Alpha (α) Monocerotis.

Outer Limits Galaxy:

This **telescopic** asterism NGC 891 (Caldwell 23) is an edge-on spiral galaxy in the IAU constellation Andromeda with a prominent dust lane. It is also known as the Silver Sliver (see below). It was discovered by English astronomer William Herschel in October 1784 who listed it as “V 19). It is listed as GC 527 in the *General Catalogue* of 1864. The name is probably a reference to the TV show Outer Limits which first appeared between 1963 – 1965 and then again between 1995 – 2002. It is also known as “Surrounded by Dust” (see below).

Outer Pestle:

This Korean asterism “Oebu Yubong” (외부 유봉) is a line of four stars in the IAU constellation Telescopium: Zeta (ζ) and Delta (δ) 1 and 2 Telescopii and HIP 90414.

Outline Face:

This **telescopic** asterism is in the IAU constellation Lynx and was listed by American astronomer John A. Chiravalle. Jeffrey Corder lists it as Corder 1752. Size 75’ 25’. Corder describes this as a “curving chain of about 12 stars… magnitudes 4.5 to 9.5… elongated in a NE/SW direction.

Outpouring:

This Greek star "εκχυσις" or "Ekkhysis" is Lambda (λ) Aquarii in the IAU constellation Aquarius and is listed in R. H. Allen's *Star Names* in 1899.

Outpouring of Wine:

This star is "Οινοχοεία" or "Oinochoeía" Kappa (κ) Aquarii in the IAU constellation Aquarius as listed by Theon of Alexandria (335 – 405 C.E.) R. H. Allen in *Star Names* in 1899. Allen translates this as "outpouring of wine".

Outstretched Paw:

There are two Arabic asterisms by this name:

- One, "adh-Dhirāʿu l-Mabsūṭah" (الذّراع المبسوطه) is the stars Epsilon (ε) and Zeta (ζ) Geminorum in the IAU constellation Gemini:
    - This was later latinized to "Mebsuta", "Meboula" (by American astronomer Charles Augustus Young), "Menita", "Mesoula", "Mibwala" or "Mekbuda".
    - American uranographer Elijah Burritt (1794 – 1838) listed the names "Melucta" and "Mebusta".
    - English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Mebsuta, from al dhirä al mebsúta, the outstretched arm", though he identifies the two stars involved as Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux).
    - The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list "Mebsuta" for Epsilon (ε) Geminorum.
    - English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists Epsilon (ε) Geminorum as "Mebsuta".
    - The IAU approved the name Mebsuta for Epsilon (ε) Geminorum and Mekbuda for Zeta (ζ) Geminorum Aa.
- One, "al-mabsūtah" (المبسوطة), later latinized to "Mabsuthat" is the star 31 Lyncis in the IAU constellation Lynx. NOTE: Hafez (2010) gives this as a name for 35 Ursae Majoris.

Owl:

This Mayan asterism "Kulte" is made up of the stars of the IAU constellations Taurus and Orion:

- The "head" of the owl is the Hyades cluster,
- Its "wingtips" are the stars 1 Orionis and Epsilon (ε) Tauri, and
- One side of the "tail" runs out to Lambda (λ) Tauri, and the other out to Nu (ν) Tauri.

There are four **telescopic** "owl" asterisms:

- One, also known as the Kachina Doll Cluster, Dragonfly Cluster, Massed Jewels, and the E.T. Cluster, is open cluster NGC 457 (Caldwell 13) in the IAU constellation Cassiopeia. It was discovered by the English astronomer William Herschel in 1787 who labeled it "VII 42" in his catalogue. It is GC 256 in the General Catalogue of 1864. Two bright stars (HIP 6229 and Phi (ϕ) Cassiopeiae) are the eyes. Size 13' X 13'. Both Phil Harrington and Tom Lorenzin refer to this as the "Owl".
- One is the planetary nebula Messier 97 (NGC 3587) in the IAU constellation Ursa Major. It was discovered by French astronomer Pierre Méchain in 1781. It is listed in the General Catalogue of

1864 as GC 2343 and in John Herschel's catalogue as h 838. English astronomer William Parsons, 3rd Earl of Rosse, drew an illustration of this nebula in 1848 that resembled an owl's head, which is where this name comes from.
    - English astronomer William Denning's *Telescopic Work for Starlight Evenings* (1891) lists this as the "Owl Nebula".
    - German astronomer Hermann Joseph Klein (1844 – 1914) lists the "Owl Nebula" in his *Star Atlas* (1893).
    - The 1st edition (1910) and 14th edition (1959) of British schoolmaster Arthur P. Norton's *A Star Atlas* lists this as the "Owl Nebula".
    - *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists the name "Owl Nebula" for this asterism.
    - *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists the name "Owl Nebula" for this nebula.
- One, the "Soaring Owl", is in the IAU constellation Ursa Minor and is on the observing lists of John A. Chiravalle. Jeffrey Corder lists it as Corder 2955. A "wing" extends from the central star HIP 78392 to a "wing tip" at HIP 77176. A group of 8th – 9th magnitude stars forms the owl's "head".
- One is the supernova remnant NGC 6992 in the East Veil Nebula in the IAU constellation Cygnus. William Herschel recorded this as "V 14". John Herschel listed it as h 2092 and later as GC 4616 in his *General Catalogue* in 1864.

Owl Eyes Flicking:

This Wardaman asterism "Ya-jungin" is the star Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion (Cairns and Harney 2003). Ya jungin is watching the ceremonies of Unumburrgu (see Red Kangaroo Leader, above).

Owl Galaxy:

One is the galaxy NGC 3758 in the IAU constellation Leo. It was found by Ralph Copeland in March 1874. Professor Bill Keel gave it this name in 1993 in *Mercury Magazine*. It is also known as the Smiley Face.

Owlet Nightjar:

This Boorong asterism **"**Yerrerdetkurrk" is in the IAU constellation Eridanus as listed by Stanbridge (1857), Morieson (1999), and Hamacher and Frew (2010) and is the owlet nightjar (Aegotheles cristatus). The "body" of the bird is the star Alpha (α) Eridani (Achernar). The "wingtips" are the stars p Eridani and HIP 7506. This is the mother-in-law of Totyarguil's wives (see Wives of Totyarguil, below).

This Kokatha and Ngalea star "Joor-Joor" or "Jurr-jurr" is the star Alpha (α) Carinae (Canopus) in the IAU constellation Carina (Leaman and Hamacher 2014, Leaman, Hamacher, and Carter 2016).

NOTE: this is a reference to the Australian owlet nightjar (Aegotheles cristatus).

This Wotjobaluk koori star **"**Yerrerdet-kurrk" is the star Beta (β) Orionis (Rigel) in the IAU constellation Orion (Massola 1968, Hamacher 2011). They saw it as the mother-in-law of Totyerquil (Altair).

Owl's Neighbour of Ursa Major:

This **telescopic** asterism "Strigivicínus Úrsae Majóris" is the barred spiral galaxy Messier 108 (NGC 3556) in the IAU constellation Ursa Major. It was discovered by French astronomer Pierre Méchain in 1781 or

1782. English astronomer William Herschel listed it as “V 46” in his catalogue. It is GC 2318 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): they called it this as it is near Messier 97, the Owl Nebula.

Ox:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a narrow quadrilateral of stars with two lines running off one end in the IAU constellation Capricornus:

- The quadrilateral is the determinative star Beta (β) Capricorni (Dabih) with 10 Capricorni, Omicron (ο) Capricorni, and Rho (ρ) Capricorni.
- From Beta (β) Capricorni two lines run out:
    - One to the star Nu (ν) Capricorni, and
    - One to the stars Alpha (α) 1 and 2 Capricorni (Algedi).

This Chinese xiù (lunar mansion) “Niúxiù” (牛宿) is a bent line of stars with a triangle at the end in the IAU constellation Capricornus. The line starts at Xi (ξ) Capricorni, takes a bend at the optical double star Alpha (α) 1 and 2 Capricorni (Algedi), then runs through Beta (β) Capricorni (Dabih) to a triangle of three stars: Eta (η), Rho (ρ), and Omicron (ο) Capricorni. In the *Han shu*, a history of the early Han dynasty that was finished in 111 C.E. this xiù “Qian Niu” (牽牛) was associated to matters concerning the Yangzhou territory. This appears in the Tang Dynasty (618 – 907 C.E.) as “Niú” (牛) as listed by Kotyk (2017): Kotyk writes that it was compared to the Vedic nakshatra Abhijit (see Victorious, below) which is in Lyra and nowhere near this lunar mansion.

This Greek lunar mansion is listed in the *Magical Papyrus 121*, preserved in the British Museum, and dated to the 3rd century C.E. (Mosenkis, date n/k). The stars have not been identified.

This Latin asterism “Bos” is the IAU constellation Taurus as listed by Roman general Germanicus (15 B.C.E. – 19 C.E.). Johann Bayer’s *Uranometria* (1603) lists “Bos” as a name for this constellation.

This Italian asterism is the IAU constellation Taurus as listed by Italian humanist and poet Ambrogio Fracco, also known as Novidius (1480 - ?), who saw it as the ox that stood in the manger at the Nativity.

“Volarica” or “Volujara” is a Serbian name for Alpha (α) Canis Majoris (Sirius).

Ox and Wolf:

This Estonian asterism is the IAU constellation Orion (Kuperjanov 2006). It was first recorded by Robert Livländer in 1923.

Ox Eyed of Boötes:

This **telescopic** asterism “Bóöps Boótis” is the intermediate spiral galaxy NGC 5248 (Caldwell 45) in the IAU constellation Boötes. It was discovered by English astronomer William Herschel in 1784 who listed it as “I 34”. It is GC 3615 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of “the apparent resemblance of this galaxy with a big eye”. It is also known as the Black Eye (see above).

Ox Thief:

This Basque asterism “Itohoin” is the Big Dipper asterism in the IAU constellation Ursa Major (Knörr 1999, Frank 2021).

Ox Thigh:

This Egyptian Dendera asterism (Hoffman 2017) is basically the earlier Egyptian asterism Bull’s Foreleg (see above) and includes the Babylonian asterism Lahru (see Ewe, above) and MUL.KA.A (see Fox, above).

Ox Wain:

This Estonian asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Kuperjanov 2006). Eta (η) Ursae Majoris is a man leading an ox represented by Zeta (ζ) and Epsilon (ε) Ursae Majoris which is pulling a wain represented by Alpha (α) Ursae Majoris (Dubhe), Beta (β) Ursae Majoris (Mirak), Gamma (γ) Ursae Majoris, and Delta (δ) Ursae Majoris. 80 Ursae Majoris (Alcor) is a “wolf” (see Wolf Beside the Ox, below).

This Slovenian asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Kuperjanov 2006). It is identical to the Estonian version (above).

Oxen:

This Arabic asterism “al-Baqar” is the Large Magellanic Cloud (Hafez 2010). It was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 as a name used by “the people of Tehāma (an area in Northern Arabia).

This Serbian asterism “Volovi” is probably the belt of Orion in the IAU constellation Orion. Compare this to Plough with Oxen (see below).

Oxherd:

This Chinese star is Alpha (α) Aquilae (Altair) in the IAU constellation Aquila and is found in records of the Shang Dynasty (1600 – 1027 B.C.E.).

There are two Basque asterisms “Itzain” (Knörr 1999, Frank 2021):

- One is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above).
- One is the IAU constellation Boötes.

Oyaninai Boshi:

There are three Japanese asterisms of three stars with this name (Renshaw and Ihara 2001):

- One is their lunar mansion Nakago Boshi (see above).
- One is their lunar mansion “Oyakoukou Boshi” (see Filial Duty Stars, above)
- One is the three stars Alpha (α) Aquilae (Altair), Beta (β) Aquilae (Alshain) and Gamma (γ) Aquilae in the IAU constellation Aquila.

These groups of three stars represent a child being supported on either side by parents.

Oyster Nebula:

This **telescopic** asterism is planetary nebula NGC 1501 in the IAU constellation Ophiuchus. This was discovered in 1787 by English astronomer William Herschel who listed it in his catalogue as “IV 53”. It is GC 801 in the *General Catalogue* of 1864. Astronomer Stephen James O’Meara’s *Hidden Treasures*

Catalogue (2007) lists it as O'Meara 21 and lists the name "Oyster Nebula". It is also known as the Camel's Eye (see above).

Oyster (with Mignonette Dressing):

This asterism is the emission nebula and HII region Messier 8 (NGC 6523), discovered by Italian astronomer Giovanni Hodierna before 1654 in the IAU constellation Sagittarius. It is also known as the Lagoon Nebula (see above), the Hourglass Nebula (see above), the Dragon Nebula (see above).

Pabilsag:

This complex Babylonian asterism in the MUL.APIN tablets "MUL.PA.BIL.SAG" (Bartel van der Waerden 1974, Hunger 1992, Parpola 1993), "PA.BIL.SAG", "dPA.BIL.SAG" or "Pabilsag" (Hunger 1992) represents their God Pabilsag (whose name means "forefather", "chief ancestor", or "presbyter") and is made up of stars the IAU constellations Ara, Sagittarius, and Telescopium. The *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) lists it as "dPA.BIL.SAG" and in the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period as "mul pa.bil.sag" (Koch-Westenholz 1995) , the list of Lumasi stars from the Persian (Achaemenid) Period (539 – 331 B.C.E.) lists it as "PA.BIL.SAG" and the BM 78161 tablets as "pa-bil-sag". Boutet (2014) lists it as "archer". It consists of the following stars:

- The "body" is a bent pentangle of stars starting at Mu (μ) Sagittarii and running through Eta (η) Sagittarii, HIP 91918, HIP 95865A, 52 Sagittarii, Chi (χ) Sagittarii, Psi (ψ) Sagittarii, Sigma (σ) Sagittarii, and Phi (ϕ) Sagittarii. Six lines of stars run off from around the edge of the "body":
    - One runs from Eta (η) Sagittarii through Epsilon (ε) Telescopii to Theta (θ) Arae,
    - One runs from HIP 91918 through Alpha (α) Telescopii to Zeta (ζ) Telescopii,
    - Two lines run from HIP 95865A:
        - One to Iota (ι) Sagittarii, and
        - One through Omega (ω) Sagittarii to 62 Sagittarii,
    - One is a bending line running from Sigma (σ) Sagittarii through Xi (ξ) 2 Sagittarii, Omicron (ο) Sagittarii, and 41 Sagittarii, to Tau (τ) Sagittarii.
- In the middle of the "body" is a bent cross of stars with the central star being Delta (δ) Sagittarii with lines running out to Epsilon (ε) Sagittarii, Zeta (ζ) Sagittarii, Lambda (λ) Sagittarii, and Gamma (γ) Sagittarii.

This Babylonian asterism "PA.BIL.SAG" as listed in Anthony Hope's *A Guide to Ancient Near Eastern Astronomy* in 1996 is the IAU constellation Sagittarius.

This Akkadian asterism "Pabilsaĝ" or "Pabilsag" from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) or "mi-ši-iḫ dPa-bil-sag" from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is identical to the Babylonian asterism PA.BIL.SAG above.

This Sumerian asterism "mulin-um an-na" from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is identical to the Babylonian asterism PA.BIL.SAG above.

This Persian asterism "pa.bil.sag" from the list of Lumasi stars in the lists K 250 and VAT 9418 (Boll 1918) and "PA" in the list of Zodiacal Signs in VAT 4956 (Bartel van der Waerden 1974) from the Persian (Achaemenid) Period (539 – 331 B.C.E.) is identical to the Babylonian asterism PA.BIL.SAG above (Jeremias 1929, Weidner 1971).

This Seleucid asterism “PA” or “Dir.x.x?” from tablet SBTU II No 43 (W 22646) from the Seleucid (Hellenistic) period (275 B.C.E. – 116 C.E.) is the IAU constellation Sagittarius (Foxvog 1993).

This Egyptian Dendera asterism (Hoffman 2017) is basically the earlier Babylonian asterism MUL.PA.BIL.SAG (see Pablisag).

Pac Man:

There are two **telescopic** “Pac Man” asterisms:

- One, also known as the King Cobra Cluster and the Golden Eye Cluster, is the open cluster Messier 67 (NGC 2682) in the IAU constellation Cancer. It was discovered by German astronomer Johann Gottfried Koehler in 1779. The 1864 General Catalogue lists it as GC 2682 and John Herschel’s catalogue as h 531.
- One is emission nebula NGC 281 (SH 2-184, LBN 616, Ced 3) in the IAU constellation Cassiopeia. It was discovered in 1883 by American astronomer Edward Emerson Barnard. Size 35’ X 35’. It is number 3 in astronomer Stephen James O’Meara’s *Hidden Treasures Catalogue* (2007). It is also known as “Lafitte’s Grand Isle”.

NOTE: The Pac Man game appeared out of Japan in May 1980, so this name can’t predate this.

Pacariqtambo

This Inca asterism Pacariqtambo is the IAU constellation Corona Australis (Urton 2005, Kemp et al 2022). Paraciqtambo is a cave from which the Inca are said to have emerged. It is also known as Manco Cápac.

Pack Horse:

This Arabic asterism “Birdun” is the IAU constellation Centaurus as described by Persian astronomer Abu Ma’shar (Albumasar- 787 – 886). German poet Philipp von Zesen (1619 – 1689) listed this as “Bridemif” and associated it with the constellation Lupus next to Centaurus.

Pack of Dogs:

This Sami asterism is the Pleiades cluster in the IAU constellation Taurus (Lundmark 1982).

Packer:

This Bedouin star “Al-Mirzam” (المرزم), or “Mirzam of the Crossing Shi’ra” is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major. NOTE the name approved for the star Beta (β) Canis Majoris in the IAU constellation Canis Major today is Mirzam.

PackPuppy:

This Canadian asterism is made up of stars of the IAU constellations Boötes, Corona Borealis, Hercules, and Serpens:

- The “brow” runs from the star Xi (ξ) Coronae Borealis and runs through Nu (ν) 1 and 2 Coronae Borealis, Sigma (σ) Coronae Borealis, Rho (ρ) Coronae Borealis, Kappa (κ) Coronae Borealis, Zeta (ζ) Coronae Borealis, and Mu (μ) Coronae Borealis, to Mu (μ) Boötis.
- The “left ear” runs from Nu (ν) 1 and 2 Coronae Borealis through 25 Herculis to HIP 80008,
- The “right ear” runs from Mu (μ) Coronae Borealis through Chi (χ) Herculis to Phi (ϕ) Herculis,
- The “nose ring” is the arc of stars which is Corona Borealis,

- The “collar” is the line of stars from Pi (π) Serpentis through Rho (ρ) Serpentis, Iota (ι) Serpentis, and HIP 75535, to HIP 74896, and
- The “bone” is the four stars 5 Herculis, Kappa (κ) Serpentis, Beta (β) Serpentis (Chow), and Gamma (γ) Serpentis.

This asterism was created by Vancouver RASC member Bryon M. “PackPuppy” Elliott on 16 December 2024 to celebrate the “Puppies” community.

There are two **telescopic** “PackPuppy” asterisms:

- One is Ennis 5 in the IAU constellation Cassiopeia, listed by Canadian astronomer Charles Ennis. Ennis observed it while looking for the cluster Simonic 47. A triangle of 10^{th} – 11^{th} magnitude stars form the “head”, with the “nose” at one apex being a double star. Six 8^{th} – 9^{th} magnitude stars form the “body”, with a 10^{th} magnitude star forming the “neck”. This is within 3’ of 48 Cassiopeiae. This was created in November 2024 to honor his friend and fellow RASC astronomer Bryon Elliott.
- One is the galaxy PGC 33487 (Arp 21) in the IAU constellation Leo Minor. This asterism was created on 16 December 2024 by Vancouver RASC member Bryon M. “PackPuppy” Elliott to celebrate the “Puppies” community.

Paddler Gods:

This Mayan asterism is the path of stars in the Milky Way running towards Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major from the star Alpha (α) Crucis (Acrux) in the IAU constellation Crux. The Paddler Gods (Stingray and Jaguar) are paddling the Maize god to “Oxib’ Xk’ub’” (see Primordial Fire, below). Jaguar is also associated with the Moon (see the entries in the Solar System Handbook).

Padus:

This Latin asterism is the IAU constellation Eridanus. Padus is the Po River in Italy:

- Johann Bayer’s *Uranometria* (1603) lists “Padus” for this constellation.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Padus”.
- “Padus” is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
- Edward Sherburne lists “Padus” in his *Sphere of Marcus Manilius* in 1675.

Pae:

This Samoan asterism is the globular cluster Messier 80 in the IAU constellation Scorpius (Fitisemanu 2022). Pae and Suga are a pair of hunters pursuing Toloa (see Wild Duck, below and Pae, above).

Paepae-poto:

This Māori star is Alpha (α) Carinae (Canopus) in the IAU constellation Carina.

Pagasaea Keel:

The Roman poet Ovid (b. 43 B.C.E.) called Ptolemy’s asterism Argo’s Ship (see above) “Pagasaea Carina” after the Thessalian seaport where Jason’s ship was built.

Pagasaea Poop Deck:

The Roman poet Ovid (b. 43 B.C.E.) called Ptolemy's asterism Argo's Ship (see above) "Pagasaea Puppis" (puppis being the Latin word for "poop deck" or "stern") after the Thessalian seaport where Jason's ship was built.

Paikauhale:

See Vagabond, below.

Painted with Shadows of Virgo:

This **telescopic** asterism "Sciagráphicus Vírginis" is the lenticular galaxy NGC 4691 in the IAU constellation Virgo. It was discovered in 1784 by William Herschel who listed it as "II 182". It became GC 3221 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the dark features, caused by dust in the central region".

Painter:

This Italian asterism "Pittore" is the IAU constellation Pictor.

Painter's Desk:

This German asterism "Pluteum Pictoris" is the IAU constellation Pictor (see below), and this is the name German astronomer Johann Bode listed in 1803 in his stellar charts.

Pair of Bulls:

This Finnish asterism "Härkäpari" is the Belt of Orion asterism in the IAU constellation Orion.

Pair of Puma's Friends:

This Inca asterism "Puma Yunta" is the stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini (Gamarra & Gamarra 2009).

Pair of Stars:

This ancient Egyptian asterism "Sebawy" is found in the Ramesside star charts on the ceiling of three tombs in the Valley of the Kings (New Kingdom, 20th Dynasty) and is the stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini. The Temple of Khnum at Esna has a Latopolitan zodiac on the ceiling of the pronaos dating to the age of Ptolemy II Euergetes (246 – 221 B.C.E.) depicts Seb (Sebek, Sobek) holding hands with a twin-like figure (Bullinger 1882, Seiss 1882).

Pakiza:

This asterism is the IAU constellation Virgo as listed in John Hill's *Urania* in 1754. Hill does not identify the source.

Palace:

This asterism "Palasin" was created of the stars of the IAU constellation Andromeda by German astronomer Erhard Weigel (1625 – 99) who produced his *Astrocopium Orbi Europaeo Sacrum* chart in 1661, 1681 and 1688 in which he tried to replace existing constellations a new system based upon the

heraldry of the nation states and principalities of seventeenth century Europe, as well as of its principal hierarchies and social classes. It is depicted as an open brass bound chest into which gold coins are being poured from a cornucopia.

Palace Gate:

This Chinese asterism “Quèqiū” (阙丘) is a line of two stars in the IAU constellation Monoceros: 18 and Delta (δ) Monocerotis.

This Chinese Chenzhuo xing guan “Quèqiū” is a line of stars in the IAU constellations Canis Minor, Monoceros, and Puppis: 13 Puppis, 14 Canis Minoris, Zeta (ζ) Canis Minoris, HIP 35712, and Delta (δ) Monocerotis.

Palace Guard:

This Chinese xing guan “Yǔlínjūn” (羽林军) is a complex of fifteen lines or triangles of stars in the IAU constellations Aquarius, Cetus, and Piscis Austrinus, alongside the xing guan “Line of Ramparts” (see above):

- One is a triangle of 3 Ceti, Iota (ι) Ceti, and AD Ceti,
- One is a shallow triangle of HIP 117541, 117314, and 117567,
- One is a triangle of Omega (ω) 1 and 2 Aquarii and HIP 116957,
- One is a shallow triangle of 108 Aquarii, 107 Aquarii and 104 Aquarii,
- One is a triangle of HIP 116591, 115839, and 94 Aquarii A,
- One is the triangle Chi (χ) Aquarii and Psi (ψ) 1 and 2Aquarii,
- One is a shallow triangle of 98 Aquarii, 99 Aquarii, and 101 Aquarii,
- One is the triangle of 88 Aquarii, 89 Aquarii, and 86 Aquarii,
- One is the triangle HIP 113080, Delta (δ) Aquarii, and HIP 113998,
- One is the triangle Tau (τ) Aquarii, 74 Aquarii, and HIP 113531,
- One is the triangle 66 Aquarii, 68 Aquarii, 59 Aquarii,
- One is the triangle 53 Aquarii, 56 Aquarii, and 61 Aquarii,
- One is the triangle 39 Aquarii, 42 Aquarii, and 50 Aquarii,
- One is the triangle Epsilon (ε) Piscis Austrini, Zeta (ζ) Piscis Austrini, and HIP 111515, and
- One is the triangle HIP 107901, 108784, and 107797

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of two stars in the IAU constellations Canis Minoris and Monoceros: Delta (δ) Monocerotis (the determinative star) and Delta (δ) 1 Canis Minoris.

This Chinese xing guan “Yǔlínjūn” (羽林军) is a complex of ten lines or triangles of stars in the IAU constellations Aquarius and Piscis Austrinus, alongside the xing guan “Line of Ramparts” (see above):

- One line is the stars Chi (χ), and Omega (ω) 1 and 2 Aquarii,
- One line is the stars Delta (δ) and Tau (τ) 1 Aquarii,
- One line is the stars Tau (τ), 74, and 70 Aquarii,
- One is a triangle of stars: Psi (ψ) 1, 2, and 3 Aquarii,
- Another tiny triangle of stars is 83, 85, and 87 Aquarii,
- One line is 94, 97, and 98 Aquarii,
- One line is 45, 50, and 56 Aquarii,
- One line is 53, 61, and 66 Aquarii,

- One triangle is Upsilon (υ) and 68 Aquarii and 20 Piscis Austrini, and
- One line is 86, 88, and 89 Aquarii.

This complex Chinese Chenzhuo xing guan "Yǔlínjūn" is three branching lines of stars in the IAU constellations Aquarius, Cetus, and Pisces: The central star is 3 Ceti. From 3 Ceti three branches run out:

- One runs through 6 Ceti, 2 Ceti, and HIP 983 to 7 Ceti,
- One runs through HIP 117567 to Omega (ω) 2 Aquarii, where it splits into two branches:
    - One runs through Omega (ω) 2 Aquarii, HIP 116591, HIP 116853, and HIP 117314 to HIP 117756,
    - One runs through HIP 116957, 104 Aquarii, 106 Aquarii, and 107 Aquarii to 108 Aquarii.
- One runs through HIP 1191 to HIP 1158 where it splits:
    - One line runs to Iota (ι) Ceti,
    - One line runs through HIP 671 to 33 Piscium, where it splits into three lines:
        - One runs to HIP 840,
        - One runs to 30 Piscium, and
        - One runs to 29 Piscium, where it splits into two lines:
            - runs to 27 Piscium, and
            - One runs to 5 Ceti.

Palace of Darkness:

See Yingshi, below.

Palace of Emperor:

This Korean lunar mansion "Shil" consists of a group of stars in the IAU constellation Pegasus. The central star is Beta (β) Pegasi (Algol), and from this star four lines run out:

- One goes to Eta (η) and Omicron (ο) Pegasi,
- One goes to Tau (τ) and Upsilon (υ) Pegasi,
- One goes to Mu (μ) and Lambda (λ) Pegasi, and
- One goes to Alpha (α) Pegasi (Markab).

Palace of the White Ram:

This Japanese zodiac constellation is the IAU constellation Aries in the Genzu mandara (Kotyk 2018).

Palatine Lion:

This German asterism "Leo Palatinus" was created of the stars between the IAU constellation Aquarius and the obsolete constellation Antinous (see above) in 1785 by Jesuit court astronomer Karl-Joseph König (1751 – 1809) to honor his patrons, Karl Theodor, Prince-Elector, Count Palatine and Duke of Bavaria (1724 – 1799) and his wife, Countess Palatine Elisabeth Auguste. The central star is 71 Aquilae.

Pale One:

This Portuguese star "Pálida" is Delta (δ) Crucis in the IAU constellation Crux.

Pale Cloud:

This Samoan asterism “Aotea” is the Large Magellanic Cloud in the IAU constellation Dorado (Fitisemanu 2022).

Paliyama:

This Sama asterism is made up of parts of the IAU constellation Aquila (Ambrosio 2008).

Palm:

This Arabic star “al-Kaff ul-Khaḍib” (الكف الخضيب) meaning “palm of the hand” is the star Beta (β) Cassiopeiae in the IAU constellation Cassiopeia:

- “al-Kaff al-Khadīb” was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- This is listed as “[Al-] kaff al-khadīb” on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992): Savage-Smith translates this as “the dyed hand”.
- The star list of Abraham Bar Hiyya in 1104 (Goldstein 1985) lists the Arabic name “al-kaff al-khadib” but for the star Alpha (α) Andromedae (Alpheratz) and gives the Hebrew name as “ha-yad ha-sevua”.
- “kaff al-Khadiīb” appears on the star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003)”: They translate this as “the hand dyed [with henna]”.
- Dorn (1829) also lists this as the “dyed hand” as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya’ al-Qazwini (1203 – 1283).
- This was later latinized to “Caph”, “Kaff”, “Ceph”, or “Chaph” and is part of their asterism “Yad Mulawana” (see Tinted Hand, below).
- The 15th century *Alfonsine Tables* and later translations of the *Almagest* list “habens palmam delibutam” (“having palm oiled”).
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Caph” and “Kaff-al-Khadib” and translates this as “stained hand”.
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as “Caph”.
- In his *Star Names* in 1899 R. H. Allen gives the name “Kaff al Ḥadib”.
- Steiner (2016) lists the Bedouin spelling “Khaf al Habib”.
- Joseph Jérôme Lefrançois de Lalande (1732 – 1807) listed it as “Siliquastrum”, which is a reference to the Sycamine Tree (see below) and meant to be a branch in Cassiopeia’s hand.
- This is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852 as “Chaph”: The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822.
- English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists this star as “Chaph”.
- American astronomer Winslow Upton’s *Star Atlas* (1896) lists this star as “Caph” and describes it as the “palm of the hand”.
- R. H. Allen’s *Star Names* in 1899 translates as “Holding the Consecrated Palm”.
- The 1st edition of British schoolmaster Arthur P. Norton’s *A Star Atlas and Telescopic Handbook* (1910) lists the names “Caph” and “Chaph” for this star, but his 14th edition (1959) only lists “Caph” for this star.

- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists "Caph" for this star.
- NOTE: The Arabs see this as "khamsa", the hand of Fatima, the daughter of Muhammad (Kunitzsch 1959).
- The IAU approved the name Caph for Beta (β) Cassiopeiae A.

Palm Branches:

This Arabic asterism "Al Shamārīẖ" is made up of stars in the IAU constellation Centaurus and Lupus and represents branches of a date palm held in the hand of the centaur:

- "al-Shamārīkh" is listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- This asterism is described by Persian astronomer Zakariyya' al-Qazwini (1203 – 1283) in his *Wonders of the Creation and Unique of the Existence*. This is later latinized to "Asemarik".
- Dorn (1829) lists it as "branches or clusters of dates" and describes it as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283).
- German astronomer Johann Bayer (1572-1625) lists it as "Asmeat", Albeze", and "Albizze".
- John Hill lists asterism as "Alshamarik" and translates it as "Centaur and the Wolf" in his *Urania* in 1754, giving the alternate names "Albez" and "Asmeat".
- Compare this to the Arabic asterism Vine Branch (below).

Palm Fan:

This Netwar asterism "Kilil" ("traditional palm fan") is made up of stars in the IAU constellation Orion (Ramik 2019): Alpha (α) Orionis (Betelgeuse), Gamma (γ) Orionis (Bellatrix), Delta (δ) Orionis (Mintaka), Beta (β) Orionis (Rigel), Kappa (κ) Orionis (Saiph), and Zeta (ζ) Orionis (Alnitak). Compare this to the Nahwal asterism "Kelel" (see Fan above).

Palm of al Awwa:

This Arabic star "Muqaddim Yad ul-Ḥawwā'" (مقدّم يد الحوّاء) is Delta (δ) Ophiuchi in the IAU constellation Ophiuchus:

- It was later latinized to "Yed Prior".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) lists this star as "Yed".
- The IAU approved the name Yed Prior for Delta (δ) Ophiuchi. This is part of their asterism Howling Dogs (see above).

Palm of the Supporter:

This Arabic star "Kaff al-nasīr" is Alpha (α) Andromedae (Alpheratz) in the IAU constellation Andromeda as listed in an anonymous Hebrew star list from 1392 (Goldstein 1985). This list gives the Hebrew name "ha-yad ha-sevu'a" ("she is the hand of God").

Palm Sander:

This **telescopic** asterism is in the IAU constellation Cassiopeia and was listed in *Pattern Asterisms* by American astronomer John A. Chiravalle. Jeffrey Corder lists it as Corder 317. The "base" of the sander is

a line of stars including HIP 9312 and 52 Cassiopeiae. The "top" of the sander is 53 Cassiopeiae, HIP 9635, 9765, and 9720A. Size 60'.

Palm Tree:

The stars of this Tupi Guarani asterism are unidentified at this time (Lima and De M. Figueirôa, 2007). They have another asterism nearby, Monkeys (see above), which are eating the fruit.

This asterism "Habens palmam delibutam" ("having a palm tree") is the IAU constellation Cassiopeia. This name is listed in Johann Bayer's *Uranometria* (1603).

Pan:

This Greek asterism "Πάν" ("Pán") or "Ἀιγι-Πᾶν" ("Aigi Pán") is the IAU constellation Capricornus as listed by Eratosthenes (d.194 B.C.E.). Pan was a goat-footed demigod in Greek mythology. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Pan" as a name for Capricornus.

This asterism is the IAU constellation Capricornus.

- Johann Bayer's *Uranometria* (1603) lists "Pan" as a name for Capricornus.
- "Ancient Zodiac of Egypt" in *Hindu Astronomy* by W. Brennand in 1896 labelled this illustration "from the Barberini Museum", which is probably a reference to the 17th century Palazzo Barberini, which is now the Galleria Nazionale d'Arte Antica. This depicts a dog headed man with a staff in his left hand and a leash in his right hand to which is attached a goat headed fish and also gives the name "Hanumat" (see Hanumat, above). A dog or jackal headed figure is used in Egyptian hieroglyphics to represent their God Anubis, which they related to the stars of Canis Major, not Capricornus. There was no Hanumat in Egyptian mythology. Eratosthenes (d.194 B.C.E.) used the name Pan for Capricornus (see Pan above) and another Greek name for this constellation was Egipan (see above) which is a part human part goat rural deity. Brennan attributes this name for this constellation to the 5th century Roman Macrobius Ambrosius Theodosius, who believed that the Egyptians created the signs of the zodiac and that they were later adopted by the Greeks. Brennand writes that "Capricorn was Mendes, the Egyptian Pan". Mendes is the name of a city in Egypt and not the name of any Egyptian deity. The Egyptian god Set is depicted as a red beast with cloven hooves and a forked tail, but he is a God of war and chaos later associated with the Christian Devil, not Pan.

This French asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Ottescu 2009) as it resembled a frying pan.

This **telescopic** asterism is in the IAU constellation Sagittarius and is Corder 3617 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is six 7th – 9th magnitude stars including HIP 91558 and 91504 and the double star HIP 91607.

Pan of Indus:

This **telescopic** asterism "Pan Índi" is the intermediate spiral galaxy NGC 7038 in the IAU constellation Indus. It was discovered in 1834 by John Herschel who listed it as h 3858 and later as GC 4644 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by

astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “with a little bit of imagination one recognizes the face of the two-horned bearded Greek God Pan”.

Panama Hat:

This **telescopic** asterism is in the IAU constellation Pegasus and is Ennis 85 on the observing list of Canadian astronomer Charles Ennis. Size 70’ X 25’. This is six 6^{th} – 8^{th} magnitude stars. The “brim” is the double star HIP 111974, HD 214892, HIP 112067, Gaia DR3 2732310103243295488, HIP 112275, and HD 215429. The top of the hat is the stars HIP 112253, SAO 108136, HIP 112163 and HD 215042. This includes stars of Corder 4738.

Panauna Graz:

This Kala Lagaw Ya star is Alpha (α) Piscis Austrini in the IAU constellation Piscis Austrinus.

Pancake Galaxy:

This **telescopic** asterism is NGC 2685, a lenticular and polar ring galaxy in the IAU constellation Ursa Major. It is also known as the Helix Galaxy (see above).

Pandora’s Cluster:

This **telescopic** asterism, known as “Pandora’s Cluster” or “Pandora’s Box” is Abell 2744, a group of approximately 500 galaxies in the IAU constellation Sculptor.

Pangolin:

This English asterism “Manis” was created in 1754 by British botanist and natural philosopher John Hill and published in his *Urania: Or a Complete View of the Heavens* and is made up of stars in the IAU constellations Andromeda, Lacerta, and Cygnus: Lambda (λ) Andromedae, Alpha (α) and Beta (β) Lacertae, Pi (π) 1 and 2 Cygni and Rho (ρ) Cygni. Compare this to the asterism Frederick’s Glory (see above).

NOTE: A pangolin is a scaly anteater of the order Pholidota.

Pansy Nebula:

See Crystal Ball Nebula, above.

Panther:

This asterism shows up in the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) as “Nimru” (Hunger 1992, Parpola 1993) and in Babylonian as “MUL.UD.KA.DUA” (Hunger 1992), “UD.KA.DUH.A” (Bartel van der Waerden 1974, Parpola 1993), or “UD.KA.DU.A” (Anthony 1996) and in the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period as “mul ud.ka.duh.a” (Koch-Westenholz 1995) and is identified as the constellation Cygnus. Anthony adds “part of Cepheus” and translates the name as “demon with the gaping mouth”.

This Persian (Achaemenid, 539 – 331 B.C.E.) asterism “mu-ka-du-a” as listed in Ernst Weidner’s *Fixsterne* in 1971 and “Nimru” in Franz Boll’s *Ancient Observations of Coloured Stars* in 1918 is made up of stars of the IAU constellations Cepheus and Cygnus.

The later Seleucid version of this asterism is in the IAU constellations Andromeda, Cepheus, Cygnus, and Lacerta:

- The “head” is a triangle of stars: Omicron (ο) 1, Delta (δ) and Theta (θ) Cygni,
- The “body” is another triangle of stars: Omicron (ο) 1, Gamma (γ), and Alpha (α) Cygni (Deneb), and Zeta (ζ) Cephei,
- The back “leg” runs from Zeta (ζ) Cephei through a “knee” at Alpha (α) Lacertae to Lambda (λ) Andromedae, and
- The front “leg” runs from Gamma (γ) Cygni through a “knee” at Epsilon (ε) Cygni to Zeta (ζ) Cygni.

This Arabic asterism “Al Fhad” is the IAU constellation Lupus.

- Johann Bayer’s *Uranometria* (1603) lists “Panthera” and attributes it to 5th century writer Martianus Capella.
- This Roman asterism “Panthera” is the IAU constellation Lupus as described by 5th century writer Martianus Capella.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Martiano Panthera” as an alternate name for Lupus.
- John Hill lists it as “Phed” in his *Urania* in 1754. Hill lists it as an Arabic name which he translates as “panther”.

Paper Clip of Antlia:

This **telescopic** asterism “Chartivínculum Ántliae” is the intermediate spiral galaxy NGC 3137 in the IAU constellation Antlia. It was discovered in 1837 by John Herschel who listed it as h 3230 and later as GC 2021 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Paperbark Basket:

This Yolgnu asterism is a dark patch in the Milky Way (Clarke 2014). This basket was placed there by a Crow ancestor.

Papillon:

See Butterfly, above.

Papsukkal:

This Chaldean star “dpap.sukkal” is listed in the *Great Star List* (Koch-Westenholz 1995). but the stars have not been identified. Papsukkal was a Mesopotamian attendant to the God Anu and his wife Antu.

Parabola:

This **telescopic** asterism is a tiny arc of four stars of the IAU constellation Antlia discovered by South African astronomer Magda Streicher, including HIP 50103 and 50122. Size 3’.

Parachutist:

This **telescopic** asterism Zürn 1 is in the IAU constellation Perseus. It was discovered by German astronomer Katharina Zürn in the middle of the open cluster NGC 869, which is part of the Double Cluster (see above). Robert Zebahl lists it on his *Faint Fuzzies* website and writes: "In the center of this cluster a small, fine star pattern is visible. Around the 6m5 bright star V520 Per five stars with

magnitudes from 8 mag form a narrow, outward (resp. southeast) curved arc. With some imagination the arc looks like a parachute and V520 Per is the guy hanging from the parachute." Size 1.1' X 0.5'. This is also known as the Laughing Cyclops (see above).

Parallel One:

This Bedouin star "al-Mbarī" (المباري) is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga.

Paramecium Galaxy:

This **telescopic** asterism is the galaxy NGC 7448 (Arp 13, UGC 12294) in the IAU constellation Pegasus. This name was posted on the *Deep Sky Forum* in October 2016 by American astronomer Mark Friedman.

Paramecium of Virgo:

This **telescopic** asterism "Paramécium Vírginis" is the spiral galaxy NGC 4666 in the IAU constellation Virgo. It was discovered in 1784 by William Herschel who listed it as "I 15". It became GC 3198 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). It is also known as the Superwind Galaxy (see below).

Parent of Ursa Major:

This **telescopic** asterism "Párens Úrsae Majóris" is the barred spiral galaxy NGC 3769 (Arp 280) in the IAU constellation Ursa Major. It was discovered in 1788 by William Herschel who listed it as "II 731". It became GC 2471 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as it forms a pair with the smaller NGC 3769A, which "bring to mind a parent and his or her child".

Parents:

This Wichi asterism is two as yet unidentified stars in the IAU constellation Sagittarius (Mariani et al 2017).

Parilicium:

This Latin star "Parilicium" is the is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus:

- This star is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch with the alternate name "Parilicium".
- R. H. Allen adds the name "Palilicium" in his *Star Names* in 1899 and attributes it to Pliny the Elder (24 – 79), assigning the names to the entire Hyades cluster. The meaning is uncertain.

Parka Nebula:

See Clown Face Nebula, above.

Parrhasian Stars:

This Latin asterism "Parrhasides Stellae" is the IAU constellation Ursa Major and is a reference to a region in southern Arcadia. Johann Bayer's *Uranometria* (1603) lists "Parrhasis" as a name Ursa Major.

Parrhasian Yoke:

This Latin asterism “Parrhasium Jugum” is the Big Dipper asterism in the IAU constellation Ursa Major as listed by Roman poet Marcus Valerius Martialis (b. 40 C.E.) and R. H. Allen in his *Star Names* in 1899. The name is a reference to a region in southern Arcadia. Compare this to his asterism Threshing Oxen, above.

Parrot:

This Carib asterism “Kurewakoyuman” or “Kurewako” represents the parrot (Psittasidae) and rises in February or March when the young parrots are big enough to leave their nests. It is supposed to represent a male and female parrot side by side, but its present location is unknown (Magaña, and Jara, 1982).

Parrot Fish:

This Kiribati asterism “Inai” or “te itua n inai” is the belt of Orion in the IAU constellation Orion (Trussel and Groves 1978).

Parrot Nebula:

This **telescopic** asterism is reflection nebula NGC 2327 in the IAU constellation Canis Major. This was discovered by English astronomer William Herschel in 1785 who listed it as “IV 25” in his catalogue. It is GC 1487 in the *General Catalogue* of 1864.

Parrot’s Head Nebula:

This **telescopic** asterism is dark nebula Barnard 87 in the IAU constellation Sagittarius.

Part of the Horse:

This Arabic star “Qiṭʿat al-Faras” (قطعة الفرس) or “Juz' Min Alhisan” (جزء من الحصان) is Alpha (α) Equulei in the IAU constellation Equuleus:

- “Qut’at al-Faras” is listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) as a name for Equuleus in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- This was later latinized to “Kitalpha”.
- Ptolemy’s original constellation Equuleus was Bust of a Horse (see above).
- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) lists “Elmac Alcheras”.
- American uranographer Elijah Burritt (1794 – 1838) listed it as “Kitel Phard”.
- German uranographer Adolf Stieler (1775 – 1836) listed “Kitalphar”.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “’Kit ‘at al-faras, a portion of the horse” and “Kitalpha”.
- R. H. Allen lists “Al Kiṭʿah al Faras” in his *Star Names* in 1899 and interprets this as the name of the entire constellation.
- John Chilmead (1899) lists it as “Kataat Alfaras”, which he derived from Robert Hues’ *A Learned Treatise of Globes* in 1659.
- The IAU approved the name Kitalpha for Alpha (α) Equulei A.

Partridge:

This Arabic asterism “Al Kaṭāt” is the IAU constellation Cygnus as described by 'Abd al-Rahman al-Sufi (903 – 986):

- John Hill gives it the “Arabic” name Katha in his *Urania* in 1754.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Kaetha” or “Kata” for this constellation and translates this as “waterfowl”.
- “Al Katat” is listed by R. H. Allen in his *Star Names* in 1899. Allen describes this bird as “perhaps the mottled partridge”.

Partridge Cross:

This Quechua (Chumbivilcas) asterism “Yutucruz” is the IAU constellation Crux (Urton 1980 & 1981). It is probably called this as it is next to their asterism “Yutu” (see Tinamou, below), which represents a ground partridge.

Party:

This asterism is the IAU constellation Gemini as renamed by the Unitarian Universalist Hysterical Society in 2024 on their Facebook page.

Party Balloon:

This **telescopic** asterism is made up of eight 5th to 8th magnitude stars in the IAU constellation Cassiopeia 40 arcminutes northwest of open cluster Messier 52:

- Five 5th to 6th magnitude stars with some dimmer stars form the “Balloon”: 4 Cassiopeiae, HIP 115218, HIP 115245, HIP 115141 and HIP 114904A, and
- A line of stars forms the “string”, including HIP 114307, 114070, 113947, and 113793.

This is also known as the “Airplane” (see above) and Arrow Cluster (see above). Jeffrey Corder lists this as Corder 4879 and attributes the name “Party Balloon” to John Chiravalle.

Parumleo:

See Little Lion, above.

Paschal Lamb:

This German asterism is the IAU constellation Canis Minor and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the “pagan” names of constellations with Biblical and early Christian figures. This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as “Agnus Paschalis”. The Paschal Lamb is listed in Edward Sherburne’s Sphere of Marcus Manilius in 1675 and in John Hill’s *Urania* in 1754.

Pašoglàvi:

This Chakavian asterism is the IAU constellations Canis Minor and Canis Major.

Passenger Pidgeon:

This Mi’kmaq star “Ples” is Gamma (γ) Boötis (Seginus) in the IAU constellation Boötes. It is part of their asterism Muin and the Seven Hunters (see above).

Pataecus:

This Greek asterism “Pataecus” or “Epipataecus” is the IAU constellation Hercules and is listed in R. H. Allen’s *Star Names* in 1899.

Patari-rangi:

This Māori asterism is the Large Magellanic Cloud (Orchiston 2017).

Patari-kaihau:

This Māori asterism is the Small Magellanic Cloud (Orchiston 2017).

Patch of Fish:

This Latin star “Commissura Piscium” is Alpha (α) Piscium (Alrescha) in the IAU constellation Pisces as listed by Pliny the Elder (23 – 79 C.E.) in his *Naturalis Historia*.

Patchy of Coma Berenices:

This **telescopic** asterism “Respérsus Cómae Bereníces” is the barred spiral galaxy NGC 4571 in the IAU constellation Coma Berenices. This was discovered by English astronomer William Herschel in 1784: He originally thought he was looking at Messier 91: He listed it as “III 602”. John Herschel listed it as h 1364 and later as GC 3112 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of “the patchiness of this galaxy”.

Path of Three:

This Anutan asterism “Ara Toru” is the three stars of Orion’s belt in the IAU constellation Orion.

Patriarchal Clan:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of two stars in the IAU constellation Ophiuchus: 72 Ophiuchi (the determinative star) and 71 Ophiuchi.

This Chinese xing guan “Zōng” (宗) is a line of two stars in the IAU constellation Hercules: 110 and 111 Herculis.

This Chinese Chenzhuo xing guan “Zōng” is two stars in the IAU constellation Ophiuchus: 71 and 72 Ophiuchi.

Patriarchal Clan of the Empress Consort:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty “Shaomin” is the star Rho (ρ) Leonis in the IAU constellation Leo and is part of their asterism Xuanyuan (see below).

This Chinese Chenzhuo xing guan “Shaomin” is the star Rho (ρ) Leonis in the IAU constellation Leo.

Patriarchal Clan of the Empress Dowager:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty “Damin” is the star Omicron (ο) Leonis in the IAU constellation Leo and is part of their asterism Xuanyuan (see below).

This Chinese Chenzhuo xing guan “Taimin” is the star Omicron (ο) Leonis in the IAU constellation Leo.

Patrick Starfish:

See Starfish (below).

Paul:

This German asterism "Paul" or "Saint Paul the Apostle" is the IAU constellation Perseus and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures (Stevenson 1921). This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "S. Paulus Al Perseus". Edward Sherburne lists this in his *Sphere of Marcus Manilius* in 1675. John Hill lists it in his *Urania* in 1754, and R. H. Allen also lists it in his *Star Names* in 1899.

Paul and the Viper:

This German asterism is the IAU constellations Ophiuchus and Serpens as listed by German astronomer Wilhelm Schickard (1592 – 1635) and as listed by Italian humanist and poet Ambrogio Fracco, also known as Novidius (1480 - ?). This asterism "Paulus cum vipera" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and attributed to Schickard. Edward Sherburne lists it in his Sphere of Marcus Manilius as "Saint Paul and the Viper", and John Hill lists "Paul and the Viper" in his *Urania* in 1754, as does R. H. Allen in his *Star Names* in 1899. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "St. Paul and the Maltese viper".

Paulus:

This German asterism "Paulus" is the IAU constellation Ophiuchus as listed in the charts of the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

Pavo:

The brightest star in Pavo is 3rd magnitude Alpha (α) Pavonis which is the 44th brightest star on the list of 90 brightest stars. It is known to the Italians as "Pavone". The stars of this constellation only show up in 63 asterisms in this handbook.

This IAU constellation "the Peacock" (IAU abbreviation Pav) was created by Flemish astronomer Petrus Plancius (1552 - 1622) in 1598 from observations of Dutch uranographer Peiter Dirkszoon Keyser (1540 – 1596) and Dutch navigator Frederick de Houtman (1571 – 1627). It originally appeared under its Dutch names, "De Pauw" ("the peacock") but was latinized to the current name. Dutch historian Paulus Merula (1558 – 1607) lists it as "Pavus".

Flemish cartographer Jodocus Hondius (1563 – 1612) included it on his globes between 1598 – 1603 as both "Pau" and "Pavo".

Dutch uranographer Willem Blaeu (1571 – 1638) listed it as Pavo in 1603 as a peacock.

German uranographer Johann Bayer (1572 – 1603) depicts "Pavo" in his *Uranometria* in 1603.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts "Pauo" as a peacock facing to our right.

"Pavo" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the name "Pavo" for this constellation.

"Pavo" is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a peacock.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts "Pavo" as a peacock walking to our right.

Pavo is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661.

Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) depicts Pavo as a peacock.

Edward Sherburne lists it in his *Sphere of Marcus Manilius* in 1675.

Pavo is listed by English astronomer Edmond Halley in his *Catalogus Stellarum Australium* in 1679.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts "Pavo" as a peacock walking to our right. Hevelius' *Firmamentum Sobiescianum sive Uranographia* (1690) depicts "Pavo" as a peacock and it consists of these star lines:

- Its "head" is the star Alpha (α) Pavonis (Peacock),
- Its "neck" runs from Alpha (α) Pavonis to a bend at Gamma (γ) Pavonis and then through Beta (β) Pavonis to Delta (δ) Pavonis,
- Its "body" is a line from Delta (δ) Pavonis to Kappa (κ) Pavonis,
- Its "legs" is a line from Delta (δ) Pavonis to Epsilon (ε) Pavonis, and
- The "tail" is a series of lines running out from Kappa (κ) Pavonis to five stars to form a fan-shaped series of triangles, these five stars being Zeta (ζ), Eta (η), Pi (π), Xi (ξ), and Lambda (λ) Pavonis.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli depicts Pavo as a peacock facing to our right.

Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) depicts "Pavo" as a peacock.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, depicts Pavo as a bird of paradise.

Pavo is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts "Pavo" as a peacock facing to the left.

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) depicts Pavo as a peacock.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Pavo as a peacock walking to our left.

French astronomer Abbé Nicolas Louis de Lacaille's *Planisphère des Étoiles Ausralea* (1756) depicts "la Paon" as a peacock.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) depicts "Le Paon" as a peacock.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts "Pavo" as a peacock walking to our left.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts "Pavo" as a peacock facing right.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "le Paon" as a peacock, as does the 1778 edition.

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Pfau" and depicts it as a peacock.

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts "Pavo" as a peacock.

Pavo is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801) as "Paauw": It is depicted as a peacock.

American uranographer William Croswell (1760 – 1834) depicts "Pavo the Peacock" on his *Mercator Map of the Starry Heavens* in 1810 as a peacock.

Scottish uranographer Alexander Jamieson (1782 – 1850) Lists "Pavo" in his *Celestial Atlas* in 1822.

American uranographer Elijah Burritt's *Southern Circumpolar Map for each Month in the Year* (1835) depicts "Pavo the Peacock" as a peacock walking.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts "Pavo" as a peacock riding to our right.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this constellation on the charts simply as "Peacock".

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Pavo, The Peacock" as an official constellation "recognized in the catalogue of the British Association".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Pavo" and describes it as a "Peacock", incorrectly attributing it to Bayer.

Pavo is depicted on standard IAU charts as follows:

- His "head" is the triangle of stars Lambda (λ) Pavonis, Xi (ξ) Pavonis, and Pi (π) Pavonis, with a line running from Pi (π) Pavonis to Eta (η) Pavonis becoming the "beak" and a line from Lambda (λ) Pavonis to Kappa (κ) Pavonis the "neck",
- His "body" is the quadrilateral of the stars Kappa (κ), Zeta (ζ), Epsilon (ε), and Delta (δ) Pavonis, and
- His "tail" is the triangle made up of the stars Delta (δ) Pavonis, Beta (β) Pavonis, Gamma (γ) Pavonis, and Alpha (α) Pavonis (Peacock).

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Pavo in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* as a roughly oval shape of the stars Beta (β), Delta (δ), Lambda (λ), Xi (ξ), Eta (η), Zeta (ζ), and Epsilon (ε) Pavonis with two lines running out from Beta (β) Pavonis:

- One to Alpha (α) Pavonis (Peacock), and
- One to Gamma (γ) Pavonis.

Sky and Telescope Magazine, founded in 1941, depicts Pavo in their magazine and publications with the central star Delta () Pavonis from which the following lines emerge:

- From Delta (δ) Pavonis a triangle extends through Beta (β) Pavonis, Gamma (γ) Pavonis, and Alpha (α) Pavonis (Peacock),
- One line runs to Epsilon (ε) Pavonis,
- One line runs to Zeta (ζ) Pavonis,
- A pentagonal shape includes the stars Delta (δ) Pavonis through Lamba (λ), Xi (ξ), Pi (π), and Kappa ()κ Pavonis with a single line running from Pi (π) Pavonis to Eta (η) Pavonis.

Pax:

This Latin asterism "Pax" is the IAU constellation Virgo. Pax was the Roman Goddess of peace.

- Johann Bayer's *Uranometria* (1603) lists "Pax" as a name for Virgo.
- "Pax" appears as an alternate name for Virgo on the *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638).
- "Pax" is listed as a name for Virgo in R. H. Allen's *Star Names* in 1899.

Pazmino's Cluster:

This **telescopic** asterism is open cluster is St 23 in the IAU constellation Camelopardalis. It is named for American astronomer John Pazmino who wrote about it in *Sky and Telescope* in March 1978. Size 15' X 15'.

Pea Pods:

This Estonian asterism "Erne Kahlad" or "Hernekahlud" ("pea pods" or "bunch of peas") is stars of the IAU constellations Canes Venatici and Coma Berenices and appears in the *Sky of Ests (Chudes)* by Aleksander Heintalu (Sass of Vigala) (Kuperjanov 2006).

Peace:

This **telescopic** Sinhalese star "Sāmaya" is HIP 106824 (HD 205739) in the IAU constellation Piscis Austrinus (magnitude 8.54). It was given this name in the IAU NameExoWorlds campaign. It has an exoplanet named Samagiya ("togetherness").

This **telescopic** Lithuanian star "Taika" is HAT-P-40 in the IAU constellation Lacerta (magnitude 11.7). It received this name in the IAU NameExoWorlds Campaign. It has an exoplanet named Vytis, which is the symbol of the Lithuanian coat of arms.

Peach of Eridanus:

This **telescopic** asterism "Pérsica Erídani" is the elliptical galaxy IC 2006 in the IAU constellation Eridanus. It was discovered by Lewis Swift in 1897. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "with its round form and reddish colour… it has the outward appearance of a peach."

Peacock:

This Kolam asterism "Namli" is made up of stars of the IAU constellations Centaurus and Circinus (Vahia 2014). The Kolam used the brightness of these stars, each of which represented a different animal, to determine the intensity of the approaching monsoon. The animals included a peacock, a buffalo, a frog, a deer, a horse, and in some regions, a pig.

This Dutch asterism "De Pauww" is the IAU constellation Pavo. This is the original name for this constellation (see Pavo, above).

There are two English asterisms by this name:

- One is the IAU constellation Pavo as listed in Robert Hues' *A Learned Treatise of Globes* in 1659.
- One is the star Alpha (α) Pavonis in the IAU constellation Pavo. This name was assigned to the star by HM Nautical Almanac Office in the late 1930s during the creation of *The Air Almanac* for the Royal Air Force. The IAU approved the name Peacock for Alpha (α) Pavonis Aa.

One Roman zodiac lists the IAU constellation Aquarius as a Peacock, a symbol of the Goddess Juno. The sun was in this sign in January and February which was their month Gamelion, which was sacred to her.

Peacock Fan:

This **telescopic** asterism is in the IAU constellation Pavo. It is Lorenzin 11 on Tom Lorenzin's list. The base of the fan is Pi (π) Pavonis, and the edge of the fan is the line of stars starting at HIP 89200 and running through SAO 254166, SAO 254171, HIP 89258, to Gaia 6630643289792352512.

Peacock Head of Pegasus:

This **telescopic** asterism "Taónius Pégasi" is the spiral galaxy UGC 12812 (Markarian 331) in the IAU constellation Pegasus. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as "the blue colour… and slender shape make this galaxy look like the neck and head of a peacock".

Peacocks:

This Latin asterism "Duo Pavones" or "Pavones" is the IAU constellation Gemini as listed in John Hill's *Urania* in 1754 and Hill claims that this is "one of the Arabian constellations". English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 and R. H. Allen in his *Star Names* in 1899 both list this as an Arabic asterism. NOTE: The stars of Gemini were part of the Arabic asterism Lion (see Extended Forearm, above). The Arabs did not have a Peacock asterism.

Peafowl:

This Chinese xing guan "Kǒngquè" (孔雀) is the IAU constellation Pavo.

Peanut Nebula:

This **telescopic** asterism is planetary nebula NGC 2371-2 in the IAU constellation Gemini. It was discovered by English astronomer William Herschel in 1785, who described it as "Two. Sp-nf, distance 1', chevelure mixed. Both faint, small, equal, having a nucleus". Herschel listed it as "II 316 and II 317" in his catalogue. It is GC 1519 and 1520 in the *General Catalogue* of 1864. It seemed to English astronomer John Louis Emil Dreyer (1852 – 1926) to be two objects and so was entered as NGC 2371 and 2372 in the *New General Catalogue*. It is actually a single planetary nebula. It is also known as the Double Bubble Nebula, the Ant Nebula, the Mini Dumbbell, the Doughnut (Cut in Half), a Figure Eight, or the Gemini Nebula. Size 1' X 1'. NOTE: The Double Bubble name is a reference to the "Dubble Bubble" gum created in 1928 by the Fleer Candy Company which featured a comic strip featuring the brothers Dub and Bub (replaced in 1950 by Pud). If this is the case, then the name "Double Bubble" for this nebula can't predate this.

Pear:

This English asterism is the intermediate spiral galaxy Messier 106 (NGC 4258) in the IAU constellation Canes Venatici. It was discovered by French astronomer Pierre Méchain in 1781. English astronomer William Herschel listed it as "V 43". It is GC 2841 in the *General Catalogue* of 1864. In the 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959), Norton describes this as "pear shaped". It is also known as the "Splendid One of Canes Venatici" (see below).

Pearce's Star:

This **telescopic** double, rotating variable star is AO Cassiopeiae (HIP 1415, HD 1337) in the IAU constellation Cassiopeia (magnitude 6.14). This is an eclipsing binary star system named for Canadian astrophysicist Joseph Algernon Pearce (1893 – 1988).

Pearl:

See Bright One, above.

Pearl Bearer of Ursa Major:

This **telescopic** asterism "Margarítifer Úrsae Majóris" is the edge-on barred spiral galaxy NGC 4013 in the IAU constellation Ursa Major. William Herschel listed this as "II 733". John Herschel listed it as h 1041 and later as GC 2652 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the pearl… is the foreground star, located on the dust lane of this shell-shaped galaxy".

Pearl Cluster:

There are two **telescopic** "Pearl Cluster" asterisms:

- One is the open cluster NGC 3766 (Caldwell 97) in the IAU constellation Centaurus. It was discovered by French astronomer Nicolas Louis de Lacaille in 1751-2 who listed it as "III 7" in his catalogue. It is GC 2468 in the *General Catalogue* of 1864. It is also known as the Rich Man's Jewel Box, "B", the Eye, and Hilda's Cluster. South African astronomer Carol Botha (2007) notes that the central star "is commonly seen as a pearl, hence the name Pearl Cluster".
- One is the open cluster NGC 2244 in the Rosette Nebula (Caldwell 49) in the IAU constellation Monoceros. English astronomer William Herschel discovered this open cluster (NGC 2244) in 1784 and listed it as "VII 2" in his catalogue, and it is listed as GC 1424 in the *General Catalogue* of 1864. It is also known as the Satellite Cluster, and the Harp Cluster. *1001 Wonders as*

Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists the name "Pearl Cluster". This is also known as Girl With a Ponytail.

Pearl Necklace:

This **telescopic** asterism is Arp 322 (PGC 35609), a group of interacting galaxies in the IAU constellation Ursa Major.

Pearl of Coma Berenices:

This **telescopic** asterism "Margarita Cómae Bereníces" is the lenticular galaxy NGC 4203 in the IAU constellation Coma Berenices. It was discovered in 1787 by William Herschel who listed it as "I 175". It became GC 2796 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). They called it this because of "the almost perfect round shape".

Pearl of the Crown:

This Latin star "Margarita Coronae" Alpha (α) Coronae Borealis (Alphecca) in the IAU constellation Corona Borealis.

Pearls:

There are two Arabic asterisms with the name "al-ʿuqūd", later latinized to "Al Ukud":

- One is the stars Alpha (α) Delphini (Sualocin), Beta (β) Delphini (Rotanev), Gamma (γ) Delphini, and Delta (δ) Delphini in the IAU constellation Delphinus.
- One is the star Delta (δ) Delphini in the IAU constellation Delphinus.

Pearls on Ladies' Wear:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty"Lízhū" (离珠) is a bent line of stars in the IAU constellations Aquila and Aquarius: 1 Aquarii and 68, 69, 70, and 71 Aquilae (this last star being the determinative star).

This Chinese xing guan "Lízhū" (离珠) is a bent line of stars in the IAU constellations Aquila and Aquarius: 1 Aquarii and 69, 70, and 71 Aquilae.

This Chinese Chenzhuo xing guan "Lízhū" is a bent line of five stars in the IAU constellation Aquarius and Aquila: 1 Aquarii, 71 Aquilae, 70 Aquilae, HIP 102561, and HIP 102770.

Peasant:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is the star HIP 900763A in the IAU constellation Sagittarius.

This Chinese xing guan "Nóngzhàngrén" (农丈人) is the star HIP 91918 in the IAU constellation Corona Australis.

This Chinese Chenzhuo xing guan "Nongzhangren" is the star HIP 90763 in the IAU constellation Sagittarius.

Pebble of Pavo:

This **telescopic** asterism “Lapíllus Pavónis” is the irregular galaxy IC 4662 in the IAU constellation Pavo. It was discovered by Robert T. A. Innes in 1901. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Peccary:

This postclassic Mayan asterism from the Paris Codex is the IAU constellation Leo.

This Lacandón asterism “Puerco de la Montaña” or “Kitam” or “Kitan” is the belt of Orion in the IAU constellation Orion (Milbrath 1999). The sword of Orion is their piglets.

NOTE: The Mayan word “Ac” in early dictionaries is applied to both the turtle and the peccary, which leads to some confusion.

Peccaries:

This Mayan asterism is made up of two stars from the IAU constellation Gemini: Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux). These two stars were also called the Two Brilliant Ones (see below). These are depicted on a ceiling at Bonampak, the Nunnery Façade at Chichén Itzá and the West Court at Palenque.

Peek a Boo Galaxy:

This telescopic asterism is the irregular blue compact dwarf galaxy HIPASS J1131-31 (PGC 5060432) in the IAU constellation Hydra. It was discovered by German astronomer Bärbel Silvia Koribalski at Australia’s Telescope National Facility (ATNF). It got this name as it was hidden behind a relatively fast-moving foreground star (TYC 7215-199-1).

Peek a Boo Nebula:

This **telescopic** asterism is the planetary nebula NGC 7048 in the IAU constellation Cygnus. It was discovered by French astronomer Édouard Stephan in 1878. It is also described as a “Y” (see below).

Peg:

This Sasanian star “Mex ī Gāh” is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Panaino 1999).

Peg of Pavo:

This **telescopic** asterism “Pássalus Pavónis” is the edge-on barred spiral galaxy IC 5052 in the IAU constellation Pavo. It was discovered by DeLisle Stewart in 1900. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “the open spiral arms make this galaxy look like a rotating fountain.”

Pegasus:

The stars of Pegasus show up in 324 of the sky cultures listed in this handbook.

The IAU constellation Pegasus for which this asterism is named (IAU abbreviation Peg) is one of Ptolemy’s 48 original constellations: Ptolemy (c.100 – c.170) called it “΄Ιππος” (“΄Ippos”) in his *Almagest* (see Horse, above) and mentioned that it had wings. Aratus (315 – 240 B.C.E) called it the “divine horse” and Eratosthenes (d.194 B.C.E.) listed it as “Πήγασος” (“Pígasos”): Robert Burnham (1978) suggests that this comes from “’Pegae’, the ‘Springs of the Ocean’ in the place of his birth”. Geminus of Rhodes (1st

century B.C.E.) described it as the "fore part of a horse according to Hipparchus". It was often referred to in the earliest texts as cut in two or incomplete with adjectives such as "Dimidiatus" ("halved") and 5th century Greek poet Nonnus referred to it as the "half visible Libyan horse". Danish astronomer Tycho Brahe described it as "Equi Sectio" ("horse's section"). There are at least two Greek myths relating to this winged horse. Adjectives attached to the name included "Gorgoneus" and "Medusaeus", both references to the Greek myth that described this horse being created from the blood of Medusa: Johann Bayer's *Uranometria* (1603) lists "Gorgoneus" and "Medusaeus".

The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) depicts Pegasus as a horse with no wings, which indicates the influence of the Catasterismes of Eratosthenes.

The Mainz Globe from the eastern end of the Roman empire (c. 150 – 220 C.E.) depicts the front half of a winged Pegasus.

The globe of the 2nd century Farnese Atlas depicts "Pegasus" as the front half of a winged horse (Stevenson 1921).

Pegasus appears in the Leiden *Aratea* (816) as the front half of a winged horse flying to our right.

This constellation appears in the *Revised Aratus Latinus*:

- In several editions (Dresden DC 183, Paris BN 12957, Prague IX. C. 6) Pegasus is depicted as the front half of a winged horse,
- In the Munich 560 edition the rear end of the horse is tapered,
- In the Vat Reg lat 1342 edition Pegasus has his front legs crossed.

The *De ordine ac positione stellarum in signis* ("*On the order and position of the stars in the signs*") in the Salzburg compilation (810 – 818) of Abbot Arno of Salzburg (785 – 821) lists Pegasus as "Equus".

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi's son depicts the front half of a winged horse. One page shows a right profile and the other a left profile.

The oldest known Islamic celestial glove, made between 1080 – 1085 by Ibrahim ibn Sa'id al-Wazzan and his son Mohammad, depicts Pegasus as the front half of a winged horse flying to our right.

The Klosterneuberg 685, Paris BN 5239, Paris BN 5543, Vat lat 643, and Zwettl 296 manuscripts of the 11th century *De signis caeli* list "Pegasus" and "Equus" and depict the front half of a horse flying to the right. The Paris BN 5543 manuscript shows wings, the Paris 5239 manuscript replaces the wings with two parallel lines, and the Vat lat 643, Klosterneuberg 685 and Zwettl 296 manuscripts the wings have disappeared and the horse is eating out of a bowl. The Durham Hunter 100 manuscript of *De signis caeli* depicts "Equus" flying to the right out of an aureole.

The Oxford Laud 644, Padua 27 and Venice VIII 22 manuscripts of the 11th century *De signis caeli ("of the signs of heaven*") depict Pegasus as a winged horse moving to the left while looking back over his right shoulder: The first two editions show half a horse but in the Venice edition someone has added the rear of the horse.

The Doha manuscript (1125) of al-Sufi's *Book of Fixed Stars* depicts Pegasus as the front half of a winged horse. The horse is bridled and has reins.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Pegasus as the front half of a winged horse flying to our right.

Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) depicts Pegasus as the front half of a winged horse flying to our right.

14th century Greek geographer and astronomer Georgius Chrysococcas gave the Greek name "Πήγασος" ("Pigasos") to the star Gamma (γ) Pegasi.

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Pegasus as the front half of a winged horse flying to our left.

The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.168v-169r depicts this as the front half of a winged horse flying to our right. The label is hard to make out but appears to read "Equus Volans".

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.71v-72r depicts Pegasus as a winged four-legged animal facing to our right. It is not labelled and poorly drawn, looking more like a winged cow than a horse. Its rear legs are overlapped by Andromeda.

The *Germanicus Aratea* (Siciliensis, c. 1469) and the *Germanicus Aratea* with scholia Strozziana (c. 1475) depict Pegasus as the front half of a winged horse flying to our right.

The 15th century *Alfonsine Tables* added the adjective "Alatus" ("winged"). The 1551 edition of the *Almagest* listed it as "Equus Pegasus" ("the horse Pegasus"), which in the 17th century became "Pegasus Equus Alatus" ("winged horse Pegasus"). German uranographers Albrecht Dürer, Conrad Heinvogel and Johann Stabius depicted this constellation on their 1515 map as the front part of a winged horse emerging from a cloudy ring.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Pegasus as the front half of a winged horse flying to our right. It is not labelled.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Pegasus as a complete horse with wings on its back and on its feet, galloping to our left.

De Astronomica ("the astronomy"), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This labels the constellation "Equus" and depicts it as the front half of a winged horse emerging from a cloud.

The Constance Celestial Globe (1493) of German astronomer Johann Stöffler (1452 – 1531) labels this constellation "EQV(VS) Z […] ALAT(VS)" and depicts it as the front half of a winged horse.

The early 16th century Real Academia de Historia, manuscript D-97, f.101v depicts Pegasus as the front half of a winged horse flying to our right. It is not labelled. The Real Academia de Historia manuscript D-97, f.104v – 105r depicts it facing to our left.

The "Nuremburg Maps" *(Die Karte des Nördlichen Sternenhimmels* inv.-Nr. Hz 5576), a pair of celestial hemispheres made in 1503 by Conrad Heinfogel, labels this "Equus Pegasus" and depicts it as the front half of a winged horse flying to our right.

The *imagines coeli septentrionales cum duodecint imaginibus zodiaci* (“images of the northern sky with twelve images of the zodiac”), commonly known as the *Northern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius labels this “Pegasus” and depicts it as the front half of a winged horse flying to our right emerging from a cloud.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts Pegasus as the front half of a winged horse.

The *Horoscopion generale* (1533) of Petrus Apianus (1495 – 1552) depicts Pegasus as the front half of a winged horse with harness. It is galloping to our left.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts Pegasus in the same manner as Dürer et al.

Gores for a celestial globe by German polymath Johann Schöner (1477 – 1547) from 1515 LIST “Equus Pegasus”, but those from 1534 and 1535 simply list “Pegasus” (Dekker & Lippincott, 1999). Celestial globe gores (1517) of Schöner depicts “Equus Pegasus” as the front half of a winged horse flying to our right.

The celestial globe depicted in Hans Holbein’s *Double Portrait of Jean de Dinteville, the Bailly of Troyes, and Georges de Selve, Bishop of Lavaux* (more commonly known as “*The Ambassadors*”) from 1533 lists “EQVVS PEGASVS” (Dekker & Lippincott, 1999). A celestial globe atop a planetary clock modified by Oronce Fine in 1553 (the “Paris Globe”) lists “EQVVS PEGASVS” (Dekker & Lippincott, 1999).

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts “Pegasus” as the front half of a winged horse emerging from a cloud to our left.

Dele Stelle Fisse (“Of the Fixed Stars”) by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as “Del cavallo alato” (“the winged horse”). The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus both as the “Winged Horse” and as ”Pegasus”.

The Northern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Pegasus as the front half of a winged horse flying to our right out of a cloud.

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists this constellation as “Equus Alatus, sev Pegasus” in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts “Pegasus” as the front half of a winged horse emerging from a cloud.

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicted “Equus alatus seu Pegasus” as the front half of a winged horse facing to our right.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts “Pegase” as the front half of a winged horse emerging to our left from a cloud.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts “Pegasus” as the front half of a winged horse flying to our right out of a cloud.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts “Pegasus” as the front half of a winged horse emerging from a cloud to our right.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) labels Pegasus “Equus” and depicts it as the front half of a winged horse facing to our right emerging from a cloud.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) depicts Pegasus as the front half of a winged horse emerging from clouds.

Danish astronomer Tycho Brahe’s *Astronomiae Instauratae Progymnasmata* (1602) lists this constellation as “Pegasus, Equus Alatus”.

German Uranographer Johann Bayer (1572 – 1625) depicts it in the charts in his *Uranometria* in 1603 as the front half of a winged horse emerging from a cloud. Bayer lists these names for Pegasus in the *Uranometria*: “Gorgoneus, Medusaeus, Equus, Equus Major, Equus Secundus, Equus Posterior, Equus Volans, Equus Aerus, Equus Dimidiatus, Sagmarius Caballus, Menalippe, Theano, Alpheras, Bellerophon, Bellerophontes”.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts “Pegasus” as the front half of a winged horse emerging from a cloud.

“Pegasus” is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and depicted as the front half of a winged horse emerging from a cloud flying to the left.

Giovanni Paolo Gallucci’s *Theatrum Mundi, et Temporis* (1614) labels this constellation “Pegaso o Equus Allatus” (“Equus or Winged Equus”) and depicts it as the front half of a winged horse galloping to our right.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the names “Pegasus” and “Equus Alatus”.

The *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) depicts Pegasus as the front half of a winged horse emerging from a cloud, heading to our left. NOTE: This is not labelled, but Equuleus next to this constellation is labelled “Equus Minor”.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts “Pegasus” as the front half of a winged horse.

The huge *Gottorf Globe* (c1650) made for the Duke of Holstein, Frederick III, one of the world’s first planetariums, depicts Pegasus as the front half of a winged horse flying to our left and emerging from a cloud.

Pegasus is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 and depicted as the front half of a winged horse.

Dutch cartographer Frederik de Wit’s *Planisphaerium Coeleste* (1670) depicts Pegasus as the front half of a white winged horse emerging from a cloud: This horse has multi coloured feathers.

German poet Philipp von Zesen (1619 – 1689) named it “Pegasides”.

The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678 by English uranographer James Clerk depicts Pegasus as the front half of a winged horse emerging from a cloud.

English uranographer John Seller’s *A coelestiall planisphere* (1678) depicts “Pegasus” as the front half of a winged horse emerging from a cloud.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts “Pegasus” as the front half of a winged horse.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this “Pegase”, “Pegasus” and “΄Ιππος” and depicts it as the front half of a winged horse flying to our right.

French astronomer Jérôme Lalande (1732 – 1807) added the adjective “Ephippiatus” (“caparisoned”), and others added “Cornipes” (“horn footed”), “Volans” (“flying”), “Aëreus” (“airy”), and “Sonipes” or “Sonipes Ales” (“noisy footed”).

A celestial pocket globe created by British uranographer Herman Moll in 1719 depicts “Pegasus” as the front half of a winged horse flying to the right.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley’s pirated catalogue of Flamsteed’s observations of 1712, depicts Pegasus as the front half of a winged horse.

Pegasus is listed in English astronomer John Flamsteed’s *Atlas Coelestis* in 1729: It is depicted as the front half of a winged horse.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depics “Pegasus” as the front half of a winged horse flying to our left.

The *Atlas Coelestis* of German astronomer Johann Gabriel Doppelmayr (1742) depicts “Pegasus” as the front half of a winged horse emerging from a cloud to our left.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Pegasus as the front half of a winged horse flying to our left. It is emerging from a cloud.

French uranographer Gabriel Phillipe de la Hire’s *Planisphere Celeste* (1760) depicts “Pegase” as the front half of a winged horse emerging from a cloud.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts “Pegasus” as the front half of a winged horse running to our right.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts “Pegase” as the front half of a winged horse, as does the 1778 edition.

Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists this constellation as “der Pegasus” in the text and “Pegasus“ on the charts, where it is depicted as the front half of a winged horse.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as "Pegaso" in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts "Pegasus" as the front half of a winged horse emerging from a cloud.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as "Pegasus" and depicts it as the front half of a winged horse.

American uranographer William Croswell (1760 – 1834) depicts "Pegasus the Flying Horse" on his *Mercator Map of the Starry Heavens* in 1810 as the front half of a winged horse.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Pegasus it in his *Celestial Atlas* and his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822): Pegasus is depicted as the front half of a winged horse.

"Pegasus" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as the front half of a winged horse emerging from a cloud.

English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Equus alatus".

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts "Pegasus" as the front half of a winged horse flying to our right.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts "Pegasus" as the front half of a winged horse.

Pegasus is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on Jamieson's *Celestial Atlas*. Pegasus is depicted as the front half of a winged horse.

"Pegasus" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It is depicted as the front half of a winged horse.

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Pegasus, The Winged Horse" as an official constellation "recognized in the catalogue of the British Association".

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as "Pegasus, the Winged Horse".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Pegasus" in his *Star Atlas* (1893).

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Pegasus" and describes it as a "Winged horse".

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Pegasus".

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) radically redesigned the lines of Pegasus in his book *The Stars - A New Way to See Them* (1952). The standard IAU constellation is formed around the Square of Pegasus,

with lines running out from the corners, one being connected to Andromeda. Rey's version eliminates the Square of Pegasus entirely:

- His "body" becomes the quadrilateral of stars Alpha (α) Pegasi (Markab), Lambda (λ) Pegasi, Iota (ι) Pegasi, and Xi (ξ) Pegasi,
- His "wing" is the triangle of stars Markab, Beta (β) Pegasi (Scheat), and Gamma (γ) Pegasi,
- His "head" is a line of stars from Lambda (λ) Pegasi through Mu (μ) and Eta (η) Pegasi to Pi (π) Pegasi,
- Two lines run out from Iota (ι) Pegasi to form "front legs":
    - One to 9 Pegasi,
    - One through Kappa (κ) Pegasi to 1 Pegasi,
- Two lines run out from Zeta (ζ) Pegasi to form "back legs:
    - One to Theta (θ) Pegasi, and
    - One to Epsilon (ε) Pegasi,
- Two lines of stars run out from Markab to form a "tail":
    - One to 55 Pegasi, and
    - One to 59 Pegasi.

Pegasus is known to the French as "Pégase" and to the Italians as "Pegaso".

Pegasus Dwarf:

This **telescopic** asterism is the dwarf galaxy UGC 12613 in the IAU constellation Pegasus. It was discovered by A. G. Wilson in the 1950s. It is also known as the "Foal of Pegasus" (see above).

Pehui-tchat:

This Egyptian decan "Pehui-tchat" was in the IAU constellation Leo. In later Hellenistic texts it was named "ϕογτητ" ("Phu-tet"). In the Testament of Solomon, it became "Soubetti", Aristobulus of Paneas called it "Hayas", in Greek Hermeticism it became "Pahtiti", in Latin Hermeticism "Frich", 4th century Roman astrologer Julius Firmicus Maternus called it "Futile" or "Eisie", Cosmas of Maiuma (d. 760) called it "Sarapis", French scholar Joseph Justus Scaliger (1540 - 1609) called it "Phuonisie", and German Jesuit astronomer Athanasius Kircher (1602 – 1680) called it "ⲛⲉϕⲑⲏ" ("Nephthe"). Variations include "Phatiti". It has been depicted as a wild faced man with one hand up in greeting and one holding a flask.

Peixi Boi:

R. H. Allen lists this as "a dark spot in the sky near Orion" in his *Star Names* in 1899 and that the star Alpha (α) Orionis (which he calls "Betelgeuze") is an old man chasing it. Allen only identifies this as an "Amazon River myth" without naming the precise culture or source.

Peittyn:

This Chukchi asterism "Peittyn" is the stars Alpha (α) Aquilae (Altair) and Gamma (γ) Aquilae (Tarazed) in the IAU constellation Aquila. The rising of this asterism marks the winter solstice and new year.

Peka:

This Polynesian asterism is the IAU constellation Crux.

Pekehawani:

This Māori star is nearby their star Rehua, Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius. Rehua is seen as a bird with one wing broken who mates with Pekehawani or Ruhi-te-rangi (a star close by). The other star close by, Whaka-onge-kai ("she who makes food scarce before the new crops can be harvested") is his other mate. It is not certain precisely which stars these are.

Pelenor:

This Latin asterism is the IAU constellation Centaurus, also known as "Pelethronius". This is a reference to the mountain home of the Centaurs in Thessaly.

Pelethronius:

This Greek asterism "Pelethronius" is the IAU constellation Auriga. Pelethronius was believed by the Greeks to be the inventor of the bridle and saddle.

Pelican:

This Ikoots asterism "Šikip" is the Pleiades cluster in the IAU constellation Taurus.

Pelican Hat:

This **telescopic** asterism is RGS2011 in the IAU constellation Cygnus inside the HII region IC 5070 (see Pelican Nebula, below) . It is listed on Brazillian astronomer Bruno Alessi's BDCC 7.6 list.

Pelican Nebula:

This **telescopic** asterism is HII region IC 5070 (LBN 350, Ced 183c) and IC 5067 (LBN 353, Ced 183a) in the IAU constellation Cygnus near Alpha (α) Cygni (Deneb). This was discovered by English astronomer Reverend Thomas Henry Espinell Compton Espin (1858 – 1934) along with IC 5068.

Pen of Leo:

This **telescopic** asterism "Arátrum Leónis" is the edge on spiral galaxy NGC 3279 (IC 622) in the IAU constellation Leo. It was discovered by American astronomer David Peck Todd in 1878. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Penalty:

This Korean asterism "Paeneolti" (패널티) is a line of three stars in the IAU constellation Scorpius: HIP 79788, 79599, and 79524.

Pencil:

There are two **telescopic** "Pencil" asterisms:

- One, the Pencil Nebula, is NGC 2736 (RCW 35), a part of the Vela Supernova Remnant in the IAU constellation Vela. It was recorded by English astronomer John Herschel in 1835 and listed it as h 3145. It is GC 1745 in the *General Catalogue* of 1864. It is also known as Herschel's Ray (see above). Next to it is an asterism called the "Pincers".
- One is the galaxy NGC 55 (Caldwell 72) in the IAU constellation Sculptor. It was discovered by Scottish astronomer James Dunlop in 1827. It is GC 27 in John Herschel's 1864 *General Catalogue*. John Dreyer describes it in the 1888 *New General Catalogue* as "trinuclear". South

African astronomer Magda Streicher describes its pencil shape in her observations starting in 1997. It is also known as the String of Pearls (see below).

Penguin:

This **telescopic** asterism NGC 2936 (Arp 142) is an elliptical galaxy in the IAU constellation Hydra. It is interacting with the spiral galaxy NGC 2937, which is known as the Egg Galaxy (see above). They were both discovered by German astronomer Albert Marth in 1864, becoming 175 and 176 on his list. It is GC 5497 in the General Catalogue of 1864. It is also known as the Porpoise (see below).

Pentagon:

This Estonian asterism is made up of stars in the IAU constellation Pisces (Kuperjanov 2006): Gamma (γ), Kappa (κ), Lambda (λ), Iota (ι), and Theta (θ) Piscium.

There are three **telescopic** "pentagon" asterisms:

- One is NGC 6776, an elliptical galaxy in the IAU constellation Pavo. This was discovered in 1847 by English astronomer John Herschel who listed it as h 3787 and later as GC 4483 in the *General Catalogue* of 1864.
- One is Sánta 98, listed in 2007 by Hungarian astronomer Sánta Gábor, is a pentagon of six stars of magnitude 8 – 11.5 in the IAU constellation Eridanus.
- One is made up of stars of the IAU constellations Scorpius. *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), describes it this way: "A little close inspection with the naked eye will show three fifth or sixth magnitude stars above Antares and Sigma (σ), which form, with those stars, the figure of an irregular pentagon." He goes on to identify another of these stars as "number 22" and another (incorrectly) as "Rho in Ophiuchus". The pentagon is actually the stars Alpha (α) Scorpii (Antares), Sigma (σ) Scorpii, Omicron (ο) Scorpii, 22 Scorpii, and Rho (ρ) Scorpii.

People in a Boat:

This Wiyot asterism is the Pleiades cluster in the IAU constellation Taurus.

People Sitting Around a Fire:

This Khoikhoi asterism is the IAU constellation Corona Australis (Kemp et al 2022).

People Working:

This Salish asterism Esʔsḱʷúʔuì̀ms ("people working") also known as ƛiyéʔ ("bark canoe"- see above) is the IAU constellation Orion (Pete 2023). The story tells of who were sent into the sky by Blue Jay (Stellers Jay - Qʷásqʷiʔ) to protect them from Storm who sought to drown them:

- The three stars of the belt of Orion asterism are the canoe.
- Alpha (α) Orionis (Betelgeuse), Gamma (γ) Orionis, Kappa (κ) Orionis, Beta (β) Orionis (Rigel), and the sword of Orion asterism are the five young men.

Perch:

This Wardaman star "Narong" or "Ngorrong" is Theta (θ) Tauri in the IAU constellation Taurus as listed by Cairns and Harney in 2003 and one of the stars in their asterism "Little Fishes" (see above).

Peregrine Falcon:

This Perso-Arabic star "aš-šāhīn" (الشاهين) is Beta (β) Aquilae in the IAU constellation Aquila:

- This was later latinized to "Alshain".
- English Admiral Henry William Smyth's *Prolegomena* of 1844 lists "Alshain" and his *Bedford Catalogue* in 1844 lists "al sháhin, the falcon, which, though used as an Arabic word, is Persian".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Alshain".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists both "Alshain" and "Alshairn" for this star, but the 14th edition (1959) only lists "Alshain" for this star.
- The IAU has approved the name Alshain for Beta (β) Aquilae A.

Perfect of Indus:

This **telescopic** asterism "Télea Índi" is the grand design spiral galaxy NGC 7096 in the IAU constellation Indus. It was discovered in 1836 by John Herschel who listed it as h 3874 and later as GC 4684 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "this galaxy is one of the most regular spirals in the sky."

Perfect Spiral Galaxy:

See Phantom Galaxy, below.

Perimeter:

This Greek star "περίγειος" or "perigeios" is Alpha (α) Carinae (Canopus) in the IAU constellation Carina as described by Eratosthenes (d.194 B.C.E.).

Perpendicular One of Ursa Major:

There are two **telescopic** "Perpendicular One of Ursa Major" asterisms:

- One, "Orthogónia Úrsae Majóris", is the lenticular and polar ring galaxy NGC 2685 (Arp 336) in the IAU constellation Ursa Major. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name because of "the polar rings perpendicular to the plane of the galaxy". It is also known as the "Pancake Galaxy" (see above) and the Helix (see above).
- One, "Perpendiculáris Úrsae Majóris" is the spiral galaxy NGC 3788 (Arp 294) in the IAU constellation Ursa Major. It was discovered in 1827 by John Herschel who listed it as h 932 and later as GC 2480 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the major axis of NGC 3788 forms a right angle with the major axis of its companion NGC 3786".

Persea:

This asterism is the IAU constellation Andromeda. Johann Bayer's *Uranometria* (1603) lists the name "Persea". English Admiral Henry William Smyth lists this name in his *Bedford Catalogue* in 1844. Compare to Persea Tree (below).

Persea Tree:

This proposed Egyptian asterism "išd" from the Old Kingdom (3100 B.C.E.) is an unidentified sacred tree that was guarded by Ra in his cat form and is the IAU constellation Perseus and is related to their 13th nome (district) "nḏft-ḫntt" in Upper Egypt (Berio 2014). Compare this to the proposed asterism Min (see Tree, below).

Persephone:

This Greek asterism is the IAU constellation Virgo as listed in R. H. Allen's *Star Names* in 1899. Persephone is the Greek Goddess of the Underworld, known to the Romans as Proserpine.

Persephone of Cetus:

This **telescopic** asterism "Perséphone Céti" is the lenticular galaxy NGC 547 (Arp 308) in the IAU constellation Cetus. It was discovered in 1785 by English astronomer William Herschel who listed it as "II 449". It became GC 323 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010). This galaxy is near NGC 545, which they named "Demeter of Cetus".

Perseus:

The brightest star in Perseus is the 2nd magnitude Alpha (α) Persei (Mirfak) which is the 35th brightest star on the list of 90 brightest stars, and the second brightest is Beta (β) Persei (Algol), a variable star that is 61st on the list. The stars of this constellation appear in 229 of the asterisms in this handbook.

This IAU constellation (IAU abbreviation Per) was first mentioned in Aratus' poem *Phaenomena* (270 B.C.E.) and in the 2nd century became one of Ptolemy's 48 original constellations "Περσεύς" ("Perséfs"). It is named for the hero in Greek myth who killed the Gorgon and therefore had the Latin name "Perseus et Caput Medusae" ("Perseus and the Head of Medusa"). The myths of Perseus are related to myths regarding Andromeda and Pegasus. It originated in the Babylonian asterism "SI.GU" (see Old Man, above). It may have been influenced by the proposed Egyptian asterism Persea Tree (see above).

Ptolemy's version of this constellation looked like this:

- The "body" had the stars 36 Persei and Delta (δ) Persei as the "hips" and Gamma (γ) Persei and Theta (θ) Persei as the "shoulders" with Iota (ι) Persei as the "base of the neck". Note: Alpha (α) Persei (Mirfak) was listed as "the bright star in the right side".
- His "head" was Tau (τ) Persei.
- One "arm" ran from Gamma (γ) Persei to an "elbow" at Eta (η) Persei and a "hand" at the star HIP 11020.
- The other "arm" ran from Theta (θ) Persei to an "elbow" at Kappa (κ) Persei to "Medusa's head", which was a pentagon of the stars Beta (β) Persei (Algol), HIP 13949, 22 Persei, Rho (ρ) Persei, and Omega (ω) Persei.

The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) depicts this constellation as a nude male wearing a winged helmet with a sword raised in his left hand and holding a head in his right hand.

The Mainz Globe from the eastern end of the Roman empire (c. 150 – 220 C.E.) depicts Perseus as a nude male walking away from us to the left carrying a head in his left hand.

Perseus appears in the Leiden *Aratea* (816) as a nude male with winged feet running to our left: He is wearing a cape and helmet, has a sword raised in his right hand, and is carrying Medusa's head in his left hand.

Editions of the 8th century *Revised Aratus Latinus* depict Perseus in various ways:

- In several editions (Dresden DC 183, Paris BN 12957, Prague IX. C) he is shown wearing a long cloak and hat
- Perseus is facing away from us in all the manuscripts except the Dresden DC 183 and Paris BN n.a. 1614 manuscripts,
- In several editions (St Gall 250, St Gall 902, Ps Bede DSC, Montecassino 3) he has a striped cloak and appears to be holding a palm leaf rather than a knife.
- In the Vat Reg lat 1324 and Cologne 83 II editions he is nude.
- In the Cologne 83 II edition he is rushing to the left holding a long weapon behind him,
- Two editions (Gottweig 7 (146), Siena L. IV. 25) depict Perseus with winged ankles,
- In the Paris BN 12597 edition his left ankle has wings.

The 9th century Berlin 130, Madrid 3307, Monza F.9/176 and Vat lat 645 manuscripts of the *De ordine ac positione stellarum in signis* depict Perseus nude, rushing to the right holding the head of the Medusa. The Munich 210 and Vienna ÖNB 387 manuscripts of the *De ordine ac positione stellarum in signis* depict Perseus with Medusa's head in his left hand and a palm frond on his right shoulder. The Austin, TX, Ransom Ms 29 and St. Petersburg, Q.V. IX, no.2 manuscripts of the *De ordine ac positione stellarum in signis* depict Perseus holding his club in front of him and Medusa's head behind him, but the Paris BN n.a. 1614 manuscript has Perseus wearing a helmet and holding a straight sword and a disc with a female head in front of him. The Paris BN, 12117 and Vat Reg lat 309 manuscripts of the *De ordine ac positione stellarum in signis* depict Perseus running to the left with a cloak billowing behind him, holding a sword aloft in his left hand and Medusa's head behind him in his right hand. The Paris BN lat 8663 manuscript of the *De ordine ac positione stellarum in signis* depicts Perseus with winged feet, wearing a loin cloth, carrying a scimitar in his upraised left hand and Medusa's head in his right hand. The Los Angeles, Getty Ludwig XII manuscript of the *De ordine ac positione stellarum in signis* depicts a nude Perseus wearing a cap, carrying a club in his right hand and Medusa's head in his left.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi's son depicts Perseus as a clean-shaven male with short hair, looking over his shoulder to his left, wearing a knee-length robe and pangs. He does not have winged feet. On one page he is holding a severed demon's head in his left hand and is brandishing a straight bladed sword over his head with his right hand. On the other page he is holding a severed demon's head in his right hand and is brandishing a straight bladed sword over his head with his left hand.

The oldest known Islamic celestial glove, made between 1080 – 1085 by Ibrahim ibn Sa'id al-Wazzan and his son Mohammad, depicts Perseus as a nude male striding to our right with his body turned so that we see him from behind. He is holding some sort of scimitar over his head in his right hand and is carrying Medusa's severed head in his left hand. It does not show wings on his feet.

The 11th century *De signis caeli ("of the signs of heaven*") lists "Perseus, qui fertur tenere capud Gorgonis" ("Perseus, who is brought to hold the head of the Gorgon"). The Oxford Laud 644, Padua 27 and Venice VIII 22 manuscripts of *De signis caeli* depict him nude with a flowing cloak, walking to the

left with winged feet. He is carrying Medusa's head in one hand and holding a harpë (a type of sword) in the other hand behind his head. The Dijon 448 manuscript of *De signis caeli ("of the signs of heaven*") does not show wings on his feet. The Klosterneuberg 685, Paris BN 5239, Paris BN 5543, Vat lat 643, and Zwettl 296 manuscripts of *De signis caeli* depict wings on his feet: All but the Klosterneuberg manuscript show Medusa with hair, the Klosterneuberg version replacing the hair with snakes. The Durham Hunter 100 manuscript of *De signis caeli* depicts Perseus with no wings on his feet and wearing a peculiar cap. The Montecassino 3 manuscript of *De signis caeli* depicts him without winged feet carrying a club in his right hand.

The 12th century Vienna ÖNB Vindob 12600 manuscript of the *De ordine ac positione stellarum in signis* depicts Perseus with a sickle in his left hand.

Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) depicts Perseus as a male in a knee length tunic running to our right. He is brandishing a straight bladed sword over his head in his left hand and is holding Medusa's severed head in his right hand. It is labelled "hāmil ra's al-ghūl" ("the one who holds the demon's head").

The Cusanus celestial globe of Cardinal Nicholas Cusa (1414) depicts Perseus as a nude male wearing a full-face helmet of the sort that appeared after the end of the thirteenth century, covering the wearer's entire face with a vision slot on the front. He is facing to our right, brandishing a sickle with a saw tooth edge over his head with his left hand and holding a severed female head in his right hand.

The mid 15th century Wein, Oesterr. National Bibl., manuscript Lat 5415, ff.168v-169r depicts "Perseus" as a nude male viewed from the rear as he runs to our right. He is holding the severed head of Medusa in his left hand and is brandishing a scimitar over his head with his right hand.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.71v-72r depicts Perseus as a nude figure striding to the right as viewed from behind. A poorly drawn head is in this figure's left hand and this figure is brandishing a scimitar above its head. It is not labelled.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Perseus as a nude figure with winged feet turned to our right. The figure is holding a severed head in his left hand and is brandishing a scimitar over his head. It is not labelled.

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Perseus as a bearded male stepping to our right. He is dressed in calf length green robes and has a sort of red toque with a pompom on his head. He is holding longsword over his head in his left hand and holding a severed head in his right hand. This head is completely covered in black hair.

The vault of the Old Sacristy of the Basilica di S. Lorenzo in Firenze, Italy (1442) depicts Perseus as an armoured male turned slightly to our left. He is holding a severed head in his left hand and is brandishing a scimitar over his head.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Perseus as a nude male facing away from us to our left. He has a cape on his shoulders and is wearing a pointed hat. On his left arm is a shield with a dragon design and in his left hand he is holding the severed head of Medusa. He is brandishing an axe over his head in his right hand.

The *Germanicus Aratea* (Siciliensis, c. 1469) depicts Perseus as a nude male pe walking to our left with a drapery over his head and shoulders. He is holding a bill hook in his left hand and Medusa's severed head in his right hand.

De Astronomica ("the astronomy"), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This depicts "Perseus" as a bearded male with winged feet with a cloth draped loosely over him. He is walking and looking over his left shoulder and has a scimitar in his right hand and a severed head "Gorgona" in his left hand.

The *Germanicus Aratea* with scholia Strozziana (c. 1475) depicts Perseus as a nude male facing to our left with a drapery wrapped over his head and shoulders. He is holding a spear in his right hand and Medusa's severed head in his left hand.

The Constance Celestial Globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts "Perseus" as a male with winged feet wearing a loincloth as seen from behind. He is holding a scimitar over his head in his right hand and holding Medusa's severed head in his left hand.

The early 16th century Real Academia de Historia, manuscript D-97, f.101v depicts Perseus as a nude male facing us. In his raised right hand, he holds a severed head and he is brandishing a straight sword over his head in his left hand. It is not labelled. Real Academia de Historia, manuscript D-97, f.104v – 105r depicts him reversed, holding that sword over his head in his right hand and a severed head in his left hand.

The "Nuremburg Maps" *(Die Karte des Nördlichen Sternenhimmels* inv.-Nr. Hz 5576), a pair of celestial hemispheres made in 1503 by Conrad Heinfogel, depicts "Perseus" as a nude bearded male with winged feet as viewed from behind. He is brandishing a scimitar above his head in his right hand and holding "CAPVT ALGOL" at his side in his left hand.

The *imagines coeli septentrionales cum duodecint imaginibus zodiaci* ("images of the northern sky with twelve images of the zodiac"), commonly known as the *Northern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius depicts "Perseus" as a nude bearded male with winged feet as viewed from behind. He is brandishing a scimitar above his head in his right hand and holding "Caput Meduse" at his side in his left hand (Dekker & Lippincott, 1999).

Gores for a celestial globe by German polymath Johann Schöner (1477 – 1547) from 1515, 1534, and 1535, do not depict Perseus holding Medusa's head. The 1515 gores list "Perseus" but the later gores list "PERSEVS". Celestial globe gores (1517) of Schöner depicts "Perseus" as a male in full steel armour walking away from us to our right. His empty right hand is raised skyward and he is carrying Medusa's severed head in his left hand. A celestial globe (1522) of Schöner depicts Perseus as a nude male with winged feet with his back to us. He is holding Medusa's severed head in his left hand and is brandishing a scimitar over his head in his right hand.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts "PERSEVS: as a male facing away from us with the severed head of Medusa in his left hand and a sword raised over his head in his right hand: Other details are hard to make out due to damage on the globe.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts "Perseus" as a nude male facing away from us holding the head of Medusa: Details are hard to make out due to damage to the globe.

The *Horoscopion generale* (1533) of Petrus Apianus (1495 – 1552) depicts the severed head of Medusa, but NOT Perseus.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts Perseus in the same manner as Dürer et al.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts "Perseus" as a nude male with winged feet striding away from us. He is holding a scimitar over his head with his right hand and his left hand is holding Medusa's severed head.

Dele Stelle Fisse ("Of the Fixed Stars") by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as "Di Perseo". The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as "Perseus".

The Northern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Perseus as a nude male with his back to us, running to our right. He is brandishing a curved sword over his head in his right hand and is holding a severed head at his side with his left hand.

A celestial globe atop a planetary clock modified by Oronce Fine in 1553 (the "Paris Globe") lists "PERSEVS" (Dekker & Lippincott, 1999).

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists Perseus in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts "Perseus" as a male in tunic and tall winged boots holding a sword over his head in his left hand and Medusa's head in his right hand.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts "Perseus" as a male with winged feet facing to our right, brandishing a scimitar over his helmeted head in his right hand and holding the head of Medusa in his left hand.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts "Perseus" as a nude male with winged feet as viewed from the rear. He is holding Medusa's severed head in his left hand and is brandishing a scimitar over his head.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) depicts "Perseus" as a younger nude male with winged feet facing away from us. He has a hook in his raised right hand and a severed head in his left hand. He is wearing a pointed cap and has drapery over his left shoulder.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) depicts Perseus from behind carrying Medusa's head in his right hand.

Perseus is listed in Danish astronomer Tycho Brahe's *Astronomiae Instauratae Progymnasmata* (1602).

German Uranographer Johann Bayer (1572 – 1625) depicts this in his *Uranometria* in 1603 as a man with winged feet holding aloft a sword in his left hand and holding a head in his right hand: He has a shield on his right arm and a helmet on his head and is walking away from us. Bayer lists these names for this constellation: "Perseus, Cyllenius, Deferens cathenam, caput Algol, Aloue, Cacodaemonis, Medusae, Gorgonisue, Inachides, Cheleub sue Chelub, Canis".

"Perseus" is listed on the *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) and depicted as an armoured male viewed from behind. He has winged boots and has a sword raised above his head in his right hand, and his holding Medusa's head in his left hand.

"Perseus" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and depicted as a male wearing a thigh length tunic, winged boots, and helmet, with a sword raised over his head in his right hand and a round shield on his left arm: He is holding Medusa's head in his left hand.

Giovanni Paolo Gallucci's *Theatrum Mundi, et Temporis* (1614) depicts "Perseo" as a bearded male viewed from behind, wearing winged sandals, with a cloth wrapped around his waist. He "flying" and looking to our right, brandishing a scimitar over his head, and holding the severed head of Medusa in his left hand.

The *Tabulae Rudolphinae* 1627) of Johannes Kepler (1571 – 1630) lists the name "Perseus" for this constellation.

"Perse" is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as an armoured male with winged feet with his right hand holding a scimitar over his head and this left hand holding the head of Medusa.

A Persian translation of the Almagest by Hasan ibn Sa'd al-Qā'īnī depicts Perseus as a bearded male wearing a turban decorated with a feather. He has boots but they are not winged. He is holding a dagger over his head in his left hand and is holding a severed head by its ponytail in his right hand.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts "Perseus" as a male in a toga with is back to us, running to our right, looking over his left shoulder. He is brandishing a sword over his head in his right hand and is holding the severed head of "Caput Meduse" in his left hand.

The huge *Gottorf Globe* (c1650) made for the Duke of Holstein, Frederick III, one of the world's first planetariums, depicts Perseus as a male in Roman style armor as viewed from behind, slightly turned to our left. He has winged sandals. He is brandishing a scimitar over his head in his left hand and is holding a severed head in his right hand.

Perseus is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 and depicted as a male with winged feet: He is dressed in red and green carrying a ghoul's head.

Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) depicts Perseus as a male viewed from behind wearing a tunic and pants with winged boots: He is holding a scimitar over his head in his right hand and Medusa's head in his left hand.

The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678 by English uranographer James Clerk depicts "Perseus" as an armoured male viewed from the rear wearing a helmet, brandishing a sword above his head with his left hand and holding Medusa's head in his right hand.

English uranographer John Seller's *A coelestiall planisphere* (1678) depicts "Perseus" as a male with winged feet in a thigh length tunic and helmet with a sword raised over his head in his right hand and a severed head in his left hand.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts "Perseus" as a male with winged feet as viewed from the rear, wearing a short-sleeved thigh length tunic and a helmet with a feather, holding aloft a sword in his right hand and holding Medusa's head in his left hand.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this "Persee", "Perseus", and "Περσεύς" and depicts it as a male with winged feet walking away from us wearing Roman style armour. He is wearing a feathered helmet. He is holding the severed head of Medusa in his left hand and brandishing a scimitar over his head.

A celestial pocket globe created by British uranographer Herman Moll in 1719 depicts "Perseus" as a male viewed from behind who is wearing armour. He has a scimitar raised over his head in his right hand and is holding Medusa's head in his left hand.

Perseus is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729: He is depicted as a bearded male wearing a helmet. He has a scimitar raised in his right hand and is carrying Medusa's head in his left hand.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts Peseus as an armoured male wearing a helmet with a sword raised in his right hand and Medusa's severed head in his left hand.

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) depicts Perseus as an armoured male with a sword raised aloft in his right hand and a severed head in his left hand.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts Perseus" as an armoured male with winged sandals facing away from us, looking over his right shoulder. He is holding a scimitar over his head in his left hand and carrying Medusa's severed head in his right hand.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Perseus as a male with winged feet striding away from us to our left. He is holding a scimitar over his head in his left hand and is holding a severed head in his right hand. He has a round shield on his right upper arm.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) depicts "Persée" as a bearded male with winged feet viewed from behind, wearing a toga and a helmet: He has a sword raised in his left arm and a round shield on his right arm, with Medusa's head in his right hand. NOTE: On Bode's charts Perseus does not have winged sandals.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts Perseus as a male viewed from the rear, brandishing a scimitar over his head in his right hand and holding Medusa's head in his left hand.

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Perseus" and depicts this as a male in a plumed helmet with drapery around his middle with a scimitar raised above his head in his right hand and Medusa's head in his left hand.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as "Perseo" in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "Persée" and a male with winged sandals wearing armor and a helmet: He has a scimitar raised above his head and is holding "la Téte de Méduse" in his left hand. The 1778 edition adds feathers to his helmet.

American uranographer William Croswell (1760 – 1834) depicts Perseus on his *Mercator Map of the Starry Heavens* in 1810 as a long-haired male with winged feet viewed from behind, wearing a turban. He is brandishing a sword over his head in his right hand and holding Medusa's head in his left.

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts "Perseus" as a male with winged feet viewed from behind swinging a sword over his head in his right hand and holding Medusa's head in his left hand.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts "Perseus" as a male with winged feet facing away from us wearing a sort of kilt. He is holding aloft a sword in his right hand and holding Medusa's severed head in his left hand.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Perseus it in his *Celestial Atlas* in 1822: He is depicted as a male wearing an armoured breastplate, helmet, and winged sandals, and is holding a scimitar aloft in his right hand and holding Medusa's head in his left hand. Jameison's *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822) depicts Perseus the same way but labels Medusa's head "Gorgon".

American uranographer Elijah Burritt's *The Constellations for each Month in the Year* (1835) depicts "Perseus" as an armoured male holding a scimitar over his head in his right hand and Medusa's head in his left hand.

"Perseus" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as a male in a knee length tunic and helmet striding to our left holding a sword over his head in his right hand. He has a round shield on his left shoulder and is carrying Medusa's head in his left hand.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts “Perseus” as a male facing left viewed from the rear holding Medusa’s severed head in his left hand.

Perseus is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852: The author is unknown, but it is based on Jamieson’s *Celestial Atlas*. He is depicted wearing a helmet, armour, and winged sandals, with a scimitar raised in his right hand and holding Medusa’s head in his left.

“Perseus” is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): He is depicted as a male with winged sandals in a thigh length tunic with a sword raised above his head in his right hand and Medusa’s head in his left hand.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this constellation as “Perseus” and describes it as “brandishing an enormous sword in his right hand, while at his left is the head of Medusa”.

English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists “Perseus, The Rescuer” as an official constellation “recognized in the catalogue of the British Association”.

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation simply as “Perseus”.

German astronomer Hermann Joseph Klein (1844 – 1914) lists “Perseus” in his *Star Atlas* (1893).

American astronomer Winslow Upton’s *Star Atlas* (1896) lists this constellation as “Perseus” and does not describe it.

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists “Perseus” as “the champion”.

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children’s book *Curious George* (1941) radically redesigned the lines of Perseus in his book *The Stars - A New Way to See Them* (1952):

- His “helmet” is the triangle of stars Gamma (γ), Eta (η), and Tau (τ) Persei,
- His “head” is the quadrilateral of stars Gamma (γ), Tau (τ), Iota (ι), and Alpha (α) Persei (Mirfak),
- His “body” is a bent quadrilateral formed by Mirfak, Iota (ι) Persei, Kappa (κ) Persei, Beta (β) Persei (Algol), Epsilon (ε) Persei, Nu (ν) Persei and Sigma (σ) Persei,
- His “left arm” is the line of stars from Mirfak through Psi (ψ), Delta (δ), 48, Mu (μ), and b Persei to Lambda (λ) Persei,
- His “right arm” runs from Iota (ι) Persei through Theta (θ) Persei and 64 Persei to Phi (ϕ) Persei,
- His “left leg” runs from Epsilon (ε) Persei through Xi (ξ) and Zeta (ζ) Persei to Omicron (ο) Persei,
- His “right leg” runs from Algol through Rho (ρ) Persei to 16 Persei, and
- Rey does not depict Medusa’s head.

Sky and Telescope Magazine, founded in 1941, depicts Perseus in their magazine and publications in the same manner as Reyersbach.

Perseus translates into Arabic as “Barshāūsh”:

- "Barshāūsh" is listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010)
- Later Latinizations include "Bershâush", "Bershawish", "Fersaus", and "Siaush" (there is no letter "P" in the Arabic alphabet).
- "Bersheush" is listed in Edward Sherburne's *Sphere of Marcus Manilius* in 1675.
- "Bershaush" appears in John Hill's *Urania* in 1754.

The French call this constellation "Persée" and the Italians "Perseo".

Perseus A:

This **telescopic** asterism is the Seyfert galaxy NGC 1275 (Caldwell 24) in the IAU constellation Perseus. It was discovered by Prussian astronomer Heinrich d'Arrest and became GC 675 in the *General Catalogue* of 1864. It is also known as "Conception of Perseus" (see above).

Perseus Lenticular Galaxy:

This **telescopic** asterism is the barred lenticular galaxy NGC 1023 (Arp 135) in the IAU constellation Perseus. It was discovered in 1784 by William Herschel who listed it as "I 156". It became 244 on his son John Herschel's list and GC 574 in the *General Catalogue* of 1864. It is also known as "Nodifera Persei" ("Bearing a Knot of Perseus").

Perseus' Wife:

This Latin asterism is the IAU constellation Andromeda. This asterism "Perseus Uxorem" is the IAU constellation Andromeda and is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

Persia:

This Chinese xing guan "Bōsī" (波斯) is an angular, tightly wound spiral of stars in the IAU constellations Indus and Telescopium. Starting at the star HIP 97816A, the line spirals inward through Xi (ξ) Telescopii, Alpha (α) Indi, HIP 106065, Delta (δ) Indi, HIP 108626, and Eta (η) Indi, ending at the star Iota (ι) Indi.

Persian:

This Jesuit star "Persian" is Alpha (α) Indi in the IAU constellation Indus. It was given this name by Jesuit missionaries in China, where the star is called Pe Sze.

Person Living on the Side of a Mountain:

This Latin star "Tramontane" or "Tramontana" is the IAU constellation Ursa Minor. The "heavenly mountain", Mons Coelius, is Alpha (α) Ursae Minoris (Polaris):

- 14th century author John Mandeville (Jehan de Mandeville) called it "Sterre Transmontane" in his *Travels of Sir John Mandeville*.
- English alchemist and translator Richard Eden (c.1520 – 1576) called it "Tramontana".
- German astronomer Johann Bayer (1572-1625) listed the name "la Tramontana" in his Uranometria in 1603.

- This is listed in R. H. Allen's *Star Names* in 1899. Allen writes that this name was by his time only used for Polaris. Allen also writes of several references to a mountain in the north that is the habitation of the Gods, including English orientalist Archibald Henry Sayce (1845 – 1933), German philosopher Johann Gottfried von Herder (1744 – 1803), and American philologist William Dwight Whitney (1827 - 1894).
- NOTE: There is an old Italian expression "losing his Tramontane" when one has lost his bearings.

Perspective:

This Greek star "Προόπτης" or "Proóptis" is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major as listed by Plutarch (c.46 – 119). R. H. Allen translates this as "the leader" in his *Star Names* in 1899.

Perspective of Coma Berenices:

This **telescopic** asterism "Prospectíva Cómae Bereníces" is the barred spiral galaxy NGC 4448 in the IAU constellation Coma Berenices. William Herschel listed this as "I 91". John Herschel listed it as h 1280 and later as GC 3001 in his *General Catalogue* of 1864 This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it is edge-on, this being a reference to "Prospectiva", a Renaissance Latin name for a drawing in perspective.

Persson's Star:

This **telescopic** star is V733 Cephei, an FU Orionis type object in the IAU constellation Cepheus. It is named after astronomer R. Persson.

Pési:

This Kaykavian asterism is the IAU constellations Canis Major and Canis Minor.

Pestle:

This Chinese Chenzhuo xing guan is a line of three stars in the IAU constellation Telescopium: Alpha (α) Telescopii, HIP 90414, and Zeta (ζ) Telescopii.

Pestle (in Rooftop Mansion):

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of three stars in the IAU constellation Lacerta and Pegasus: 29 Pegasus (the determinative star), HIP 109654, and 1 Lacertae.

This Chinese xing guan "Chǔ" (杵) is a line of three stars in the IAU constellations Lacerta and Pegasus: 1 Lacertae and Eta (η) and 23 Pegasi. NOTE: This is identical to the Korean asterism "Inner Pestle" (see above). The Chinese xing guan "Mortar" (see above) is alongside.

Pestle (in Winnowing Basket Mansion):

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of three stars in the IAU constellations Corona Australis and Telescopium: Zeta (ζ) Telescopii, Alpha (α) Telescopii (the determinative star), and HIP 90842.

This Chinese xing guan "Chǔ" (杵) is a line of three stars in the IAU constellation Ara: Alpha (α), Beta (β), and Sigma (σ) Arae.

Peter:

This German asterism “Peter” or “Saint Peter the First Apostle” is the IAU constellation Aries and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the “pagan” names of constellations with Biblical and early Christian figures. This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as “S. Petrus Al Aries”. It later appears in Edward Sherburne’s *Sphere of Marcus Manilius* in 1675 and in John Hill’s *Urania* in 1754.

Peter’s Boat:

This German asterism “the Boat of Saint Peter the Apostle” is the IAU constellation Ursa Major and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the “pagan” names of constellations with Biblical and early Christian figures (Stevenson 1921). This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as “Navicula S. Petri al Vrsa major”. It later appears in John Hill’s *Urania* in 1754. Edward Sherburne lists it as “Saint Petre’s Fisher Boat” in his *Sphere of Marcus Manilius* in 1675. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “the ship of St. Peter”. R. H. Allen lists the variants “Peter’s Ship” and “Peter’s Skiff” in his *Star Names* in 1899.

Peter’s Cross:

This Belarussian asterism “Пятроў Крыж” (“Petrou Krest”) is the Northern Cross asterism in the IAU constellation Cygnus (Avilin 2009).

Peter’s Fish:

This German asterism is the IAU constellation Piscis Austrinus as listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch. Bartsch attributes this name to Schickard.

Peter’s Stick:

This Belarussian asterism “Petrova Palka” is the IAU constellation Cygnus (Avilin 2009). They also call it “Peter’s Cross” (see above) and “Tsarou Krest” (“Czar’s Cross”).

This Lithuanian asterism “Petro ramtis” is the belt of Orion in the IAU constellation Orion.

Peter’s Staff:

This asterism is the belt of Orion in the IAU constellation Orion as listed in R. H. Allen’s *Star Names* in 1899.

This Finnish asterism “Pietarin sauva” is the Belt of Orion asterism in the IAU constellation Orion.

Petiux:

The ancient Celts noted the passage of the moon by the IAU constellation Coma Berenices during the month of Rivros (see Fat Month Guiding Star, above) to indicate the first of five spring celebrations called Petiux. When Coma Berenices is rising, Capella is at the zenith, and Vega is setting.

Petra:

This Jordanian star “Petra” is WASP-80 in the IAU constellation Aquila and received this name in the IAU NameExoWorlds Campaign. Petra is a UNESCO World Heritage Site in Jordan. It has an exoplanet named Wadirum: Wadi Rum (“valley of the moon”) is in southern Jordan.

Phact:

See Dove, below.

Phaethon:

This asterism appeared in the *Phenomena*, a work describing constellations by Greek didactic poet Aratus (315 – 240 B.C.E.) and in *De Astronomica* by Gaius Julius Hyginus (64 - 17 B.C.E.). In his commentary of Virgil’s *Aeneid*, 5th century grammarian Servius said the mythical character Phaethon had been transformed into the constellation Cygnus. In *Dionysiaca*, 5th century Greek poet Nonnus of Panopolis has Phaethon being transformed into the stars of the IAU constellation Auriga. Hyginus listed this as the IAU constellation Auriga (Falkner 2011). John Barentine in his *Uncharted Constellations* suggests that it originated in Mesopotamian sky lore in what became the IAU constellation Eridanus. I’m placing it in the latter constellation.

This French asterism is the IAU constellation Auriga as listed by French astronomer Joseph Jérôme Lefrançois de Lalande (1732 – 1807). Phaethon was the son of the Oceanid Clymeme and the sun God Helios who begged to be allowed to drive his father’s chariot.

Phantom Cluster:

This **telescopic** asterism is the open cluster NGC 6400 in the IAU constellation Scorpius. It was discovered in 1826 by the Scottish astronomer James Dunlop who listed it as ‘Dunlop 568”. John Herschel listed it as h 3696 and later as GC 4313 in the *General Catalogue* of 1864.This is also known as the Long John Silver Cluster (see above).

Phantom Frisbee:

This telescopic asterism NGC 3079 is a barred spiral galaxy in the IAU constellation Ursa Major. This was discovered by English astronomer William Herschel in 1790 who listed it as “V 47” in his catalogue. It is GC 1983 in the *General Catalogue* of 1864. NOTE: The Frisbee was invented by American Walter Morrison in 1948, but it wasn’t called the “Frisbee” until 1957, when college students started calling it that, so this name cannot predate that.

Phantom Galaxy:

This **telescopic** asterism Messier 74 (NGC 628) is a large spiral galaxy in the IAU constellation Pisces. It was discovered by French astronomer Pierre Méchain in 1780. It was listed in the General Catalogue of 1864 as GC 327, and in John Herschel’s catalogue as h 142. It is also known as the “Perfect Spiral Galaxy” (see below) and the “Very Whirling of Pisces” (see below).

Phantom of the Opera Nebula:

This **telescopic** asterism is the HII region SH 2-173 (LBN 593) in the IAU constellation Cassiopeia.

Phantom Streak:

This **telescopic** asterism is planetary nebula NGC 6741 in the IAU constellation Aquila. It was discovered by American astronomer Edward Charles Pickering in 1882. Size 0.1’ X 0.1’.

Phantom Tiara:

See Embryo Nebula (above).

Pharmaz:

This asterism is the IAU constellation as listed by Italian astronomer Giovanni Battista Riccioli (1598 – 1671). The origin of the name is obscure.

Pharaoh's Cart:

This Belarussian asterism "Voz Faraonski" is the Big Dipper asterism in the IAU constellation Ursa Major (Avilin 2009). Compare this to "Voz" (see Cart, above) and "Vialiki Voz" (see Large Cart, above).

Pharaoh's Scorpion:

This Italian asterism is the IAU constellation Scorpius as listed by Italian humanist and poet Ambrogio Fracco, also known as Novidius (1480 - ?). R. H. Allen describes this in his *Star Names* in 1899 as "the scorpion or serpent whereby Pharoah, King of Egypt, was enforced to let the children of Israel depart out of his country".

Pharos of Virgo:

This **telescopic** asterism "Phárus Virginis" is the spiral galaxy NGC 4517 (AKA NGC 4437) in the IAU constellation Virgo. It was discovered in 1784 by William Herschel who listed it as "IV 5". It became GC 3066 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010)": They named it after the island of Pharos as "the extended form of this edge-on galaxy gives the impression of a far away island. The conspicuous foreground star at the northern edge of the galaxy can be regarded as the lighthouse."

Phaser Gun:

This **telescopic** asterism is in the IAU constellation Virgo and was listed by American astronomer John A. Chiravalle. Jeffrey Corder lists it as Corder 2481. Size 120' X 60'. The "gun" includes the stars HIP 64954A, 64983, 65067, 65119, and 64984. The "handle" is the line of stars HIP 65192, 65225, and 65355B.

Phecda:

See Thigh, below.

Phoebe's Knight:

This Latin asterism "Phoebes Miles" is the IAU constellation Ursa Major.

Pherkad:

See Calf, above.

Phillip:

This German asterism "Philip" or "Saint Philip" is the IAU constellation Libra and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the

"pagan" names of constellations with Biblical and early Christian figures. This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "Philippus Al Libra". Edward Sherburne lists it in his Sphere of Marcus Manilius in 1675 and attributes it to Georg Philipp Harsdörffer (1607 – 1658). It later appears in John Hill's *Urania* in 1754.

Phillyrides:

This asterism "Phillyrides" is the IAU constellation Centaurus. This is a reference to the mother of Chiron, the Oceanid Philyra. This name is listed in Johann Bayer's *Uranometria* (1603).

Philomelus:

This Greek asterism is the IAU constellation Boötes. Johann Bayer's *Uranometria* (1603) lists "Philomelus" as an alternate name for Boötes. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists this name. Philomelus was a Greek demi-god, the son of Demeter and Iasion.

Phiorion:

This star is Alpha (α) Tauri (Aldebaran) as listed in John Hill's *Urania* in 1754. Compare this to his asterism Orias, above.

This Latin asterism is the IAU constellation Aries as named by Publius Ovidius Naso (Ovid, b. 43 B.C.E.). This refers to the Greek myth where Phrixus and his mother Helle are rescued by a golden ram.

Phoenicia:

This telescopic Lebanese star is HIP 99711 (HD 192263) in the IAU constellation Aquila (magnitude 6.3). It was given this name in the IAU NameExoWorlds campaign. It is a reference to the ancient Phoenician civilization. It has an exoplanet named Beirut.

Phoenician Bear:

According to 1st century Greek geographer Strabo, this Greek asterism "Φοινίκη" ("Foiníki") or "Phoenice, later becoming "Ursa Phoenicia", is the Little Dipper asterism in the IAU constellation Ursa Minor (Hafez 2010). They got their name for Ursa Major from the 8th century B.C.E. poet Homer (see Great Bear, above) and this name for the Little Dipper is a reference to the Phoenician navigators calling it "The Wagon of Heaven" (see below). R. H. Allen writes in his *Star Names* in 1899 that "Phoenice" early on also became a Greek name for Polaris.

Phoenician Sphere:

This Phoenician asterism is the Andromeda Galaxy, Messier 31, in the IAU constellation Andromeda.

Phoenix:

The brightest star of Phoenix, Alpha (α) Phoenicis (Ankaa) is number 84 on the list of 90 brightest stars: It is 2nd magnitude. The stars of this constellation only show up in 45 of the asterisms in this handbook.

This IAU constellation (IAU abbreviation Phe) is one of twelve constellations created by Flemish astronomer and uranographer Petrus Plancius (1495 – 1552) in 1597 from the observations of Dutch navigator Pieter Dirkszoon Keyser (1540 – 1596) and Dutch navigator Frederick de Houtman (1571 – 1627): Houtman called it "Den Voghel Fenicx" ("the bird phoenix") in his star catalogue in 1603. Flemish cartographer Jodocus Hondius (1563 – 1612) included it on his globe in 1598 as "Phoenix",

Dutch historian Paulus Merula (1558 – 1607) listed it as “Phoenix”, and Dutch uranographer Willem Blaeu (1571 – 1638) included it as “Phoenix” in 1603.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) depicts Phoenix as a bird rising from a fire.

German uranographer Johann Bayer (1572 – 1625) lists “Phoenix” in his *Uranometria* in 1603 and depicts it as a bird rising up from flames in a rectangular fire pit.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts “Phoenix” as a bird rising from a fire.

“Phoenix” is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the name “Phoenix” for this constellation.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts “Phoenix” as a bird rising from flames on a plinth.

Phoenix is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661.

Edward Sherburne lists it in his *Sphere of Marcus Manilius* in 1675.

Dutch cartographer Frederik de Wit’s *Planisphaerium Coeleste* (1670) depicts Phoenix as a bird rising out of a fire.

The 1688 celestial globe of Italian priest and uranographer Vincenzo Maria Coronelli (1650-1718) includes this constellation (Stevenson 1921).

Phoenix is listed by English astronomer Edmond Halley in his *Catalogus Stellarum Australium* in 1679 and depicted on his southern star chart of 1678 as a phoenix rising from a fire.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts “Phoenix” as a bird about to take flight from fire and smoke. Hevelius’ *Firmamentum Sobiescianum sive Uranographia* (1690) depicts Phoenix as a bird about to take flight (there is no fire shown). The central star is Beta (β) Phoenicis, from which five lines run out:

- One through Kappa (κ) Phoenicis to Alpha () Phoenicis (Ankaa),
- One through Epsilon (ε) Phoenicis to HIP 116602,
- One through Gamma (γ) Phoenicis to Psi (ψ) Phoenicis,
- One to Delta (δ) Phoenicis, and
- One to Zeta (ζ) Phoenicis.

Dutch uranographer Carel Allard’s *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) depicts “Phoenix” as a bird rising from a fire.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley’s pirated catalogue of Flamsteed’s observations of 1712, depicts Phoenix as a bird rising from a fire.

Phoenix is listed in English astronomer John Flamsteed’s *Atlas Coelestis* in 1729.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts Phoenix as a bird taking flight.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts "Phoenix" as a bird rising from a fire.

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) depicts Phoenix as a bird rising from a fire.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Phoenix as a bird rising from a flaming plinth.

French astronomer Abbé Nicolas Louis de Lacaille's *Planisphère des Étoiles Ausralea* (1756) depicts "le Phenix" as a bird with wings unfurled standing on a branch.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) depicts "Le Phenix" as a bird arising from a fire.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts "Phoenis" as a phoenix rising from flames.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "le Phenix" as a phoenix rising from flames and smoke, as does the 1778 edition.

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Phōnix" and depicts it as a bird rising from flames on a tray of some sort.

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts "Phenix" as a bird rising from a fire.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts "Phenix" as a phoenix in a cloud of smoke.

"Phoenix" is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801) and depicted as a bird rising from smoke.

American uranographer William Croswell (1760 – 1834) depicts Phoenix on his *Mercator Map of the Starry Heavens* in 1810 as a bird rising from flames.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Phoenix in his *Celestial Atlas* in 1822.

American uranographer Elijah Burritt's *Southern Circumpolar Map for each Month in the Year* (1835) depicts "the Phoenix" as a bird rising from a fire.

"Phoenix" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875): He indicates the borders of this constellation on the chart but offers no illustration of it.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depict "Phœnix" as a bird rising up out of fire and smoke.

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Phoenix" as an official constellation "recognized in the catalogue of the British Association".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Phoenix" and describes it as a "Phoenix", incorrectly attributing it to Bayer.

The standard IAU version of this constellation is a series of interlocking triangles of stars:

- His "head" is Alpha (α) Phoenicis (Ankaa), Epsilon (ε) Phoenicis, and Kappa (κ) Phoenicis,
- His "left wing" is Kappa (κ) Phoenicis, Gamma (γ) Phoenicis, and Beta (β) Phoenicis,
- His "right wing" is Kappa (κ) Phoenicis, Zeta (ζ) Phoenicis, and Beta (β) Phoenicis,
- His "tail" is Beta (β) Phoenicis, Psi (ψ) Phoenicis, and Delta (δ) Phoenicis.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Phoenix in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik*, in this manner:

- The "body" is the quadrilateral of stars Beta (β), Zeta (ζ), Delta (δ), and Gamma (γ) Phoenicis,
- The "head" is a line from Beta (β) Phoenicis to Kappa (κ) Phoenicis, which then branches into two more lines:
    - One to Alpha (α) Phoenicis (Ankaa), and
    - One to Epsilon (ε) Phoenicis.

Sky and Telescope Magazine, founded in 1941, depicts Phoenix in their magazine and publications as a triangle of the stars Beta (β) Phoenicis, Alpha (α) Phoenicis (Ankaa), and Epsilon (ε) Phoenicis connected to a quadrilateral of the stars Beta (β) Phoenicis, Zeta (ζ) Phoenicis, Delta (δ) Phoenicis, and Gamma (γ) Phoenicis.

The Germans call it "Phönix", the Italians "Fenice".

R. H. Allen wrote in his *Star Names* in 1899 that the ancient Egyptians called this constellation "Bennu", although this is actually related to their name for Sirius (see below). Although there is no definitive proof, Allen notes that the Arabs had several versions of this asterism (see Boat, Eagle, and Griffin, above, and Young Ostriches, below) which may have influenced Plancius in the "creation" of this constellation.

Johann Bayer's *Uranometria* (1603) lists "Phaenice" ("phoenix") as one of the names for the Little Dipper asterism in the IAU constellation Ursa Minor.

This Latin asterism is the Little Dipper asterism in the IAU constellation Ursa Minor. The Maass 1898 manuscript of the 11th century *De signis caeli ("of the signs of heaven"*) lists "Fenix" as a name for Ursa Minor saying "the phoenix, which is both a lesser eagle and by some is called a dog's tail".

This Egyptian star "Bennu" is Alpha (α) Canis Majoris in the IAU constellation Canis Major. In Egyptian mythology the Phoenix was believed to alight every 1461 years (a Sothic cycle) on the top of the benben, a pyramidal-shaped stone at the temple at Heliopolis. There the Bennu would build a funeral pyre and is consumed by flames. It then is reborn from its ashes and the cycle repeats. They believed that the Bennu guided the Gods through the duat (the world full of demons below the horizon). The benben represented the first hillock of dry land to emerge from the primordial waters. The Egyptian hieroglyphic symbol for Sirius is a five-pointed star symbol with a semi-circular "T" symbol above it indicating the feminine form of the word star alongside a triangle representing the benben or a pyramid.

This Arabic star "al-ʿAnqāʾ" (العنقاء) is Alpha (α) Phoenicis in the IAU constellation Phoenix and later latinized to "Ankaa". *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists "Ankaa" for this star. The IAU approved the name Ankaa for Alpha (α) Phoenicis.

There are two **telescopic** "phoenix" asterisms:

- One is in the IAU constellation Lacerta and was listed by German astronomer Robert Zebahl on the *Faint Fuzzies* website. René Merting describes it as a Phoenix on this site. The central star is HIP 112434. Size 22' X 21'.
- One is the galaxy PGC 22641 in the IAU constellation Canis Minor.

Phoenix Dwarf:

This **telescopic** asterism is the irregular dwarf galaxy PGC 6830 (ESO 245-7) in the IAU constellation Phoenix. It was discovered by Hans Emil Schuster and Richard Martin West in 1976 and first taken for a globular cluster. R. Canterna and P.J. Flower discovered it to be a dwarf galaxy in 1977. It is also known as the "Snowy of Phoenix" (see below).

Phoenix Tree Mound:

This Chinese Chenzhuo xing guan "Tongling" is the star HIP 33694 in the IAU constellation Camelopardalis. It is part of their xing guan Purple Forbidden West Wall.

Pholos:

This Greek asterism is the IAU constellation Centaurus. Pholos was a centaur in Greek mythology:

- "Pholos" is listed in Johann Bayer's *Uranometria* (1603).
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Pholos".
- "Pholos" is listed by John Hill in his *Urania* in 1754.

Phorbas:

This Greek asterism is the IAU constellations Ophiuchus and Serpens as listed by John Hill in his *Urania* in 1754 and R. H. Allen in his *Star Names* in 1899. Phorbas is one of the sons of Triopas (see below) in Greek myths, which describe him as freeing Rhodes from snakes.

Phrixeum Cattle:

This Latin asterism "Phrixeum Phecus" is the IAU constellation Aries. This refers to the Greek myth where Phrixus and his mother Helle are rescued by a golden ram.

Phrixi Passenger:

This Latin asterism "Phrixi Vector" is the IAU constellation Aries. This refers to the Greek myth where Phrixus and his mother Helle are rescued by a golden ram.

Phrixian Sheep:

This Latin asterism "Phrixea Ovis" is the IAU constellation Aries as named by the Roman poet Ovid (b. 43 B.C.E.). This refers to the Greek myth where Phrixus and his mother Helle are rescued by a golden ram.

Phrixus:

This Latin asterism is the IAU constellation Aries as listed by Lucius Junius Moderatus Columella (4 – 70 C.E.) and as listed in R. H. Allen's *Star Names* in 1899. Phrixus is a character in the Greek myth where he and his mother Helle are rescued by a golden ram.

Phrygian Flutes:

This Egyptian asterism is one of the paranatellonta of the 2nd decan of Leo as listed in the *Sphaera Barbarica* described by Teucros (Mosenkis, date n/k) and is the IAU constellation Sextans.

Phrygius:

This French asterism is the asterism Antinous (see Antinous, above) in the IAU constellation Aquila as listed by French astronomer Joseph Jérôme Lefrançois de Lalande (1732 – 1807). Phrygius was a Neleid who was king of Miletus.

Phukwio-futsa-difala:

This Sotho asterism is an unidentified group of stars appearing in July (Alcock 2014).

Pi Cluster

This **telescopic** asterism is the brightest stars of the open cluster Messier 38 (NGC 1912), discovered by Italian astronomer Giovanni Battista Hodierna before 1654 in the IAU constellation Auriga. This was listed in the *General Catalogue* of 1864 as GC 1119. American astronomer Sherburne Wesley Burnham (1838 – 1921) noted in *Burnham's Celestial Handbook* that cluster's brightest stars form what is known as the Letter Pi Cluster, as they resemble the Greek letter π.

Piautos:

See Same, below.

Piawai:

This Māori asterism is a cluster of four stars which is unidentified at present (Thompson 2019).

Piazzi's Flying Star:

This double star is 61 Cygni B in the IAU constellation Cygnus (magnitude 5.21), whose large proper motion (seventh highest) was noted by Italian astronomer Giuseppe Piazzi in 1804. It was the first star to have its distance measured through stellar parallax: 11.4 light years. It is also known as Bessel's Star (see above). It has this name as Piazzi nominated it as a good candidate for parallax distance measurements.

Pickering's Triangle:

This **telescopic** asterism Pickering's Triangle or Flemings Triangular Wisp is a triangular nebula at the north central edge of the Cygnus Loop, next to NGC 6979 and NGC 6974 in the IAU constellation Cygnus. It was discovered photographically in 1904 by Scottish American astronomer Williamina Fleming (1857 – 1911), hence the name "Fleming's Triangular Wisp", but unfortunately credit and the name "Pickering's Triangle" went to the director of her observatory, Charles Pickering.

Pictor:

None of the stars of Pictor are on the list of 90 brightest stars and the stars of this constellation only show up in 12 asterisms in this handbook.

This IAU constellation (IAU abbreviation Pic) was created by French astronomer Abbé Nicolas Louis de Lacaille in 1756 as “le Chevalet et la Palette” (“the easel and the palette”) but renamed it “Equuleus Pictorius” on his chart in 1763. This is not a reference to the IAU constellation Equuleus, which was created by Hipparchus (190 – 120 B.C.E.) and adopted by Ptolemy (c.100 – c.170): The word Equuleus (“little horse”) is a colloquial French term for an easel, which comes from the custom of an artist carrying his easel on a donkey. Lacaille’s *Planisphère des Étoiles Ausralea* (1756) labels this “Le Chevalet et la Palette” and depicts a tripod easel with a palette hung on it.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts “le Chevalet et la Palette” as an easel and palette.

In 1803 German astronomer Johann Elert Bode called this constellation “Pluteum Pictoris” (“painter’s desk”) in his sky charts.

English astronomer Francis Baily (1774 – 1844) shortened the name to Pictor in 1845 on the recommendation of English astronomer John Herschel (1792 – 1871).

Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists this constellation under the Latin name ”Pluteum Pictoris“ (“a painter’s shelf”).

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as “Cavalletto” (“easel”) in his *Della Specola Astronomica De’ Regj Studj Di Palermo* (1792).

Scottish uranographer Alexander Jamieson (1782 – 1850) lists this constellation under the Latin name “Equuleus Pictorius” in his *Celestial Atlas* in 1822.

American uranographer Elijah Burritt’s *Southern Circumpolar Map for each Month in the Year* (1835) depicts “Equuleus Pictorius the Painter’s Easel” as a tripod easel with a palette hanging on it.

This constellation is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) as “Equus Pictoris”: He indicates the borders of this constellation on the chart but offers no illustration of it.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depict “Equuleus Pictorius” as a painter’s easel.

This is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852: It is not labeled but is depicted as an easel and a palette.

English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists “Pictor, The Painter’s Easel” as an official constellation “recognized in the catalogue of the British Association”.

American astronomer Winslow Upton’s *Star Atlas* (1896) lists this constellation as “Pictor” and “Equuleus Pictoris” and describes it as a “Painter’s easel”.

The 14th edition of British schoolmaster Arthur P. Norton’s *A Star Atlas* (1959) lists “Pictor” and gives the “original form” as “Equuleus Pictoris”, describing it as “The Painter”.

Other French names for this constellation include “Chevalet du Peintre” (“painter’s easel”), and this translates in German as “Malerstaffelei”.

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) slightly redesigns the lines of Pictor in his book *The Stars - A New Way to See Them* (1952). The standard IAU charts show the bent line of three stars Alpha (α) Pictoris, Gamma (γ) Pictoris, and Beta (β) Pictoris. Rey turns this into a triangle of these three stars. *Sky and Telescope Magazine*, founded in 1941, depicts Pictor in their magazine and publications in the same manner as standard IAU charts.

Pidgeon Perch:

This Tongan asterism "Tuula-lupe" is the Hyades cluster in the IAU constellation Taurus.

This Samoan asterism "Tūlālupe" is a row of stars in the IAU constellation Scorpius: Iota (ι) 1 Scorpii, Kappa (κ) Scorpii, Lambda (λ) Scorpii, and Upsilon (υ) Scorpii (Fitisemanu 2022).

Pig:

This Babylonian asterism from the MUL.APIN tablets "Sahu" or "MUL.SAH" is made up of the stars of the IAU constellations Sagitta and Vulpecula. This is a quadrilateral with the stars Alpha (α) Sagittae (Sham) and Beta (β) Sagittae in one corner and the other three corners being 13 Vulpeculae, 29 Vulpeculae, and QR Vulpeculae. This appears in later Seleucid sky lore. It may be related to the Egyptian asterism Reret (see Hippopotamus, above).

This Babylonian asterism "SHAH" as listed in Anthony Hope's *A Guide to Ancient Near Eastern Astronomy* in 1996 is the IAU constellation Delphinus.

This Sumerian asterism "mulšah" from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is identical to the Babylonian asterism "Sahu", above.

This Akkadian asterism "dDa-mu" from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is identical to the Babylonian asterism "Sahu", above.

This Kolam asterism "Turre" is made up of stars between the IAU constellations Hydra and Vela (Vahia 2014). The Kolam used the brightness of these stars, each of which represented a different animal, to determine the intensity of the approaching monsoon. The animals included a peacock, a buffalo, a frog, a deer, a horse, and in some regions, a pig.

"Svinjarka" or "Svinjaruša" is a Serbian name for Alpha (α) Canis Majoris (Sirius). It indicates that it is time to release the pigs to feed on pannage.

Pig Star:

This //Gana star is Alpha (α) Virginis (Spica) in the IAU constellation Virgo (Slotegraaf 2013, Alcock 2014).

Piglets:

This ancient Celtic asterism is the Hyades and Pleaides clusters. The end of Edrinios (see Fire Month Guiding Star, above) is marked when the moon passes between these open clusters.

This asterism is the Hyades cluster as it appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus.

Pigs:

This Latin star "Sucula" or "Suculae" is the Hyades cluster in the IAU constellation Taurus as listed in Robert Hues' *A Learned Treatise of Globes* in 1659 and in R. H. Allen's *Star Names* in 1899. Allen attributes this to 1st century Roman writer Lucius Junius Moderatus Columella (4 – 70 C.E.) and that this was an asterism of the "Roman country people". German astronomer Johann Bayer (1572-1625) listed it as "Succidae".

Pig's Nose:

This Finnish asterism is the Pleiades cluster in the IAU constellation Taurus (Kuperjanov 2006).

Pi'ikea:

This Hawaiian star is Beta (β) Ceti (Diphda) in the IAU constellation Cetus.

Pike:

This **telescopic** asterism is in the IAU constellation Camelopardalis and is Ennis 40 on the observing list of Canadian astronomer Charles Ennis and resembles a medieval pike weapon. The "blade" is a wedge-shaped group of 8th magnitude stars including HIP 19503, 19340, 19135, 19008, and 18966, with some dimmer stars in the middle. The "staff" is the line of stars starting at HIP 20541 and running through HIP 20108, the double star HIP 19949, HIP 19172, and HIP 18795, ending at the eclipsing binary star HIP 18585. NOTE: The stars forming the "blade" are Corder 627 on Jeffrey Corder's list.

Pi'ilani:

This Hawaiian star is Gamma (γ) Pegasi (Algenib) in the IAU constellation Pegasus.

Pikachu:

This Filipino asterism is the IAU constellation Cetus (Margiza 2022). Pikachu is one of the characters in Pokémon. Pokémon (an abbreviation for Pocket Monsters) was a video game franchise created in 1996.

Pike:

This Latin asterism "Dolones" is made up of stars in the IAU constellations Auriga and Lynx:

- Dolones I: Psi (ψ) 1 Aurigae (46 Aurigae),
- Dolones II: Psi (ψ) 2 Aurigae (50 Aurigae),
- Dolones III: Psi (ψ) 3 Aurigae (52 Aurigae),
- Dolones IV: Psi (ψ) 4 Aurigae (55 Aurigae),
- Dolones V: Psi (ψ) 5 Aurigae (56 Aurigae),
- Dolones VI: Psi (ψ) 6 Aurigae (57 Aurigae),
- Dolones VII: Psi (ψ) 7 Aurigae (58 Aurigae),
- Dolones VIII: Psi (ψ) 8 Aurigae (60 Aurigae),
- Dolones IX: Psi (ψ) 9 Aurigae
- Dolones X: Psi (ψ) 10 Aurigae (16 Lyncis)

Compare this to the earlier Greek asterism Goads (see above).

Piktorion:

This Coptic asterism “Πικοτώριων” (“Pikotórion”) is the IAU constellation Pisces as listed in Edward Sherburne’s *Sphere of Marcus Manilius* in 1675 and R. H. Allen’s *Star Names* in 1899. Allen writes that “Brown translates [this as] ‘protection’ but claims for a Coptic asterism formed by Beta and Gamma Arietis”. This is probably English orientalist Robert Brown, Jr.

Pile:

This Quechua asterism “Qutu” is the Pleiades cluster in the IAU constellation Taurus (Urton 1981). A variation is “Collca Qutu” (“storehouse pile”). Compare this to the Aymara asterism “Qutu” (see Group, above).

Pile of Bricks:

This asterism is the IAU constellation Gemini. Several medieval charts depict the constellation this way, and R. H. Allen in his *Star Names* in 1899 suggests that this refers “to the building of the first city and the fratricidal brothers — the Romulus and Remus of Roman legend”. Boutet (2014) lists it as the “Brick Stack”.

Pile of Dead:

This Korean asterism “Jug-eun Jaui Deomi” (죽은 자의 더미) is the Beehive cluster (Messier 44, see Beehive, above) in the IAU constellation Cancer, which is located inside their asterism “Eye of Sky” (see above).

Pile of Firewood:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is the star Mu (μ) 1 Cancri in the IAU constellation Cancer.

This Chinese xing guan “Jīxīn” (积薪) is the star Kappa (κ) Geminorum in the IAU constellation Gemini.

This Chinese Chenzhuo xing guan “Jixin” is the star Chi (χ) Geminorum in the IAU constellation Gemini.

Pilgrim Star:

This star is Beta (β) Cassiopeiae (Caph) in the IAU constellation Cassiopeia as listed by R. H. Allen in his *Star Names* in 1899.

Pilgrims that have Gone to Church:

This Lithuanian asterism “Į bažnyčią einantys maldininkai” is made up of stars of the IAU constellations Andromeda, Gemini, and Perseus: Delta (δ) Andromedae, Beta (β) Andromedae (Almach), Alpha (α) Persei (Mirfak), Alpha (α) Geminorum (Castor), and Beta (β) Geminorum (Pollux).

Pilisha:

The Chinese phonetically translated of “Vrsabha” from the Vedic *Candragarbha-parivarta* in 566 (which is the IAU constellation Taurus) as “Pilisha” (Kotyk 2017).

Pilizhijia:

This Chinese phonetic translation of “Vrscika” from the Vedic *Candragarbha-parivarta* in 566 is the IAU constellation Scorpius (Kotyk 2017).

Pillar:

This Kiribati star “Boua” or “Na Boua” is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes (Trussel and Groves 1978).

This Romanian star “Stâlpul” is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Ottescu 2009).

Pillar of Heaven:

This Māori star “Poutu-te-rangi” or “Poutūterangi” is Alpha (α) Aquilae (Altair) in the IAU constellation Aquila.

This Micronesian star “Maanap” is Alpha (α) Aquilae (Altair) in the IAU constellation Aquila.

This Rapanui star “Te Pou o Te Rangi” is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Edwards and Edwards 2016, Edwards et al, 2018). The Edwards translate this as “Post of the Sky”.

Pillar of Salt:

This Hawaiian star “Kia-pa'akai” is Polaris (Alpha (α) Ursae Minoris) in the IAU constellation Ursa Minor. It is also known as “Hokupa’a” (“Fixed Star”), “Noho-loa” ("Eternal"), “Kumau” ("Standing Perpendicularly"), “Kio-pa'a” or “Kio-pa” ("Fixed projection"), or “Maka-holo-wa'a” ("Sailing-canoe eye" or "Star of the sailing canoe").

Pillar of Sky:

This Korean asterism “Haneul-ui Gidung” (하늘의 기둥) is a pattern of five stars in the IAU constellation Draco. This has two triangles of stars joined at the apex, which is star HIP 79867:

- One triangle joined to this star is formed by the stars 15 Draconis and HIP 80161, and
- One triangle joined to this star is formed by the stars HIP 78893 and 79414.

Pillar of the Cross:

This Arabic star “al-ʿamūd al-ṣalīb”, later latinized to “Al Salib” is Epsilon (ε) Delphini in the IAU constellation Delphinus.

Pillars (in Arsenal):

These are five triangular Chinese Chenzhuo “Zhù” xing guans within their xing guan Arsenal (see above) in the IAU constellations Centaurus and Lupus:

- One consists of the stars Iota (ι) Lupi, HIP 70104, and Tau (τ) 1 & 2 Lupi,
- One consists of the stars HIP 70054, 70300, and 69598,
- One consists of the stars 1, 2, and 3 Centauri,
- One consists of the stars HIP 68079 and Nu (ν) 1 & 2 Centauri, and
- One consists of the stars HIP 65936, 65535, and 65593.

Pillars (in Five Chariots):

These Chinese Chenzhuo xing guans are made up of stars in the IAU constellation Auriga:

- One is the triangle of stars 1 Aurigae, Omega (ω) Aurigae, and 2 Aurigae.

- One is the triangle of stars Nu (ν) Aurigae, Upsilon (υ) Aurigae, and Tau (τ) Aurigae.
- One is the triangle of stars HIP 25492, Chi (χ) Aurigae, and HIP 25291.

Pillars in Garage for Chariot:

"Jjeoncha Chagoui Gidung" 전차 차고의 기둥) is the name of three Korean asterisms in and around their asterism "Garage for Chariot" (see above) in the IAU constellation Auriga. All three are triangles:

- One is the stars Eta (η), Epsilon (ε), and Zeta (ζ) Aurigae,
- One is the stars Upsilon (υ), Tau (τ), and Nu (ν) Aurigae, and
- One is the stars 26 and Chi (χ) Aurigae and HIP 25492.

Pillars (in Horn Mansion):

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is four sets of stars in the IAU constellations Centaurus and Lupus:

- One is the triangle of stars Upsilon (υ) 2 Centauri, Zeta (ζ) Centauri, HIP 67861 and 67663,
- One is the triangle of stars a Centauri, Psi (ψ) Centauri, and HIP 68493,
- One is the triangle of stars Iota (ι) Lupi, HIP 70104, and Tau (τ) 1 and 2 Lupi, and
- One is the triangle of stars Alpha (α) Lupi, Rho (ρ) Lupi, and HIP 70931.

"Zhù" (柱) is a set of five Chinese xing guans in and around the xing guan "Arsenal" (see above). Three of the four are lines of two stars, one is a triangle of stars, and one is a single star. These stars are in the IAU constellations Centaurus or Lupus:

- One is the single star Iota (ι) Centauri,
- One is the stars Psi (ψ) and a Centauri,
- One is the stars Upsilon (υ) 1 and 2 Centauri,
- One is the stars Iota (ι) and Tau (τ) 1 and 2 Lupi, and
- The triangle of stars is Kappa (κ), 1, and 4 Centauri.

Pillars (in Net Mansion):

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty Zhù (柱) is a set of three Chinese xing guans in the IAU constellation Auriga:

- Pillar one is a triangle of stars: Epsilon (ε), Eta (η), and Zeta (ζ) Aurigae,
- Pillar two is a triangle of stars: Tau (τ), Upsilon (υ), and Nu (ν) Aurigae, and
- Pillar three is a triangle of stars Chi (χ) and 26 Aurigae and HIP 26712.

Zhù (柱) is a set of three Chinese xing guans in the IAU constellation Auriga:

- Pillar one is a triangle of stars: Epsilon (ε), Eta (η), and Zeta (ζ) Aurigae,
- Pillar two is another triangle of stars: Tau (τ), Upsilon (υ), and Nu (ν) Aurigae, and
- Pillar three is the two stars Chi (χ) and 26 Aurigae.

Pillars of Creation:

This **telescopic** asterism is in the nebula Messier 16 (NGC 6611, IC 4703, SH 2-49, RCW 165, LBN 67, Cr 375, Mel 198, Ced 159).in the IAU constellation Serpens. These are finger-like structures formed of cool hydrogen gas and dust. This name was given to this when the Hubble Imaging Team released their famous photo of the "Pillars of Creation". This is also known as the "Star Queen" or the "Star Queen and Her Throne".

Piminer:

This Palawa star is Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion. This is a name from the 1831 journals of George Augustus Robinson, a missionary (Hamacher 2011).

Pin of Tucana:

This **telescopic** asterism "Cnódax Túcanae" is the edge-on galaxy IC 5176 in the IAU constellation Tucana. It was discovered by DeLisle Stewart in 1908. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the thin and sharp shape of this edge-on galaxy".

Pincers:

This Netwar asterism **"**Kou" ("pinchers (or tweezers) for taking hot stones out of the fire") is the Hyades cluster in the IAU constellation Taurus (Ramik 2019).

This Nahwal (Tanna) asterism "Kuhwa" (Ramik 2019) is identical to the Netwar asterism "Kou" (above).

This **telescopic** asterism is part of NGC 2736, which is a part of the Vela Supernova Remnant in the IAU constellation Vela. It was recorded by English astronomer John Herschel in 1835 and listed it as h 3145. It is GC 1745 in the *General Catalogue* of 1864. It is next to the "Pencil Nebula" (see above), also known as Herschel's Ray (see above).

Pincoya:

This **telescopic** Chilean star is HIP 88414 (HD 164604) in the IAU constellation Sagittarius (magnitude 6.82). It was given this name in the IAU NameExoWorlds campaign. Pincoya is a female water spirit who brings drowned sailors to the Calueche so that they can live in the afterlife. It has an exoplanet named Calueche, which is a large ghost ship that sails the seas at night.

Pincushion:

There are three **telescopic** "pincushion" asterisms:

- One is the open cluster NGC 6134 in the IAU constellation Norma and is known as the Little Pincushion. This was discovered by Scottish astronomer James Dunlop in 1827. It is GC 4187 in the *General Catalogue* of 1864. This round asterism has a line of stars resembling a pin on one side.
- One is the open cluster NGC 3532 (Caldwell 91) in the IAU constellation Carina. It was discovered by French astronomer Abbé Nicolas Louis de Lacaille in 1751 and was listed as II 10. It is GC 2308 in the General Catalogue of 1864. English astronomer William Herschel thought it to be one of the finest star clusters he'd seen. It is also known as the Wishing Well Cluster, the Fish Cluster, the Football Cluster, the Black Arrow Cluster, and the Firefly Party. It is located between the constellation Crux and the False Cross asterism (see False Cross, above).
- One is globular cluster NGC 6934 (Caldwell 47) in the IAU constellation Delphinus. It was discovered by English astronomer William Herschel in 1785 who listed it as "I 103". It is GC 4585 and 4586 in the *General Catalogue* of 1864. American astronomer Scott Hogsten (1998) described it as a pin cushion at 150X.

Pine Tree:

This **telescopic** asterism is in the IAU constellation Andromeda and is Corder 276 on the observing list of American astronomer Jeffrey Corder. Size 30'. This includes HIP 8108, 7899, and 8034.

Pineapple:

This **telescopic** asterism is Hay-Merting 12 in the IAU constellation Cygnus. Robert Zebahl lists it on his *Faint Fuzzies* website. Its size is 40' X 25'. Zebahl notes that "the base of the pineapple is located just east of 11 Cygni, two 8th magnitude stars a good 50 arcminutes east of 11 Cygni are the spiky leaf tips at the top. The location halfway between 4 and 15 Cygni is easy to find with the naked eye." One of those two stars forming the "spiky leaf tips" is HIP 96670.

Pineapple Egret:

This Barasana asterism "Sena Yehe" is stars in the IAU constellation Lacerta (Hugh-Jones 2006).

Pineterrinner:

This Palawa star is Beta (β) Geminorum (Pollux) in the IAU constellation Gemini (Gantevoort et al 2016).

Pink Pillow Nebula:

See Jewel Bug Nebula (above).

Pink Planetary:

This **telescopic** asterism is planetary nebula IC 418 in the IAU constellation Lepus. It is called this as its intricate pattern resembles one made by a spirograph. Its central star is HD 35914. American astronomer Edward Charles Pickering (1846 – 1919) first recorded it. American astronomer Barbara Wilson (1999) calls it the Pink Planetary. It is also known as the Raspberry Nebula, the Spirograph Nebula, and the Colored Contacts Nebula.

Pinwheel:

This Okinawan asterism "kajimayaabusi" (カジマヤーブシ) is the Little Dipper asterism in the IAU constellation Ursa Minor. This is from the earlier 風回りや or kaze mawar-i-ya (wind turn-NMLZ-thing|'pinwheel'). In Okinawa, pinwheels are traditionally made from the leaves of the pandanus tree.

There are two **telescopic** pinwheel asterisms:

- One is the open cluster Messier 33 (NGC 598) in the IAU constellation Auriga. It was discovered by Italian astronomer Giovanni Battista Hodierna before 1654. William Herschel listed it as "V 17" in his catalogue, and it is GC 352 in the *General Catalogue* of 1864.
- One is Messier 101 (NGC 5457), a face-on spiral galaxy in the IAU constellation Ursa Major. It was discovered by French astronomer Pierre Méchain in 1781. It was Irish astronomer Lord Rosse who first made extensive note of its spiral structure using his 72" Newtonian reflector in the second half of the 19th century. The 1864 *General Catalogue* lists this as GC 3770 and John Herschel's catalogue as h 1744.

Pioriori:

This Māori asterism is the Large Magellanic Cloud (Orchiston 2017).

Pious Woman:

This Arabic star is 80 Ursae Majoris in the IAU constellation Ursa Major as listed by Iranian astronomer Abu Rayhan Muhammad ibn Ahmad al-Biruni (973 – c. 1050) and as listed by R. H. Allen in his *Star Names* in 1899. It is part of his asterism Seven Anchorites (see below).

Pipe Nebula:

This **telescopic** asterism is dark nebula consists of Barnard 59, 65 – 67 and 78 in the IAU constellation Ophiuchus. The "pipe stem" consists of Barnard 59, 65, 66 and 67 and the "pipe bowl" is Barnard 78.

Piper:

This "Persian" asterism "Ternevelles Sandes", "Zurnai", or "Zernai Zan" is the IAU constellation Hercules as listed by Edward Sherburne in his *Sphere of Marcus Manlius* in 1675. Sherburne attributes this to the Persian astronomer "Ulugh Beigh" (Ulugh Beg Mirza (1394 – 1449)).

Pipiri and Rehua:

This Tahitian asterism "Pipiri Ma" is two stars in the IAU constellation Scorpius.

- In one version of the story, it is the stars Lambda (λ) Scorpii (Shaula) and Upsilon (υ) Scorpii (Lesath).
- In another it is the stars Mu (μ) 1 and 2 Scorpii. These are a brother and sister who flee into the sky and become stars. Their parents call them "Pipiri ma" as they chase them into the sky. Pipirima is the star Mu (μ) 2 Scorpii in the IAU constellation Scorpius. The IAU approved the name Pipirima for the star Mu (μ) 2 Scorpii A.
- In another version (Edwards 2015) it is Zeta (ζ) 1 and 2 Scorpii and Theta (θ) Scorpii.

This Cook Islands asterism is the stars Omega (ω) 1 and 2 Scorpii.

NOTE: Pipiri means "deprived". Compare to the Māori and Polynesian asterism Pipiri (see Deprived, above).

Pipirima:

See Pipiri and Rehua, above.

Pipoltr:

This **telescopic** Triesenberg star is TrES-3 in the IAU constellation Hercules (magnitude 12.4). It was given this name in the IAU NameExoWorlds campaign. It is a type of butterfly. It has an exoplanet named Umbäässa, which is a very small ant.

Piranha:

This Kobeua asterism is the IAU constellation Boötes. The star Alpha (α) Boötis (Arcturus) is the "tail".

Pirate Bird:

See Frigate Bird, above.

Pirate Moon:

This **telescopic** asterism is the open cluster NGC 1647 in the IAU constellation Taurus. It was discovered by William Herschel in 1784 who listed it as "VIII 8" in his catalogue. It is GC 896 in the *General*

Catalogue of 1864. It is O'Meara 25 in astronomer Stephen James O'Meara's *Hidden Treasures Catalogue* (2007). It is also known as the Crow's Nest (see above).

Pirate's Hook:

This **telescopic** asterism is Ennis 18 from the observing list of Canadian astronomer Charles Ennis and is found in the IAU constellation Andromeda. The "hook" is a curve stars starting at Gaia DR3 1922416336511782168, Gaia DR3 1922419497609055360, SAO 53338, Gaia DR3 1922411182550814208, HIP 117080, and SAO 53334 to Gaia DR3 1922362426083652736. From this last star the "glove" is the four stars HIP 117190, HD 223112, SAO 53348 and SAO 53335.

Pirate's Jewels Cluster:

This **telescopic** asterism is the open cluster NGC 2362 (Caldwell 64), discovered by Italian astronomer Giovanni Battista Hodierna in 1654 in the IAU constellation Canis Major. English astronomer William Herschel listed it as "VII 17. It is GC 1513 in the *General Catalogue* of 1864. It is also known as the Mexican Jumping Star Cluster.

Pisces:

The brightest star in Pisces is 2nd magnitude, and the stars of Pisces appear in 224 of the asterisms listed in this handbook.

This IAU constellation (IAU abbreviation Psc) became one of Ptolemy's 48 original constellations in the 2nd century. It is associated to the Greek myths of Aphrodite and her son Eros being assisted in an escape by two fishes. It appears in Ptolemy's *Almagest* as "᾽Ιχθύες" or "᾽Ichthýes" (see Fishes, above). Cicero (106 – 43 B.C.E.) called the lines connecting the "fishes" "Vincla" ("the bonds").

The 16th nome (district) of the Old Kingdom (3100 B.C.E.) "ḫ3t-mḥ̓t" is named for their fish Goddess Hatmehit and related to this constellation and may have influenced this later constellation (Berio 2014).

The Temple of Khnum at Esna has a Latopolitan zodiac on the ceiling of the pronaos dating to the age of Ptolemy II Euergetes (246 – 221 B.C.E.) depicts Pisces as a pair of fishes, each facing in opposite directions (Bullinger 1882, Seiss 1882).

The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) depicts this constellation as two fishes connected with a ribbon as does the Mainz Globe from the eastern end of the Roman empire (c. 150 – 220 C.E.).

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi's son depicts the northernmost "fish" of this constellation overlapping Andromeda.

The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) depicts the two fishes of Pisces descending from the front hooves of Aries instead of joined behind Cetus: This goes back to an early iconographical tradition derived from the Catasterismes of Eratosthenes.

The globe of the 2nd century Farnese Atlas depicts "Pisces" (Stevenson 1921).

The *De ordine ac positione stellarum in signis* ("*On the order and position of the stars in the signs*") in the Salzburg compilation (810 – 818) of Abbot Arno of Salzburg (785 – 821) lists the two fishes

separately as “borius id est aquilonalis” (“Borius is the northern one”) and “notius qui australis” (“better known as the southern one”).

Pisces appears in the Leiden *Aratea* (816) as two fishes connected by a winding line of stars (Katzenstein & Savage-Smith, 1988).

This constellation is depicted in editions of the 8th century *Revised Aratus Latinus*:

- In several editions (Dresden DC 183, Paris BN 12957, Prague IX. C. 6) this is depicted as two fish, swimming in opposite directions with their mouths connected by a line,
- In the Paris BN n.a. 1614 edition these fish are perpendicular,
- In the Cologne 83 II edition the fish are swimming in opposite directions with a line which connects the fishes’ tails,
- In the Vat Red lat 1324 edition the line connecting the fish is missing,
- In the Munich 560 edition the line is also missing, and the fish are facing in opposite directions.

The 9th century Munich 210 and Vienna ÖNB 387 manuscripts of the *De ordine ac positione stellarum in signis* depict the fishes as swimming in the same direction, connected by a 3-shaped stream.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi’s son depicts Pisces as two fishes whose tails are connected by a ribbon with a bend in it. One page shows the southern fish on our right, and the other shows the southern fish on our left. Both fish are drawn as if viewed from above, not the side.

The oldest known Islamic celestial glove, made between 1080 – 1085 by Ibrahim ibn Sa’id al-Wazzan and his son Mohammad, depicts Pisces as two fishes whose tails are connected by a ribbon.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Pisces as a pair of fishes whose tails are connected by a ribbon. The ribbon is off the edge of the circular chart, so we cannot say if it has a bend or knot.

Shams al-Dīn Muhammad B. Mu’ayyad al-‘Urdī’s inlaid celestial globe (1288) lists Pisces.

A Hebrew translation of the Almagest from Catalonia (c1361), Philadelphia (USA), University of Pennsylvania Libraries, Lawrence Schoenberg Collection, ms. ljs057 (old Ms.Sassoon 823), ff.56v, 57r, depicts Pisces as two fishes whose tails are connected by a ribbon with no knot.

A quadrans novus found at the House of Agnes site in Canterbury in 2005 in soil dated to c 1375-1425 lists the abbreviated form “PISC” (Dekker 2007).

The Cusanus celestial globe of Cardinal Nicholas Cusa (1414) depicts Pisces as two fish with no connecting line or ribbon.

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Pisces as a pair of fish whose tails are connected with a ribbon.

The mid 15th century Wein, Oesterr. National Bibl., manuscript Lat 5415, ff.168v-169r depicts Pisces as two fishes whose tails are connected with a ribbon with a knot in the middle.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.70v-71r depicts “Pisces” as two fishes whose tails are connected by a ribbon with a knot in the middle.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Pisces as two fishes whose tails are connected by a cord with a loop in the middle. It is not labelled.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Pisces as two fishes. The one on the left is facing upwards, and the one on the right is facing downwards. Their *mouths* are connected by a rope or cord with no knots. Elsewhere they are depicted individually, with no connection indicated.

A translation of The *Liber de signis* of Scottish polyglot Michael Scot (1175 – c.1232) in the second half of the 15th century, Darmstadt, Hessische Hochschulebibliothek, Ms 266, depicts Pisces as two fishes, the one on top facing to the left, and the one below facing to the right. Their *mouths* are connected by a rope or cord with no knots.

The vault of the Old Sacristy of the Basilica di S. Lorenzo in Firenze, Italy (1442) depicts only the northern fish of Pisces, the rest of the constellation being off the edge of the vault.

De Astronomica ("the astronomy"), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This depicts "Pisces" as two fish connected by a line between their mouths: This is unusual, as most of the depictions listed below have them connected by a cord or ribbon that is fastened around their tails.

The *Germanicus Aratea* (Siciliensis, c. 1469) and the *Germanicus Aratea* with scholia Strozziana (c. 1475) depict Pisces in the same manner as *De Astronomica*, with the fishes connected with a line between their mouths.

Pisces appears on the *Imagines constellationum Australium* chart of Romanian theologian Johannes Honter (1498 – 1549). Only the southern fish is shown with a ribbon connecting its tail: The northern fish is outside of this projection. It is labelled with the astrological sign for Pisces.

The Constance Celestial Globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts "Pisces" as two fishes connected by a band with a knot.

The early 16th century Real Academia de Historia, manuscript D-97, f.101v depicts Pisces as a pair of fishes whose tails are connected by a ribbon. There are no knots or loops in the ribbon and this constellation is not labelled. The Real Academia de Historia, manuscript D-97, f.104v – 105r depicts it in a similar fashion, but the ribbon has two sharp bends in it.

The 1515 edition of the *Almagest* listed "Echiguen".

The *imagines coeli septentrionales cum duodecint imaginibus zodiaci* ("images of the northern sky with twelve images of the zodiac"), commonly known as the *Northern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius (Dekker & Lippincott, 1999) depicts Pisces as two fish whose tails are connected by a ribbon with a loop in the middle.

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts "Pisces" as two fishes whose tails are connected with a ribbon with a loop in the middle.

Dele Stelle Fisse ("Of the Fixed Stars") by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as "de I Pesci". The

charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

The 1521 edition of the *Alfonsine Tables* listed the name “Pesces”.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts Pisces in the same manner as Dürer et al.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts “Pisces” as two fish whose tails are connected by a knotted ribbon.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as the “Fishes”.

The Northern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Pisces as two fish whose tails are connected by a ribbon with a loop in it.

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists Pisces in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts Pisces as two fish connected by a ribbon and labels it with the astrological symbol for Pisces.

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicts “Pisces: as two fishes whose tails are connected by a ribbon with no knots.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts “les Poissons” as two fishes whose tails are connected by a knotted ribbon.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts Pisces as two fish whose tails are connected by a looped ribbon.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts “Pisces” as two fishes connected by a ribbon with a knot in the middle.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) depicts “Pisces” as two fishes connected by a cord with no knots.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) depicts “Pisces” as two fishes connected with a ribbon.

Pisces is listed in Danish astronomer Tycho Brahe’s *Astronomiae Instauratae Progymnasmata* (1602).

German astronomer and uranographer Johann Bayer (1572-1625) depicts Pisces as two fishes connected with a cord in his *Uranometria* in 1603. Bayer lists the following names for this constellation: “Pisces, Piscis, Elhautine, Ichiguen, Gemellus, Proles Dercia, Derce, Derceto, Dercetis, Phacetis, Dea Syria, Veneris mater, Venus and Cupido, Germa, Haut, Elhaut”.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts “Pisces” as two fish connected with a ribbon.

"Pisces" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and depicted as two fish connected with a ribbon. Bartsch also lists the local name "die Fische".

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the name "Pisces" for this constellation.

"Pisces" is listed in the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as two fish connected with a ribbon.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts "Pisces" as two fishes whose tails are connected by a ribbon with a bend in it. The northern fish has its head concealed behind the left shoulder of Andromeda.

The huge *Gottorf Globe* (c1650) made for the Duke of Holstein, Frederick III, one of the world's first planetariums, depicts Pisces as two fish whose tails are connected by a ribbon that has a knot in the middle.

Pisces is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 and depicted as two fish connected with a ribbon. The northern fish is labelled "Piscis Alsemeha" and the southern fish "Piscis le quens", with the northern ribbon labelled "Linum Aust" and the other "Linum Sept."

Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) depicts Pisces as two fishes connected with a red ribbon.

The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678 by English uranographer James Clerk depicts "Pisces" as two fishes connected by a ribbon.

English uranographer John Seller's *A coelestiall planisphere* (1678) depicts "Pisces" as two fishes connected by a ribbon.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts these as two fish, their tails connected by a ribbon which is knotted into a loop at the middle. Hevelius took Thomas Hood's name for the cord between the fishes (Linus Piscium- see Line of Fish, above) and broke this constellation down into four subdivisions in his *Firmamentum Sobiescianum*:

- Piscis Boreas (see North Fish, above),
- Linum Boreum (see North Cord, above),
- Linum Austrinum (see South Cord, below), and
- Piscis Austrinus (see South Fish, below).

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this "Les Poissons", "Pisces", and "᾽Ιχθύες" ("fishes") and depicts it as two fish whose tails are connected by a winding ribbon with no knots.

Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) labels this constellation "Pisces hoc Cingula coligati" ("This fish is tied to the belt") and depicts two fish connected with a ribbon.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, depicts Pisces as two fish connected with a cord.

Pisces is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729: It is depicted as two fish connected with a ribbon.

A wooden precession globe (1730) by German uranographer Johann Georg Puschner (Dekker 2003) lists this constellation as "Pisces".

The *Atlas Coelestis* of German astronomer Johann Gabriel Doppelmayr (1742) depicts "Pisces" as two fish connected with a ribbon of stars.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Pisces as a pair of fish whose tails are connected with a ribbon with a knot in the middle.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) depicts "Les Poissons" as two fishes connected with a ribbon.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts "Pisces" as two fishes connected with a ribbon.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "Les Poissons" ("the fishes") as two fishes connected with a ribbon, as does the 1778 edition.

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "die Fische" as does his *Vorstellung Der Gestirne* (1782): The northern fish is labelled "Nordlicher Fisch" and the southern fish "Sūdliche Fisch" on his charts. This is depicted as two fish connected with a ribbon with a knot in the middle.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as "Pesci" in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts "Pisces" as two fishes connected with a ribbon. NOTE: Elwe also labels Piscis Austrinus with the name "Pisces".

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts "Pisces" as two fishes connected with a ribbon.

American uranographer William Croswell (1760 – 1834) depicts Pisces on his *Mercator Map of the Starry Heavens* in 1810 as two fishes connected with a ribbon.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as "Fische" and also uses this name in the various editions of his *Jahrbuch*.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists this constellation "Pisces" in his *Celestial Atlas* in 1822: It is depicted as two fish connected by a ribbon. Jamieson lists the northern "fish" as

"Pisces Borealis" on one chart and "Piscis Borealis Zodiaci" on another chart and the southern "fish" as "Piscis Australis Zodiaci". On Jameison's *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822) they are depicted the same way, and it is simply labeled "Pisces".

"Pisces" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and is depicted as two fish joined with a ribbon with a knot in the middle.

English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Echiguen" as one of the names from the "Arabo-latin Almagest".

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depict "Pisces" as two fished connected by a ribbon.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts "Pisces" as two fishes connected with a ribbon.

"Pisces" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It is depicted as two fish connected by a ribbon.

Pisces is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822. It is depicted as two fish connected by a ribbon.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) labels this constellation the "Fishes" on its chart but as "Pisces, the fishes" in the text and describes it as "two fishes tied together with a long ribbon".

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Pisces, The Fishes" as an official constellation "recognized in the catalogue of the British Association".

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as "Pisces, the Fishes".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Pisces" in his *Star Atlas* (1893) and describes it as "The Fish".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Pisces" and describes it as the "Fishes".

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Pisces".

Standard IAU charts depict Pisces this way:

- One "fish" is the triangle of stars Phi (ϕ), Upsilon (υ), and Sigma (σ) Piscium,
- One "fish" is the pentagon of the stars Iota (ι), Theta (θ), Gamma (γ), Kappa (κ), and Lambda (λ) Piscium,
- These two "fish" are connected by lines of stars converging on a "knot" at the star Alpha (α) Piscium (Alrescha).

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Pisces in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik*, in the same manner as the IAU except the northern "fish" is a diamond of the stars Chi (χ), Phi (ϕ), Upsilon (υ), Tau (τ), and 68 Piscium.

The French call it "Poissons", the Normans "Peisun", the Saxons "Fixas".

Pisces El-wirea:

This American asterism is made up of stars of the IAU constellation Pisces and was created by Brad and Kathryn Templeton for *The Vault of Heaven* star map for the 2004 Burning Man event held in Black Rock Desert in Nevada (Kuperjanov 2006). The "northern fish" of the constellation has become a fish-shaped balloon on a tether attached to a "bicycle" which is made up of the rest of the constellation.

Piscis Austrinus:

The brightest star in Piscis Austrinus is the 1st magnitude Alpha (α) Piscis Austrini (Fomalhaut) which is the 18th brightest star in the sky, but the rest of its stars are 4th magnitude. The stars of this constellation appear in 105 of the asterisms in this handbook.

This IAU constellation (IAU abbreviation PsA), the southern fish, originated in the Babylonian asterism "Nunu" (see Fish, above) and first appeared in Greek star lists around 500 B.C.E. It became one of Ptolemy's 48 original constellations in the 2nd century. Greek names for it included "Ἰχθύς" ("Ichthýs" or "fish"), "Ἰχθύς νότιος" ("Ichthýs nótios" or "southern fish"), "Ἰχθύς μέγας" ("Ichthýs mégas" or "great fish") and "Ἰχθύς μονάζων" ("Ichthýs monázon"). It was originally known as "Piscis Notus" ("known fish") or "Piscis Notius" ("fish better known") according to Aratus in the 3rd century B.C.E. Ptolemy (c.100 – c.170) listed it as "Νότιος ’Ιχθύς" ("Nótios ’Ichthýs"- see Southern Fish, below) in his *Almagest*.

One Latin name for it is "Piscis Capricorni", which relates to its position. Johann Bayer's *Uranometria* (1603) lists "Piscis Capricorni".

The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) depicts this constellation as a fish swimming to the right, as does the Mainz Globe from the eastern end of the Roman empire (c. 150 – 220 C.E.).

This constellation appears as "Piscis" in editions of the 8th century *Revised Aratus Latinus*:

- Piscis is depicted as an upside-down fish except for the Vat Reg lat 1324, Cologne 83 II, and Munich 560 manuscripts,
- In the Dresden DC 183, Gottwieg 7 (146), Paris BN 12597 and St. Gall 902 editions the fish's mouth is gaping.

Piscis Austrinus appears in the Leiden Aratea (816) as a single fish (Katzenstein & Savage-Smith, 1988).

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi's son depicts Piscis Austrinus as a fish in right profile.

The 11th century *De signis caeli ("of the signs of heaven*") lists "Piscis Austris", "Piscis Australis", and "Piscis Aquilonius" for this constellation. The Klosterneuberg 685, Paris BN 5239, Paris BN 5543, Vat lat 643, and Zwettl 296 manuscripts of *De signis caeli* depict Piscis Austrinus upside down.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Piscis Austrinus as a fish swimming to our right swallowing the water poured by Aquarius.

Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) lists Piscis Austrinus.

A Hebrew translation of the Almagest from Catalonia (c1361), Philadelphia (USA), University of Pennsylvania Libraries, Lawrence Schoenberg Collection, ms. ljs057 (old Ms.Sassoon 823), ff.56v, 57r, depicts "Piscis Notus" as a fish swallowing the water poured by Aquarius.

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Piscis Austrinus as a fish swimming to our left.

The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.170v-171r depicts "Piscis Meridionalis" as a fish that appears to be trying to bite its own tail.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.72v-73r depicts Piscis Austrinus as a fish that appears to be trying to bite its own tail. It is not labelled and poorly drawn.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Piscis Austrinus as a fish swallowing the water poured by Aquarius. It is not labelled and is partially concealed as it is at the edge of the astrolabe.

De Astronomica ("the astronomy"), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This depicts "Piscis" as a fish.

The *Germanicus Aratea* (Siciliensis, c. 1469) and the *Germanicus Aratea* with scholia Strozziana (c. 1475) depict Piscis Austrinus as an upside-down fish swimming to our left. The former gives it the label "Piscis Magnus".

"Piscis Notius" appears on the *Imagines constellationum Australium* chart of Romanian theologian Johannes Honter (1498 – 1549) as a fish facing to our left.

The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts "Piscis Meridionalis" as a fish with its head turned towards its tail.

The early 16th century Real Academia de Historia, manuscript D-97, f.101v depicts Piscis Austrinus as a fish swallowing the water poured by Aquarius. It is not labelled and is facing to our right. The Real Academia de Historia manuscript D-97, f.104v – 105r depicts the same thing, except it is facing to our left.

The "Nuremburg Maps", a pair of celestial hemispheres made in 1503 by Conrad Heinfogel labels this constellation "Piscis Notus" and depicts it as a circling fish with teeth.

The *Southern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius depicts "Piscis Notius" as a circling fish with teeth.

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts "Piscis" as a fish swimming in a tight circle.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts "Piscis Austrinus" as a fish swimming to our right onto which Aquarius is pouring water.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and labels this constellation “Piscius Notius” and depicts in the same manner as Dürer et al.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts “Piscis notius” as a fish with an open mouth at the end of the water being poured by Aquarius.

Dele Stelle Fisse (“Of the Fixed Stars”) by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as “Del pesce Australe”. The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as the “Southern Fish”.

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts “Piscis Notius” as a fish swallowing the water being poured by Aquarius.

The Southern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Piscis Austrinus as a circling fish.

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists this constellation as “Piscis Austrinus, sive Notius” in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicts “Piscis Austrinus, siue notius” as a fish swimming to our right.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts “Piscis Notius” as a fish swimming to our left.

In 1597 Flemish astronomer Petrus Plancius took some stars from Piscis Austrinus’ tail to create the constellation Grus (see Grus above).

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) depicts “Piscis Notius” as a fish.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts “le Poisson Australe” as a fish swimming to our left.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) lists this constellation as “Piscis Notius” and depicts it as a fish swallowing the water poured by Aquarius. Gores of Hondius’ earlier 1598 globe list it as “Piscis Notius vel Meridionalis”.

German astronomer and uranographer Johann Bayer (1572-1625) depicts this in his *Uranometria* in 1603 as a coiled fish with teeth. Bayer lists these names for this constellation: “Piscis Notius, Piscis Meridianus, Piscis Austrinus, Piscis Capricorni, Piscis Magnus, Piscis Solitarius”.

Piscis Austrinus is omitted from Danish astronomer Tycho Brahe’s *Astronomiae Instauratae Progymnasmata* (1602).

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts “Piscis Austrinus” as a fish swallowing the water poured by Aquarius and gives the alternate name “Piscis Notius”.

Piscis Austrinus is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as “Piscis Notius” and depicted as a fish swallowing the water poured by Aquarius.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the name “Piscis Notius” for this constellation.

“Piscis Notius” is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a fish swallowing the water poured by Aquarius.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts “Piscis Aust” as a fish swallowing the water poured by Aquarius.

Dutch cartographer Frederik de Wit’s *Planisphaerium Coeleste* (1670) lists this constellation as “Piscis Notius” and depicts it as a fish with teeth.

Piscis Austrinus is listed by English astronomer Edmond Halley in his *Catalogus Stellarum Australium* in 1679 and depicted as a fish on his southern star chart of 1678.

English uranographer John Seller’s *A coelestiall planisphere* (1678) labels this with the abbreviated “Piscis Aust” and the creature depicted swallowing the water poured by Aquarius looks more like a seal than a fish.

Johannes Hevelius’ *Firmamentum Sobiescianum sive Uranographia* (1690) depicts “Piscis Austrinus” as a fish swallowing the water being poured by Aquarius. This is a roughly “U” shaped line running from Alpha (α) Piscis Austrini (Fomalhaut) through Epsilon (ε), Eta (η), Theta (θ), Tau (τ), and Beta (β) Piscis Austrini to Delta (δ) Piscis Austrini. Hevelius’ *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts “Piscis Notius” as a fish swallowing the water poured by Aquarius.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this “Poisson Meridia”, “Pisces Notius”, and “Ἰχθύς νότιος”, depicting it as a fish swallowing the water poured by Aquarius.

Dutch uranographer Carel Allard’s *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) labels this constellation “Piscis Australis al Notius Aquarii fusuram imbibens” (“Piscis Australis al Notius Aquarius imbibing the melting”) and depicts it as a fish drinking the water poured by Aquarius.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley’s pirated catalogue of Flamsteed’s observations of 1712, labels this “Piscis Notius” and depicts it as a fish at the end of the water flowing from the urn of Aquarius, which is labeled “Fusura Aquarii” (“the casting of Aquarius”).

Piscis Austrinus is listed in English astronomer John Flamsteed’s *Atlas Coelestis* in 1729.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts Piscis Austrinus as a fish swimming to our right swallowing the water poured by Aquarius above.

The *Atlas Coelestis* of German astronomer Johann Gabriel Doppelmayr (1742) depicts “Piscis Notius” as a fish swallowing the water poured out by Aquarius on one chart, and on another chart labels this “Piscis Austrinus”.

German engraver and cartographer Tobias Conrad Lotter’s *Planisphaerium Coeleste* (1750) depicts Piscis Austrinus as a fish.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Piscis Austrinus as a coiled serpent swallowing the water poured by Aquarius.

French uranographer Gabriel Phillipe de la Hire’s *Planisphere Celeste* (1760) depicts “Le Poisson Austral” as a fish with teeth and one coil.

French astronomer Abbé Nicolas Louis de Lacaille’s *Planisphère des Étoiles Ausralea* (1756) depicts “le Poisson Austral” as a fish.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts “Piscis Aust” as a fish swimming to our right, swallowing water poured out by Aquarius.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) labels this “le Poisson Austral” as does the 1778 edition. It is depicted as a fish swallowing the water poured out by Aquarius.

Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists this constellation as ”Der Sūdliche Fisch” and depicts it as a fish facing to our left swallowing the water poured by Aquarius.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as “Pesce Austale” in his *Della Specola Astronomica De’ Regj Studj Di Palermo* (1792).

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer labels this constellation “Pisces” and uses the same name for the constellation Pisces in the northern hemisphere. The chart depicts this as a fish swallowing water poured by Aquarius.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts “Piscis Aust” as a fish swimming to our right swallowing the water poured by Aquarius.

Piscis Austrinus is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801) as “Zuidlyke Visch” (“Southern Fish”): It is depicted as a fish swallowing the water poured by Aquarius.

American uranographer William Croswell (1760 – 1834) depicts “Piscis Notius the Southern Fish” on his *Mercator Map of the Starry Heavens* in 1810 as a fish.

“Piscis Austrinus” is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as a long fish with a loop: It is swallowing the water poured by Aquarius.

German astronomer Johann Elert Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as “Sūdlicher Fisch”.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists this constellation as “Piscis Australis” in his *Celestial Atlas* in 1822.

English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Piscis Notius, Piscis Magnus, Piscis Australis, and Piscis Austrinus”. American astronomer Robert Burnham lists it as “Pisces Austrinus” in his *Burnham’s Celestial Handbook* in 1978.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts “Piscis Aust” as a fish swimming to our right swallowing water poured by Aquarius.

“Piscis Austrinus” is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It is depicted as a fish swallowing the water poured by Aquarius.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this constellation on its chart as “Southern Fish”.

English astronomer Richard Anthony Proctor lists this constellation as “Piscis, the Southern Fish” in 1873 as Proctor believed that shortening the name would make more room on astronomical charts. “Piscis” is listed in Proctor’s *A New Star Atlas* (1887) as an official constellation “recognized in the catalogue of the British Association” instead of Piscis Austrinus.

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as “Piscis Australis, the Southern Fish”.

German astronomer Hermann Joseph Klein (1844 – 1914) lists “Piscis Austrinus” in his *Star Atlas* (1893) and describes it as “The Southern Fish”.

American astronomer Winslow Upton’s *Star Atlas* (1896) lists this constellation as “Piscis Australis” and describes it as the “Southern fish”.

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists “Piscis Australis… the Southern Fish”.

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children’s book *Curious George* (1941) redesigned the lines of Piscis Austrinus in his book *The Stars - A New Way to See Them* (1952). The standard IAU chart depicts a curving line of stars running from Alpha (α) Piscis Austrini (Fomalhaut) through Epsilon (ε), Eta (η), Theta (θ), Tau (τ), and Beta (β) Piscis Austrini to Delta (δ) Piscis Austrini. Rey depicts this constellation like this:

- The “body” of the fish is the loop of stars Fomalhaut, Epsilon (ε), Tau (τ), Mu (μ), Beta (β), Gamma (γ), and Delta (δ) Piscis Austrini.
- The “tail” is the triangle of stars Mu (μ), Theta (θ), and Iota (ι) Piscis Austrini.

Sky and Telescope Magazine, founded in 1941, depicts Piscis Austrinus in their magazine and publications in the same manner as Reyersbach.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Piscis Austrinus in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* as an open diamond shape starting at the star Delta (δ) Piscis Austrini and running through Alpha (α) Piscis Austrini (Fomalhaut), Epsilon (ε) Piscis Austrini, Iota (ι) Piscis Austrini, Mu (μ) Piscis Austrini, and Beta (β) Piscis Austrini to Gamma (γ) Piscis Austrini.

In earlier star charts it appeared as “Piscis Australis” or “Piscis Meridionalis”, to the Italians it was “Pesce Australe”, to the French “Poisson Austral” and to the Germans “Südliche Fisch”.

Pistil of Cetus:

This **telescopic** asterism “Pistíllus Céti” is the barred spiral galaxy NGC 600 in the IAU constellation Cetus. This was discovered in 1785 by William Herschel who listed it as “III 432”. It became GC 354 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as its bar resembles the pistil of a flower.

Pistol Nebula:

This **telescopic** asterism is a nebula in the Quintuplet Cluster in the IAU constellation Sagittarius and contains the Pistol Star (see below).

Pistol Star:

This **telescopic** asterism is a hypergiant star which is part of the Quintuplet Cluster in the Galactic Center region in the IAU constellation Sagittarius. It has this name as it is the principal star in the Pistol Nebula (see above). It is one of the most luminous stars known.

Pit:

In the early 17th century German astronomer and uranographer Johann Bayer (1572-1625) proposed the name “Fovea” (“the pit”) for the IAU constellation Canis Minor.

Pit at the Elbow of al-Thurayyā:

This Arabic star “al-ma’bid”, later latinized to “Al Mabid”, which means “pit at the elbow” or “pit of the elbow” is Sigma (σ) Persei in the IAU constellation Perseus and is part of their asterism Al Thurayya (see Little Abundant One, above). Compare this with al-Mirfaq uth-Thurayyā (see Elbow, above).

Pitcher:

This German asterism “Pitcher” or “Water Jug at Cana” is the IAU constellation Delphinus and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the “pagan” names of constellations with Biblical and early Christian figures. Edward Sherburne lists it as “the Pitcher of the Canaanitish Woman” in his *Sphere of Marcus Manilius* in 1675. It later appears in John Hill’s *Urania* in 1754 as “Pitcher”.

Pitchfork Galaxy:

This **telescopic** asterism is NGC 4197 in the IAU constellation Virgo. This name is posted on the *Deep Sky Forum* by American astronomer Jimi Lowrey in April 2017. It has this name because this edge-on galaxy has an apparent “split” at one end.

Pitja:

This Carib asterism “Pitjayuman” or “Pitja” represents a bird in the Crotophaginae family. Its present location is unknown (Magaña, and Jara, 1982).

Piton Hammer:

This telescopic asterism is in the IAU constellation Antlia and is Ennis 74 on the observing list of Canadian astronomer Charles Ennis. Size 25' X 10'. The "hammer head" is a wedge of four 9th – 10th magnitude stars including the double star HIP 50795, HD 89985, SAO 201326, and Gaia DR3 5448633792752669824. This is the group Corder 2004 on Jeffrey Corder's list. The "handle: is the stars SAO 201319, Gaia DR3 5448617939619782912, Gaia DR3 5448571704705534848, and Gaia DR3 5448616819042003072. NOTE: A piton hammer is one of a rock climber's principal tools, used for driving in pitons as anchors for the rope system.

Pivot of the Mill:

This Arabic asterism is the IAU constellation Ursa Minor as depicted on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283) and is described as "twelve stars; seven of which lie within and five without the figure" (Dorn 1829).

Pivot of the Planets:

This Northern Indian star "Grahadhāra" is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor as listed by R. H. Allen in his *Star Names* in 1899.

Pivot of the World:

This Finnish star "Maailmantappi" is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor.

Pivot Star:

This German star "Angel Stern" is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor as listed by German astronomer Johann Bayer (1572-1625). He called it this as it was "fixed" in the sky.

Plain Oath Taker:

This Arabic star "al Suhail al Muḥlīf" is Gamma (γ) Velorum in the IAU constellation Vela. The words "al Muhlif" ("the oath-taker") and "al Suhail" ("the plain") have been combined here.

Place for Five Emperors:

This Korean asterism "Daseos Myeong-ui Hwangjeleul Wihan Jangso" (다섯 명의 황제를 위한 장소) in the IAU constellation Draco has a central star, HIP 92056, with four lines running out from it:

- One goes to the star Chi (χ) Draconis,
- One goes to the star Upsilon (υ) Draconis,
- One goes to the star Tau (τ) Draconis, and
- One goes to the star 50 Draconis.

Place Whence Wind Comes:

This Māori asterism "Naha" is the Coal Sack Nebula (see Coal Sack Nebula, above).

Placid Water:

This American star "Miaplacidus" is Beta (β) Carinae in the IAU constellation Carina. Its name was created by American astronomer Elijah Burritt (1794 – 1838) by combining the Arabic word "miyāh"

(مياه) meaning “waters” and the Latin word “placidus” (“placid”), appearing in his *Geography of the Heavens*. It was star names expert William Higgins that figured out the etymology. The IAU approved the name Miaplacidus for Beta (β) Carinae.

Planet Krypton Nebula:

See Blue Racquetball, above.

Plaskett’s Star:

This **telescopic** double, variable star is HIP 31646 (HD 47129) in the IAU constellation Monoceros (magnitude 6.06). This spectroscopic binary was named for Canadian astronomer John Stanley Plaskett, who discovered it in 1922 with the assistance of his son Harry Hemley Plaskett. This is one of the most massive binary stars known. *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns calls it “Plaskett’s Monster Double”. *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this as “Plaskett’s Star”.

Platais’ Oddball:

This **telescopic** asterism is the open cluster NGC 6791 in the IAU constellation Lyra. It was discovered by German astronomer Friedrich August Theodor Winnecke in December 1853. It is named for Latvian astrophysicist Imants Platais, who used the Hubble Space Telescope to discover that it had three different age groups of stars, which is unusual, as open clusters typically have all their stars in the same age group. Diameter 8.2’.

Plates:

This Greek asterism “Pinacion” is the IAU constellation Corona Borealis as listed in John Hill’s *Urania* in 1754. HIll defines it with the Latin term “Discus”.

Playa Virgo:

This American asterism is a line of stars in the IAU constellation Virgo and was created by Brad and Kathryn Templeton for *The Vault of Heaven* star map for the 2004 Burning Man event held in Black Rock Desert in Nevada (Kuperjanov 2006). It starts at 109 Virginis and runs through Tau (τ), Zeta (ζ) and Delta (δ) Virginis to Epsilon (ε) Virginis.

Player:

This Arabic asterism “al-raqis” (الرقيس) is the IAU constellation Hercules.

Players:

This Latin asterism “Ludentes” is a group of stars in the IAU constellation Ursa Minor: Alpha (α) Ursae Minoris (Polaris), Beta (β) Ursae Minoris (Kochab), Gamma (γ) 1 and 2 Ursae Minoris, Delta (δ) Ursae Minoris, and Epsilon (ε) Ursae Minoris. This is listed in the 11th century De signis caeli and Scholia Strozziana (Santoni 2017). Compare this to Dancers, above.

Players on Lutes:

This Arabic asterism is the stars Beta (β) Draconis (Rastaban), Gamma (γ) Draconis, Xi (ξ) Draconis, and Nu (ν) Draconis in the IAU constellation Draco as depicted on a globe made by Mohammed ben Helal in

1275 in Mosul (Dorn 1829), based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283). English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "al'awad, the lute player".

Pleiades:

This open cluster, Messier 45, is located in the IAU constellation Taurus and is one of the closest open clusters to Earth. It is recognized as seasonal harbingers by cultures the world over. The principal stars of this cluster are Eta (η) Tauri (Alcyone), 21 Tauri (Asterope), 27 Tauri (Atlas), 16 Tauri (Celaeno), 17 Tauri (Electra), 20 Tauri (Maia), 23 Tauri (Merope), 28 Tauri (Pleione), 22 Tauri (Sterope II), and 19 Tauri (Taygeta). They are a prominent feature in Northern Hemisphere skies and can be seen out to mid Southern latitudes. NOTE: The Greek poet Theocritus (300 – c.260 B.C.E.) gave the seven sisters the names Coccymo, Plancia, Protis, Parthemia, Lampatho, Stonychia, and Maia.

The earliest known depiction of the Pleiades is possibly a Northern German Bronze Age artifact known as the Nebra sky disk, which dates to 1600 B.C.E. The Pleiades are the daughters of Atlas in Greek mythology. The Pleiades appear in Homer's *Iliad and Odyssey* (8th century B.C.E.) and in Hesiod's poem *Works and Days* (late 8th century B.C.E.) as "Πλειάς" ("Pleiás") and Eratosthenes (d.194 B.C.E.) also called them this. This is believed to be derived from the Greek "pleio", meaning "to sail": The rising of the Pleiades was a sign of the opening of the sailing season to Mediterranean sailors (Laouli 2006). Aratus mentioned them in his poem *Phaenomena* (270 B.C.E.) as "Πληϊάδης" ("Pliïádis"). Hipparchus (190 – 120 B.C.E.) called them "Πλειάς" ("Pleiás", later latinized to "Plias") and "Πλειάδες" ("Pleiádes"), which lead to the current name and the variant "Pliades".

The Pleiades are mentioned in the *Quran* and three times in the *Bible*.

9th century Benedictine monk Rabanus Maurus listed "Plyades".

The Pleiades have a page to themselves in the Leiden *Aratea* (816), which depicts the faces of seven women (Katzenstein & Savage-Smith, 1988).

In the 8th century *Revised Aratus Latinus* (Dresden DC 183, Paris BN 12957, Prague IX. C. 6, Vat Reg lat 1324) they are depicted as seven veiled women set in circular frames.

The Maass 1898 manuscript of the 11th century *De signis caeli ("of the signs of heaven*") lists "Pliades". The Klosterneuberg 685, Paris BN 5239, Paris BN 5543, Vat lat 643, and Zwettl 296 manuscripts of *De signis caeli* depict each star as a head in a roundel.

The mid 15th century Wein, Oesterr. National Bibl., manuscript Lat 5415, ff.168v-169r labels a group of five stars above the back of Taurus "Pliadis".

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts the Pleiades as seven women in two rows. The upper row is two pairs of women visible from the knees up, each pair in conversation. The lower row depicts three women from the waist up. The females on either side are speaking to the woman in the middle.

The *Germanicus Aratea* (Siciliensis, c. 1469) and the *Germanicus Aratea* with scholia Strozziana (c. 1475) depict the Pleiades as the head and shoulders of seven women. The former labels them "Pleyades".

The Constance Celestial Globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts the "Plijades" as seven stars.

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts the "Pleiades" as a cluster of stars at the shoulder of Taurus.

This asterism appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as the “Pleiades” and the “Vergiliae” (See Vines, below).

Johann Bayer’s *Uranometria* (1603) lists the “Pleiades”.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists the “Pleiades”.

The “Plejades, “Plejadum”, and “Pleiades” are all listed for this asterism in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

The “Pleiades” are listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633).

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) depicts the “Pleiades” as the busts of seven women emerging from clouds.

The Pleiades are listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661.

The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678 by English uranographer James Clerk lists the Pleiades.

A wooden precession globe (1730) by German uranographer Johann Georg Puschner (Dekker 2003) labels this cluster “Pleyades”.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) lists this cluster as the “Plejades” and gives the alternate name “ein Häuslein kleiner Sterne” (“a little house of little stars”).

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) lists “les Pleyades” on the northern hemisphere chart but “les Pleiades” on a closeup chart.

Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists this asterism as “Plejades”.

American uranographer William Croswell (1760 – 1834) lists “Pleiades the Seven Stars” on his *Mercator Map of the Starry Heavens* in 1810.

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts the Pleiades cluster as seven stars.

Scottish uranographer Alexander Jameison’s *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822) depicts the Pleiades as a single star.

The Pleiades are listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852: The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822.

The French edition of Flamsteed’s work, the *Atlas Céleste,* which was revised in 1778, lists this asterism as “les Pleiades”.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists the "Pleiades". Bode's *Vorstellung Der Gestirne* (1782) lists this asterism on the charts as "Plejades".

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts the Pleiades cluster.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts the Pleiades.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists the Pleiades as well as the alternate name "Seven Sisters" (see below) but describes it as six stars visible to the naked eye.

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists the "Pleiades" cluster.

American astronomer Winslow Upton's *Star Atlas* (1896) lists this star cluster as "the Pleiades" and translates it as "to sail".

The 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) lists this cluster as the "Pleiades".

The Facts of File Dictionary of Astronomy, 2nd edition, 1985, by Valerie Illingworth, ed., lists this cluster as "Pleiades (Seven Sisters…)".

A Saxon name for them is "Pliade".

The Italians call them "Pleiadi" and the Germans "Pleiaden".

The Pleiades show up in 485 of the asterisms listed in this handbook. In South American tropical forests, they are seen as bees, wasps, a handful of flour spilled on the ground, parrots, white down, or a bunch of flowers. Western astronomers sometime call them the "Shopping Cart". The Lacandón and Manche Ch'ol burn cornfields in preparation for planting when the Pleiades are in treetops at dawn. The Ch'orti' use the Pleiades to predict the Sun's passage over the zenith around planting time.

NOTE: Sky cultures vary as to whether there are six or seven stars in the Pleiades cluster, and one explanation given by researchers involves the magnitude of the stars and the observer's ability to see them in varying seasons at various locations. Another relates to the Greek myths about the Pleiades and holds that Orion is chasing the Pleaides sisters and that there are six of them, with the seventh being the planet Venus, which may be close to the Pleiades on the Western horizon at sunset (Holbrook 2020).

Plectrum of Lyra:

This **telescopic** asterism "Pléctrum Lýrae" is the irregular galaxy NGC 6745 in the IAU constellation Lyra. It was discovered by French astronomer Édouard Stephan (1837 – 1923) in 1879. It is actually a trio of galaxies colliding. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it "could be seen as the plectrum with which to play the lyre." It is also known as the "Bird's Head" (see above).

Pleione:

This Greek star is 28 Tauri in the Pleiades cluster in the IAU constellation Taurus. Pleione is one of the Pleiades sisters in Greek mythology:

- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) called it "Mater Pleione" and "Plione".
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as "Pleione".
- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Pleione".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list this star as "Pleione".
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this star as "Pleione"
- The IAU approved the name Pleione for 28 Tauri Aa.

Plenty:

This Karanga asterism "Kgora" or "Maguta" is the Large Magellanic Cloud in the IAU constellation Dorado. They called the Small Magellanic Cloud "Tlala" (see Famine, above).

This Tswana asterism "Kgoro" ("plenty" (of food)) is the Large Magellanic Cloud.

Plinthion:

This Greek asterism "Πλίνθιον" ("Plínthion") is the IAU constellation Ursa Major. The plinthion is a sort of psaltery with 32 strings.

Plough:

This Egyptian asterism "Arotron" is one of the paranatellonta of the decans of Virgo as listed in *the Sphaera Barbarica* described by Teucros (Mosenkis, date n/k) and may be Coma Berenices.

This Norse and Old High German asterism is the IAU constellation Orion.

This Bantu asterism is the Pleiades cluster in the IAU constellation Taurus.

This Italian (Piedmont and Ligurian Alps) asterism "lu Tc¸arri Gros" ("the great plow") is the IAU constellation Ursa Major.

This English asterism is the Big Dipper asterism in the IAU constellation Ursa Major:

- English mathematician Thomas Fale called it the Plough in his *Horologiographia* in 1593.
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "the Plough".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "the Plough" as an alternate name for this asterism.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., states: "Big Dipper: US name for the Plough".

This Celtic asterism was the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above). The Celts used in their ancient Sequani calendar in their month Simivisonnios (see Half the Course of the Sun Guiding Star, above): When upright in the sky it marked the beginning of the ploughing season. Compare this to the later Irish asterism "Camchéachta" (see Bent Plough, above).

This Japanese asterism “Karasuki” is the belt and sword of Orion in the IAU constellation Orion (Renshaw and Ihara 2001). The three stars of the belt are the prongs of the plough, and the sword is the handle to pull it.

This Babylonian asterism from the MUL.APIN tablets and from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) “MUL.APIN” (Hunger 1992, Sanders 2023), “Epinnu” (Hunger 1992, Parpola 1993), is made up of stars in the IAU constellation Cassiopeia:

- This is basically the “W” of Cassiopeia: Beta (β) Cassiopeiae (Caph), Alpha (α) Cassiopeiae (Shedar), Gamma (γ) Cassiopeiae, Delta (δ) Cassiopeiae, and Epsilon (ε) Cassiopeiae, with an additional line running from Epsilon (ε) to Iota (ι) Cassiopeiae,
- From Gamma (γ) Cassiopeiae three lines run out:
    - One line runs to Theta (θ) Cassiopeiae
    - One line runs to Kappa (κ) Cassiopeiae, and
    - One line runs to HIP 3951.

Hope Anthony (1996) lists this as “APIN” and “epinnu” and describes it as “Gamma (γ) Andromedae and Triangulum Boreale”, this later asterism being the IAU constellation Triangulum. Didier (2009) also describes it this way.

This Chaldean asterism from the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period as “mul.apin” (Koch-Westenholz 1995) and on planisphere K 8538 as “mulĂŠ-iku” (Koch 1989). Barbaru (“wolf”) is the name the Babylonians gave to Gamma (γ) Cassiopeiae: They also call it the “plough’s seeder”. This asterism appears in later Seleucid sky lore. Compare this to the Akkadian asterism “Apin” (below).

This Assyrian asterism “Apin” is stars of the IAU constellation Triangulum and Andromeda. Triangulum is the plough and the star Gamma (γ) Andromedae is the star over the ploughman’s head. This is very close to the Babylonian asterism “Epinnu” (see above).

This Akkadian asterism “e-pi-in-nu” from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is the “W” in the IAU constellation Cassiopeia (see W below).

This Sumerian asterism “mul ĝišapin” from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is the “W” in the IAU constellation Cassiopeia (see W below).

This Suku Bali asterism “Tenggala” is the IAU constellation Orion. Gamma (γ) Orionis (Bellatrix) is the handle, the three stars of the belt of Orion plus the star Kappa (κ) Orionis (Saiph) are the plough, and Beta (β) Orionis (Rigel) is the yoke.

This Javanese asterism “Weluku” is identical to the Suku Bali asterism “Tenggala” (see above).

This Gond asterism “Naagardai” is the IAU constellation Orion (Vahia 2014).

There are two Quechua asterisms by this name:

- One, “Mancera”, is the belt and sword of Orion in the IAU constellation Orion (Ciancia 2018).
- One, from Lucre, “Arado”, is probably the IAU constellation Scorpius (Urton 1981).

This Romanian asterism “Plugul” is made up of stars of the IAU constellation Orion (Ottescu 2009). The “plough” is a quadrilateral created by Orion’s belt and the stars Beta (β) Orionis (Rigel) and Kappa (κ) Orionis (Saiph), with the handle being a line from Delta (δ) Orionis (Mintaka) to Gamma (γ) Orionis (Bellatrix). It is also known as the Little Plough (see above).

This Ainu Nociw (“asterism”) is the Little Dipper asterism in the IAU constellation Ursa Minor.

Plough Handle:

This Ukrainian asterism “ruchka pluha” (ручка плуга) is the Hyades cluster in the IAU constellation Taurus.

Plough Minor:

This **telescopic** asterism is made up of stars of the IAU constellation Cygnus. The “spoon bowl” is the stars HIP 104486, SAO 89492, HD 201615, Gaia DR3 1841854501070829824, HIP 104569, and HIP 104617. The handle runs from HIP 104617 through HD 210925, HD 202002, and HD 202166 to HIP 104825. This was posted by Irish astronomer “lunartic65” on *Cloudy Nights* in July 2018. Lunartic65 suggested the names “Plough Minor”, “the Spoon”, and “Davy Crockett’s Hat”. Later he refers to it as “the Plough”, so I’m going with the first suggestion.

Plough of Leo:

This **telescopic** asterism “Arátrum Leónis” is the irregular galaxy NGC 3239 (Arp 263) in the IAU constellation Leo. It was discovered in 1784 by English astronomer William Herschel who listed it as “IV 10”. It became h 710 and h 3246 in John Herschel’s catalogue and later GC 2099 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as it “bears some resemblance to an ancient plow.”

Plough Star:

This Thai asterism “Dao Tai” is the belt and sword of Orion (Nitiyanant 2015).

Plough Stars:

This Bugis asterism “Bintoéng Rakkalaé” is the IAU constellation Orion.

Plough Oxen:

This Latin asterism “Triones” is the Big Dipper asterism in the IAU constellation Ursa Major as listed by Roman polymath Marcus Terentius Varro (112 – 27 B.C.E.) and Roman author Aulus Gellius (125 – 180). English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Triones”.

Plough with Oxen:

This Macedonian asterism “Ralo so Volovi” or “Ralɔ sɔ Vɔlɔvi” is the three stars of Orion’s belt with a short line running from Zeta (ζ) Orionis (Alnitak) to Sigma (σ) Orionis (Cenev 2004 & 2014). Their asterism “Orach” (see Ploughman below) is a line of stars including Alpha (α) Orionis (Betelgeuse).

Ploughing Stars:

This Kiswahili asterism “Kilimia” is the Pleiades cluster in the IAU constellation Taurus (Slotegraaf 2013).

Ploughman:

This asterism “Βοώτης” or “Voótis” (“ploughman” or “herdsman”) is the IAU constellation Boötes as it appeared in Ptolemy’s *Almagest* in the 2nd century. This wasn’t the kite shaped asterism used to represent this constellation today on star charts:

- The “body” was an irregular pentagon with the corner stars Epsilon (ε) Boötis, Delta (δ) Boötis, HIP 72582, Gamma (γ) Boötis, and Rho (ρ) Boötis,
- From the “neck” at HIP 72582, a line goes out to a “head” at the star Beta (β) Boötis,
- From one “shoulder” at Delta (δ) Boötis, an arm runs down to a “wrist” at Psi (ψ) Boötis and a “hand” of the stars 46 and 45 Boötis, and
- From the other “shoulder” at Gamma (γ) Boötis an “arm” runs out to an “elbow” at Lambda (λ) Boötis and a “wrist” at Iota (ι) Boötis with a hand of the stars Theta (θ) and Kappa (κ) 2 Boötis.

This Greek asterism is made up of the stars of the IAU constellations Boötes and Taurus. It represents either the son of Demeter, Philomelus, who drives a plough represented by the oxen in the IAU constellation Taurus or depicts Boötes as the inventor of the plough.

This Latin asterism “Arator” is the IAU constellation Auriga as described by Roman scholars Nigidius Figulus (c. 98 – 58 B.C.E.) and Marcus Terentius Varro (116 – 27 B.C.E.). Variations include “Acator”. NOTE: The same name is used for the IAU constellation Boötes.

This Belarussian asterism “Rataj” is the IAU constellation Boötes (Avilin 2009).

This Macedonian asterism “Orach” or “Oratʃ” is in the IAU constellation Orion (Cenev 2004 & 2014). It is a line from Alpha (α) Orionis (Betelgeuse) to Nu (ν) Orionis, where it bends and heads to the star Xi (ξ) Orionis. His plough and oxen “Ralo so Volovi” (see Plough with Oxen, above) are Orion’s belt.

Ploughman and the Oxen:

This Teutonic asterism is the Greek asterism the Kids (see Kids, above).

This Lithuanian asterism “Artojis su jaučiais”, “Artojas”, “Artojai”, “Artojų žvaigždės”, or “Artojas su jaučiais” is the stars Zeta (ζ) Aurigae (Saclateni or Haedus I), Eta (η) Aurigae (Haedus), and Epsilon (ε) Aurigae (Almaaz) in the IAU constellation Auriga.

Plough’s Seeder:

This Babylonian star “MUL.UR.BAR.RA” is Gamma (γ) Cassiopeiae (Navi) from the MUL.APIN tablets and is part of their asterism “Epinnu” (see Plough, above). They also call it the “Wolf” (see Wolf, below).

Plunderer:

This ancient Egyptian asterism “Hequ en Saq” or “ḥḳw n sʿḳ” is the IAU constellation Leo Minor.

Plunging of Hercules:

This **telescopic** asterism “Dyómenus Hérculis” is the interacting spiral galaxy NGC 6040A in the IAU constellation Hercules. It was discovered by Édouard Stephan in 1870. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it appears to be plunging into NGC 6040B (PGC 56942).

Pluto’s Chariot:

This asterism is the IAU constellation Libra as listed in R. H. Allen’s *Star Names* in 1899. Allen attributes this to “early Christians”, though this does not make much sense as Pluto is a deity from ancient Roman beliefs, not Christianity.

Pohina:

This Hawaiian star is Beta (β) Cassiopeiae (Caph). It is also known as “Polo’ula” (see Shining Red, below).

Poia:

This Blackfoot star is unidentified at present (Chamberlain 2019).

Point:

This Persian star “Çpur” is Alpha (α) Virginis (Spica) in the IAU constellation Virgo as listed by R. H. Allen in his *Star Names* in 1899.

This Zoroastrian star “Çparegha” is Alpha (α) Virginis (Spica) in the IAU constellation Virgo as listed by R. H. Allen in his *Star Names* in 1899 and appears in the Zoroastrian *Avesta*.

This Sogdian star “Shaghar” is Alpha (α) Virginis (Spica) in the IAU constellation Virgo as listed by R. H. Allen in his *Star Names* in 1899.

This Khorasmian star “Akhshafarn” is Alpha (α) Virginis (Spica) in the IAU constellation Virgo as listed by R. H. Allen in his *Star Names* in 1899.

Point of the Fishhook:

This Hawaiian star “Ka Maka” is Lambda (λ) Scorpii (Shaula) in the IAU constellation Scorpius.

Point of the Triangle:

This Arabic star is Alpha (α) Trianguli in the IAU constellation Triangulum. Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) called it “the star in the apex of the triangle”. Dorn (1829) lists it as “Point of the Triangle” and attributes this to Ulugh Beg Mirza (1394 – 1449), Zakariyya’ al-Qazwini (1203 – 1283), and “Ebn Mohammed Sherif”.

Pointed:

This Latin star “Cuspis” is Gamma (γ) Sagittarii in the IAU constellation Sagittarius and is listed under this name in John Hill’s *Urania* in 1754. Hill identifies it as “borrowed from the Arabians”. The Arabian name for this star was “al-naşl” (النصل) (see Arrowhead, above). Edward Sherburne lists the name “Cuspis” for this star in his *Sphere of Marcus Manilius* in 1675.

Pointed of Canes Venatici:

This **telescopic** asterism “Aculeátus Cánum Venaticórum” is the edge-on spiral galaxy NGC 4183 in the IAU constellation Canes Venatici. It was discovered in March 1788 by English astronomer William Herschel who listed it as “III 697”. It became GC 2779 in the *General Catalogue* of 1864.This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of “the sharp ends at both sides of this edge-on galaxy”

Pointed of Grus:

This **telescopic** asterism “Spiculáta Grúis” is the intermediate spiral galaxy NGC 7531 in the IAU constellation Grus. This was discovered in 1836 by John Herschel who listed it as h 3975 and later as GC 4905 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named*

Galaxies by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the two thin outer arms make this galaxy look like a body with two sharp points."

Pointed of Leo:

This **telescopic** asterism "Ácer Leónis" is the barred spiral galaxy NGC 3832 in the IAU constellation Leo. It was discovered in 1785 by William Herschel who listed it as "III 340". It became GC 2516 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the sharp, pointed arms of this galaxy."

Pointers:

There are two pairs of stars in the sky referred to as "the Pointers":

- One is the stars Alpha (α) Centauri (Rigil Kentaurus, Toliman, or Bungula- 3rd brightest star in the sky) and Beta (β) Centauri (Hadar- 11th brightest star in the sky) in the IAU constellation Centaurus, which are the Southern Pointers or the Pointers (which is the Hawaiian name for them) leading from the Southern Cross to the southern horizon and thus helping to distinguish Crux from the False Cross (see False Cross, below).
- One is the stars Alpha (α) Ursae Majoris (Dubhe) and Beta (β) Ursae Majoris (Merak) in the IAU constellation Ursa Major have also been called "Pointers" as they point to celestial north:
    - This asterism is listed as "the Pointers" in English astronomer William Denning's *Telescopic Work for Starlight Evenings* (1891).
    - American uranographer William Croswell (1760 – 1834) lists these stars as "the Pointers" on his *Mercator Map of the Starry Heavens* in 1810.
    - Alexander Jamieson (1782 – 1850) lists these stars as "The Pointers" in his *Celestial Atlas* and on his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822).
    - American uranographer Elijah Burritt's *The Constellations for each Month in the Year* (1835) labels these star "the Pointers". Scottish uranographer.
    - *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists these stars as "the Pointers".
    - English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists these stars as "the Pointers".
    - R. H. Allen lists "The Pointers" in his *Star Names* in 1899.
    - American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941), listed the name "Pointers" for these stars in his book *The Stars - A New Way to See Them* (1952):
    - The 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) lists these stars as the "Pointers".
    - *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists these stars as the "Pointers".
    - American astronomer Jeffrey Corder lists them as Corder 2110.
    - This name was listed in October 2021 in *Constellation Guide* (https://www.constellation-guide.com/category/asterism/).

NOTE: The term “pointer stars” has also been used to refer to the reference stars used for the Nocturnal, an instrument used in the Middle Ages for determining the time at night (see Reference Stars, below).

This Hawaiian asterism “Na Kuhikuhi” is The Pointers (see above), the two stars being:

- “Kamailehope” (“the first maile”): Alpha (α) Centauri (Rigil Kentaurus), and
- “Kamailemua (“the last maile”): Beta (β) Centauri (Hadar).

Poison Place:

This Persian star “Ghāuzar” is Lambda (λ) Draconis in the IAU constellation Draco as named by Iranian astronomer Abu Rayhan Muhammad ibn Ahmad al-Biruni (973 – c. 1050). Variations on this name include “Gianfar”, “Giansar”, “Giausar”, and “Giauzar”. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Giauzar… from al-jaúzá, the central” and goes on to list “the Persian Gau zahr, the poison place”. The IAU approved the name Giausar for Lambda (λ) Draconis in 2017.

Poisonous Dragon:

This asterism “Alghavil Altannin” is the IAU constellation Draco as listed by Arabic translator Giuseppe Simone Assemani (1687 – 1768). “Altannin” is a Latinization of the Arabic “at-tinnīn” (التنين) which was later latinized to this (see Dragon, above).

Poisonous Snake:

This Barasana asterism “Anya” is the IAU constellation Corona Australis (Hugh-Jones 2006, Kemp et al 2022).

Poisonous Spider:

This Barasana asterism “Buhu” is in the IAU constellation Centaurus. Hugh-Jones (2006) describes it as “stars in the upper portion of Centaurus”.

Polaris:

See North Star, above.

Polaris Galacticus Borealis:

This American star is 31 Comae Berenices in the IAU constellation Coma Berenices. American astronomer and science writer James Bailey “Jim” Kaler (1938 – 2022) created this name.

Polarissima Australis:

This **telescopic** asterism is the barred spiral galaxy NGC 2573 in the IAU constellation Octans. This was discovered in 1837 by English astronomer John Herschel who listed it as h 3176 in his catalogue. It is GC 1652 in the *General Catalogue* of 1864. It is the closest object to the south celestial pole. John Herschel described it in his observations as “Neb Polarissima Australis”.

Polarissima Borealis:

This telescopic asterism is the lenticular galaxy NGC 3172 in the IAU constellation Ursa Minor. This is the closest NGC object to the north celestial pole and was given this name by English astronomer John Herschel (1792 – 1871). It is GC 2043 in the *General Catalogue* of 1864.

Polarissima Cluster:

This **telescopic** asterism is open cluster NGC 188 in the IAU constellation Cepheus. This was discovered by English astronomer John Herschel in 1825. It is listed as GC 92 in the *General Catalogue* of 1864. This is listed as "Polarissima" in English Admiral Henry William Smyth's *Bedford Catalogue* in 1844. This is Caldwell 1 on the list of English astronomer Patrick Caldwell Moore (1923 – 2012) list. It has this name as it is within 5° of the north celestial pole. Size 14' X 14'. It has this name as it is the nearest cluster to the north celestial pole.

Pole:

This Chaldean asterism "mul za-ru-u" or "ma-sad-du" is listed in the *Great Star List* (Koch-Westenholz 1995) but the stars have not been identified.

This Latin star "Polus" is Alpha (α) Ursae Minoris (Polaris) as listed in the Maass 1898 manuscript of the 11th century *De signis caeli ("of the signs of heaven*"). This describes it as "the pole, where they say the whole world revolves". The "Nuremburg Maps", a pair of celestial hemispheres made in 1503 by Conrad Heinfogel labels this star "Polus Arcturus".

Pole Guardian:

This asterism "Polophylax" was created out of the stars near the south celestial pole in 1592 by the Flemish astronomer Petrus Plancius (1552 – 1622) and is now the stars of the IAU constellations Tucana and Grus.

Pole of Heaven:

This Japanese star "Ten-no-onbashira" (天の御柱)) is the star Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor.

Pole of the Sky:

This Finnish star "Taivaannapa" is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor.

Pole Star:

This Kiribati asterism "Bakarateaba" or "Nei Bakarateaba" is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Trussel and Groves 1978).

This Hungarian star "Sarkscillag" is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor.

Pole Watcher:

This Flemish asterism "Polophilax" was created by Flemish astronomer Petrus Plancius (1552 – 1622) in 1612, in his *Orbis terrarium typus de integro multis in locis emedatus* (1594). This is depicted as a bearded figure in full length robes with his arms stretched out at his sides who appears to be regarding Crux in wonder. It is located between Crux and Piscis Austrinus on the chart, possibly where the constellation Pavo now resides, though the stars involved have not been positively identified at this time. Its creation was probably inspired by the Greek asterism "Ἀρκτοφύλαξ" or "Arktofýlax" ("bear watcher" or "bear keeper") later latinized to "Arctophylax" or "Artophilaxe", which is the IAU constellation Boötes.

Poles and Skin Ropes:

This Yupik asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Berezkin 2005).

Police:

This Italian asterism "Vigiles" is the stars Beta (β) Ursae Minoris (Kochab) and Gamma (γ) 1 and 2 Ursae Minoris in the IAU constellation Ursa Minor as listed by Italian astronomer Giovanni Battista Riccioli (1598 – 1671).

Polis:

See City, above.

Poling Stars:

This Palikur asterism "Takehpene" is Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus (Green and Green 2011). These stars represent two brothers poling their boat in a search for a wife who has turned into a turtle. Some Palikur see these stars as the tracks of a boat poling alongside their asterism Kayeb (see Two Headed Anaconda, below).

Pollux:

This Greek star is Beta (β) Geminorum in the IAU constellation Gemini, the original Greek name being "Polluces". Another old Greek name for this star is "Πολυδευκής" ("Polydefkís") and became the Latin "Pugil" ("pugilist"). It is named for one of the twins Castor and Pollux in Greek myth:

- Italian author Dante Alighieri (1265 – 1321) and the Italians call it "Polluce".
- *Dele Stelle Fisse* ("Of the Fixed Stars") by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists "Polluce".
- Edward Sherburne lists "Pollux" in his *Sphere of Marcus Manilius* in 1675.
- Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) lists it as "Pollux vel Hercules".
- A wooden precession globe (1730) by German uranographer Johann Georg Puschner (Dekker 2003) lists this star as "Pollux".
- The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) lists this star as "Pollux".
- The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) lists "Pollux" for this star.
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Pollux".
- Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this star as Polluce" in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).
- The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer lists this star as "Pollix".
- American uranographer William Croswell (1760 – 1834) lists "pollux" on his *Mercator Map of the Starry Heavens* in 1810.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists this star as "Pollux" in his *Celestial Atlas* in 1822.

- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich lists this star as "Pollux".
- *An Improved Moveable Planisphere* (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, lists this star as "Pollux".
- This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 lists "Pollux" for this star: The author is unknown, but it is based on Jamieson's *Celestial Atlas*.
- Admiral William Henry Smyth's *Prolegomena* of 1844 lists "Pollux".
- English astronomers Crossley, Gledhill, and Wilson list "Pollux" in *A Handbook of Double Stars with a Catalogue of Twelve Hundred Double Stars and Extensive Lists of Measures* (1879).
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Pollux".
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as "Pollux".
- German astronomer Hermann Joseph Klein (1844 – 1914) lists "Pollux" in his *Star Atlas* (1893).
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as "Pollux".
- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Pollux".
- *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Pollux".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list this star as "Pollux".
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists "Pollux" for this star.
- "Polelum" is the Lithuanian name for Beta (β) Geminorum (Pollux) in the IAU constellation Gemini.
- The IAU approved the name Pollux for Beta (β) Geminorum. This star has an exoplanet named Thestias.

Poloahilani:

This Hawaiian star is Alpha (α) Cassiopeiae (Schedar) in the IAU constellation Cassiopeia.

Polygonal of Aries:

This **telescopic** asterism "Polygónius Aríetis" is the intermediate spiral galaxy NGC 877 in the IAU constellation Aries. It was discovered in 1784 by English astronomer William Herschel who listed it as "II 246". It interacts with NGC 876 (GC 517, discovered by English astronomer William Parsons, 3rd Earl of Rosse). This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). They gave it this name due to its "angular appearance".

Pomptina:

This Latin asterism is the IAU constellation Corvus and relates to the victory of Valerius, who was aided by a raven in the Pontine Marsh.

Poncho of the Stars:

This Inca asterism "Ch'aska Punchu" is the IAU constellation Orion (Gamarra & Gamarra 2009).

Pond:

This Arabic asterism “Al-Haud”, called the “Pond” or the “Pool”, later Latinized to “Alhaud”, is the stars Theta (θ), Tau (τ), Upsilon (υ), Phi (ϕ), 15, 18, and 23 Ursae Majoris in the IAU constellation Ursa Major (Alhaud I, II, III, IV, V, VI & VII):

- “al-Hawd” is listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- This asterism appears on a globe made by Mohammed ben Helal in 1275 in Mosul (Dorn 1829), based on the work of Persian cosmographer Zakariyya’ al-Qazwini (1203 – 1283).
- The rete of the 14th century Spanish astrolabe NMM AST0570 in the National Maritime Museum lists this as “ALRVCVB” (Dekker 2000).
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Al khud, the pond”.
- NOTE: Edward Sherburne translates “Alhaud” as “Lacus seu Cisterna” (“Lake or Cistern”) in his *Sphere of Marcus Manilius* in 1675 and lists it as a name for Coma Berenices, attributing this to “Doctor Hyde” who was the librarian of the Bodleian Library. John Hill incorrectly lists “Haud” as an Arabic name for the IAU constellation Corona Borealis and describes this as “a stream, or fountain of water” in his *Urania* in 1754, possibly influenced by English orientalist Thomas Hyde (1636 – 1703) who made the same error.

Pond for Fish:

This Korean asterism “Mulgogi Yeonmos” (물고기 연못) is a line of three stars in the IAU constellation Auriga: Mu (μ), Lambda (λ), and Rho (ρ) Aurigae.

Ponderous:

This Latin asterism “Ponderosus” is Alpha (α) Carinae (Canopus) in the IAU constellation Carina.

- The celestial globe (1480) of German mechanic Hans Dorn (c 1430 – 1506) lists “SVEL”.
- The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists “Suhel ponderosus Canopius”.
- The 15th century *Alfonsine Tables* list “Suhel ponderosus”.
- The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists “Suhel Ponderosus Canopius”.
- Johann Bayer’s *Uranometria* (1603) lists the name “Ponderosa”.
- In his *Star Names* in 1899 R. H. Allen reports that “another contemporary chronicle” lists it as “Sihil ponderosa”: This is a combination of this Latin name and an Arabic name for this star.

Poniatowski’s Bull:

This **telescopic** asterism is a miniature version of the Hyades cluster of the IAU constellation Taurus, also known as “Taurus Poniatovii” (“Poniatowski’s Bull”). This was a constellation created in 1777 by the former rector of Vilnius University, Marcin Odlanicki Poczobutt, to honor Stanislaus Poniatowski, the King of Poland, and Grand Duke of Lithuania. It is made up of parts of what are now the IAU constellations Aquila and Ophiuchus. Poczobutt picked these stars because they resemble the Hyades cluster that forms the “head” of the IAU constellation Taurus. Its size is 190’ X 120’. The five brightest stars belong to the open cluster Collinder 359 (Melotte 186): 66, 67, 68, 70 and 73 Ophiuchi.

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "der kōnigliche Stier von Poniatowski" and depicts it as a bull's head on one chart and as a bull walking to our right on another.

Belgian astronomer Jean-Charles Houzeau (1820 - 1888) called it "Taurus Regalis".

German uranographer Adolf Stieler (1775 – 1836) listed it on his planisphere as "Poln Stier" ("Polish bull").

The French edition of Flamsteed's work, the *Atlas Céleste,* which was revised in 1778, lists this asterism as "Taureau Royal de Poniatowiki".

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich labels "Taurus Poniatowski" but does not illustrate it.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists "Taurus Poniatowski" in his *Celestial Atlas* and his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822).

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this asterism as "Poniatowskiche Stier".

English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Tauri Poniatovii".

"Taurus Poniatowski" is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on Jamieson's *Celestial Atlas*.

It is listed as "Taurus Poniatowskii or Poniatovii" in the third edition of Rev. Thomas William Webb's *Celestial Objects for Common Telescopes* in 1873. It is also known as the Mini Taurus (see above). Jeffrey Corder lists this as Corder 3456.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this asterism as "Taurus Poniatowskii" but only describes it as "a small cluster".

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists "Taurus Poniatowskii, Poniatowsky's Bull" as a constellation.

The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists "Taurus Poniatowskii" but his 14th edition (1959) omits it.

Italian astronomers called it "Toro di Poniatowski".

This is listed on Stellarium as the "Medium Bull".

Pony:

This Italian asterism "Cavallino" is the IAU constellation Equuleus.

Poodle:

This asterism is in the IAU constellation Taurus and was listed by American astronomer John A. Chiravalle. Jeffrey Corder lists it as Corder 829. Size 90' X 45'. Corder describes it as a "wedge-shaped asterism of 10 or more stars, magnitudes 5 to 9… including the double stars Struve 680… and Struve

674." The main star line runs from Zeta (ζ) Tauri through Omicron (ο) Tauri, Eta (η) Tauri, 105 Tauri, Iota (ι) Tauri, and 106 Tauri to 104 Tauri.

This **telescopic** asterism is the open cluster NGC 6830, found in the IAU constellation Vulpecula. This was discovered by English astronomer William Herschel in 1785 who listed it as "VII 9". It is GC 4516 in the *General Catalogue* of 1864. This is also known as the Cross in a Cross (see above) and "X" (see below).

Pool:

See Pond, above.

Pool of Harmony:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a triangle of stars in the IAU constellation Auriga: HIP 24902A (the determinative star), Rho (ρ) Aurigae, and HIP 25143.

This Chinese xing guan "Xiánchí" (咸池) is a triangle of stars in the IAU constellation Auriga: Lambda (λ) and Rho (ρ) Aurigae and HIP 25810.

This Chinese Chenzhuo xing guan "Xiánchí" is a triangle of stars in the IAU constellation Auriga: Sigma (σ) Aurigae, Lambda (λ) Aurigae, and Mu (μ) Aurigae.

Poor Man's Double Cluster:

This asterism is the open clusters NGC 1807 and 1817 in the IAU constellation Taurus. They were discovered by English astronomer William Herschel in 1784: Herschel listed them in his catalogue as "VII 4". They are GC 1020 and GC 1030 in the *General Catalogue* of 1864. They are separated by only a few degrees and may be parts of a single extended cluster. Size 17' X 17'.

Pope:

This asterism "Papa" was created from the stars of Cetus by German astronomer Erhard Weigel (1625 – 99) who produced his *Astrocopium Orbi Europaeo Sacrum* chart in 1661, 1681 and 1688 in which he tried to replace existing constellations a new system based upon the heraldry of the nation states and principalities of seventeenth century Europe, as well as of its principal hierarchies and social classes. This represents the Pope and the Vatican and is depicted as a papal crown over crossed keys.

Pope's Nose:

This German star "Uropygium" is Alpha (α) Cygni (Deneb) in the IAU constellation Cygnus as listed by German poet Philipp von Zesen (1619 – 1689).

Popper's Star:

This **telescopic** variable star is HIP 69619 (HD 12448) in the IAU constellation Centaurus (magnitude 9.98). It was first described by American astronomer Daniel L. Popper in 1942. This is an extreme helium star.

Popular of Coma Berenices:

This **telescopic** asterism "Populáris Cómae Bereníces" is the supergiant elliptical galaxy NGC 4874 in the IAU constellation Coma Berenices. It was discovered by Prussian astronomer Heinrich d'Arrest. It became GC 5695 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this

because it is one of the major galaxies in the Coma Cluster, the other being NGC 4889. They describe it as “surrounded by the largest number of other galaxies… the situation… reminiscent of the old divide in Roman society between popular politicians and aristocratic, opulent landlords.”

Porcupine:

This Wardaman star “Gawillyan” or “Gawalyan” is Alpha (α) Eridani (Achernar) in the IAU constellation Eridanus (Cairns and Harney 2003).

Pormener:

The stars of this Tasmanian asterism are presently unidentified (Gantevoort 2015).

Poro Nociw:

This an Ainu name for Alpha (α) Ursae Minoris (Polaris).

Porphyrion:

This **telescopic** asterism is a Fanaroff-Riley class II radio galaxy which host galaxy J152932.16+601534.4 in the IAU constellation Draco. It was discovered in 2024 by an international team led by Martijn Oei with the Low Frequency Array (LOFAR).

Porpoise:

This Micronesian (Marshall Islands) asterism is made up of the stars of the IAU constellations Andromeda, Aries, Cassiopeia, and Triangulum:

- Andromeda is the “body”,
- Cassiopeia is the “tail”, and
- Aries is the “head”.

This Hindu asterism “Shī-shu-māra”, “Sim-shu-māra”, or “Zizumara” is the IAU constellation Delphinus.

This Micronesian star “Kyyw” is Beta (β) Andromedae (Mirach) in the IAU constellation Andromeda.

This **telescopic** asterism NGC 2936 is a spiral galaxy in the IAU constellation Hydra. It is interacting with the elliptical galaxy NGC 2937, which is known as the Egg Galaxy (see above). It is also known as the Penguin (see above). They were both discovered by German astronomer Albert Marth in 1864, becoming 175 and 176 on his list. It is GC 5497 in the General Catalogue of 1864. It is also known as the “Bird Like of Hydra” (see above).

Porrima:

This Latin star “Porrima” is Gamma (γ) Virginis in the IAU constellation Virgo. “Porrima”, “Antevorta”, or “Postvorta”, was one of the Camenae, who were Goddesses of prophecy. 2nd century Roman author Aulus Gellius listed it as “Prorsa” and “Prosa”. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Porrima and Postvaria”. *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this star as “Porrima”. The IAU approved the name Porrima for the star Gamma (γ) Virginis A in 2016.

Portentous of Canes Venatici:

This **telescopic** asterism “Portentósus Cánum Venaticórum” is the spiral galaxy NGC 4395 in the IAU constellation Canes Venatici. William Herschel listed it as “V 29:1”. John Herschel listed it as h 1252 and later as GC 2958 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Poseidon’s Trident:

See “Beehive” above.

Poses:

This Kaykavian asterism “Pozóji” is the IAU constellation Libra.

Possessing Luminous Rays:

This Khorasmian star “Achir” is Alpha (α) Leonis (Regulus) in the IAU constellation Leo as listed in R. H. Allen’s *Star Names* in 1899.

Post at the End of the Sky:

This Tahitian star “Anani’a” is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Edwards 2015).

Post of Gods Tu and Ta’aroa:

This Tahitian star “Epi” is unidentified at this time (Edwards 2015).

Post of Knowledge:

This Tahitian star “Anatahu’avahine a Toa te Manava” is Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor (Edwards 2015).

Post of the Cross:

This Arabic star is Epsilon (ε) Delphini in the IAU constellation Delphinus.

Post to Sit On:

This Tahitian star “Anavaru” is Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion (Edwards 2015).

Poster Girl:

This **telescopic** asterism is the interacting galaxies NGC 6670 in the IAU constellation Draco. It was discovered by Lewis Swift in 1886. This name was posted on the *Deep Sky Forum* by German astronomer Uwe Glahn in June 2022. Glahn explains: “In 208 the pair becomes fame as a ‘Poster Girl’, a compilation of interacting pairs illustrated by the HST.” It is also known as the “Leaping Dolphin” (see above) and the “Ramming Ships of Draco”.

Posts of Al-Ayyuq:

This Arabic asterism is three stars in the IAU constellations Auriga and Taurus: Beta (β) Tauri (Elnath), Theta (θ) Aurigae, and Beta (β) Aurigae (Menkalinan). This is part of their asterism Al-Ayyuq and the Posts (see Obstructor and the Posts, above).

Pot:

There are two Arabic asterisms with this name:

- One, “al qidr”, later latinized to “Al Kidr” is the star Theta (θ) Cephei in the IAU constellation Cepheus and is part of the asterism below.
- One is a loop of stars in the IAU constellations Cepheus, Cygnus, and Draconis: Theta (θ) Cephei, 66 Draconis, HIP 97892, HIP 98073, 33 Cygni, HIP 101084A, HIP 102431, HIP 102775, and Eta (η) Cephei. The *Horoscopion generale* (1533) of Petrus Apianus (1495 – 1552) depicts this as a rayed semi-circle with two stars at the end.

This Mi’kmaq star “Wow” is 80 Ursae Majoris (Alcor) in the IAU constellation Ursa Major. It is the pot that Jiji’kes (see Chickadee, above) is carrying in the Mi’kmaq asterism Muin and the Seven Hunters (see above). Compare this to the Khanty asterism Pot below.

The Khanty, Selkup, Ket, Evenk, Khakas, and Khalasha of Siberia see the three stars of the handle of the Big Dipper asterism in the IAU constellation Ursa Major as hunters and see the star 80 Ursae Majoris (Alcor) as a cooking pot carried by one of the hunters (Berezkin 2005). Compare this to the Mi’kmaq asterism “Wow” (above).

This Iroquois star is 80 Ursae Majoris (Alcor) in the IAU constellation Ursa Major (Berezkin 2005).

Pot and Pitcher:

This **telescopic** asterism is in the IAU constellation Andromeda and was listed in *Pattern Asterisms* by American astronomer John A. Chiravalle. Jeffrey Corder lists it as Corder 298. Size 65’.

- The body of the “pitcher” is a rectangular formation of stars including HIP 9438, 9320, and 9151. The tip of the “lid” is HIP 9396. The tip of the “spout” is the double star HIP 9172A.
- The “pot” beside this “pitcher” has the stars 55 Andromedae and HIP 8922 as the pot’s “rim” and has the stars HIP 8838 and 8911 as the “base”.

Pot Bellied of Hydra:

This **telescopic** asterism “Gastródes Hýdrae” is the barred spiral galaxy NGC 3717 in the IAU constellation Hydra. It was discovered in 1834 by John Herschel who listed it as h 3348 and later as GC 2442 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to its “thick central bulge”.

Pot Cover of Pyxis:

This **telescopic** asterism “Tégumen Pýxidis” is the spiral galaxy NGC 2613 in the IAU constellation Pyxis. It was discovered in 1784 by William Herschel who listed it as “II 266”. It became GC 1674 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Pot of Maize:

This Inca star “Saramanqa” is Alpha (α) Crucis (Acrux) in the IAU constellation Crux (Gamarra & Gamarra 2009) and is part of their asterism Ch’akana (see above).

Pot of Qoqa:

This Inca star "Qoqamanqa" Beta (β) Crucis (Mimosa) in the IAU constellation Crux (Gamarra & Gamarra 2009) and is part of their asterism Ch'akana (see above).

Pot Rest:

This Cochiti asterism is the Belt of Orion in the IAU constellation Orion.

Potatoes:

This Mapuche asterism "Gaw", "Gaw Poñü", or "Wüchul" is the Pleiades cluster in the IAU constellation Taurus (Menares 2008). These are a local variety of potatoes, papas amontonadas.

Pourer:

This Latin asterism "Effusor" ("pourer" or "Fusor Aquae" ("pourer of water") is the asterism Pouring Forth of Water (see below). Johann Bayer's *Uranometria* (1603) lists "Fusor Aquae" as a name for Aquarius. The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Fusor Aquae".

Pouring Cup:

This **telescopic** asterism from *Pattern Asterisms* by American astronomer John A. Chiravalle is found in the IAU constellation Cetus. A triangle of the stars Xi (ξ) Ceti (or 65 Ceti) and 64 Ceti and one 9th magnitude star are the "cup". The "handle" is an oval of stars with HIP 10171 at one end and HIP 9965 and 9915 at the other.

Pouring Forth of Water:

This Greek asterism "Χύσις ὕδατος" ("Chýsis ýdatos") is made up of stars in the IAU constellation Aquarius and is listed in the *Introduction to the Phenomena* by Geminus of Rhodes (1st century B.C.E.) according to R. H. Allen in his *Star Names* in 1899. It starts at Gamma (γ) Aquarii and runs through Zeta (ζ), Eta (η), Lambda (λ), Psi (ψ), and 94 Aquarii to 98 Aquarii. Cicero (106 – 43 B.C.E.) called it "Aqua" ("water") and Roman general Germanicus (15 B.C.E. – 19 C.E.) "Effusio aquae" ("outpouring of water"). English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Stellae effusoris aquae" ("stars of the streamer of water"). Compare this to Water, below.

Pouring the Water:

This Latin asterism "Fundens Latices" is the IAU constellation Aquarius as described by the Roman general Germanicus (15 B.C.E. – 19 C.E.) and listed in R. H. Allen's *Star Names* in 1899.

Praecipua:

See Of Special Importance, below.

Praesepe:

See Manger above.

Prajapati:

There are two Vedic asterisms by this name:

- One is the IAU constellation Orion (Bhagwath 2019, Ivanković 2021). Ivanković describes this as overlapping the constellation Taurus.
- One is the IAU constellation Taurus (Vahia 2014).

This name is also given in Vedic culture to the star Delta (δ) Aurigae in the IAU constellation Auriga. W. Brennand lists "Prajapati" as the star Delta (δ) Aurigae in his *Hindu Astronomy* in 1896. NOTE: This is listed on Stellarium as "Prijipati".

NOTE: Prajapati is the "Lord of Created Beings", an aspect of the creator Brahma, a sort of evil twin of Rudra (see below) who is there to keep Prajapati in check as he pursues his daughter Ushas who has taken the form of an antelope (see Antelope, below). There is another form of this story where Prajapati and Ushas become deer (see Deer, below).

Prancing Horse:

See Dark Horse Nebula, above.

Prawn:

There are two Tupi asterisms with this name:

- One, "Poti" is the IAU constellation Cancer (De Freita Mourão 2009).
- One, "Camarão" is made up of stars of the IAU constellations Crux and Lupus (De Freita Mourão 2009):
  - The "body" of the prawn is the stars of Crux, and
  - The "claws" are stars in Lupus.

There are two **telescopic** Prawn asterisms:

- One is planetary nebula Sh 2-188 in the IAU constellation Cassiopeia. It is listed under this name as well as the names "Shrimp Nebula" and "Dolphin Nebula" on RASC member Ron Brecher's *Astro Doc* website.
- One is IC 4628 in the IAU constellation Sagittarius. This was first recorded by American astronomer Edward Emerson Barnard (1857 – 1923).

Praxiteles:

This is the name given by American astronomer Elijah Burritt (1794 – 1838) gave to the asterism Caelum (see above) in his *Geography of the Heavens* and *Celestial Atlas* in 1833. Praxiteles of Athens was a sculptor in the 4th century B.C.E.

Preceding:

This Arabic star "as-Sābiq" (السابق) or "as-sābiq al-awwal" is Eta (η) Ophiuchi in the IAU constellation Ophiuchus:

- This was listed by 16th century Arabic astronomer Al Tizini.
- It was later latinized to "Sabik" or "Al Sabyk al Aoul".
- The IAU approved the name Sabik for the star Eta (η) Ophiuchi A in 2016.

Preceding the Dog:

In his *Almagest*, Ptolemy (c.100 – c.170) originally called the IAU constellation Canis Minor "προκύων" ("prokýon") or "προκύον" ("prokuon"). It was called this because Procyon rises before Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major. In Greek mythology Procyon is related to Maera, a hound belonging to Erigone, daughter of Icarus. Later this name was latinized as "Praecanis", "Procanis", "Procynis", or "Procyon" (which means "beforehand") and transferred to the star Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor:

- Variations from the Middle Ages include "Prochion" and "Procion".
- The 8th century *Revised Aratus Latinus* gives the name "Antecanis" ("before the dog") to the entire constellation of Canis Minor.
- Canis Minor appears on the *Imagines constellationum Australium* chart of Romanian theologian Johannes Honter (1498 – 1549) as a dog with a collar walking to our right and is labelled "Procyon".
- *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus lists "Procyon" and "Little Dog" as names of both this star and the constellation Canis Minor.
- Jesuit German mathematician Christopher Clavius (1538 – 1612) gives "Procyon, sive Canis Minor" as a name for the constellation Canis Minor in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).
- The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) labels Canis Minor "Procyon".
- "Procyon" is listed in Danish astronomer Tycho Brahe's *Astronomiae Instauratae Progymnasmata* (1602) as a name for Alpha (α) Canis Minoris.
- Johann Bayer's *Uranometria* (1603) lists 'Procyon" for this st.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Procyon" for Alpha (α) Canis Minoris.
- Edward Sherburne lists "Procyon" in his *Sphere of Marcus Manilius* in 1675 for Alpha (α) Canis Minoris.
- This star is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "Procyone" on some charts and as "Porcoyn" on another.
- Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) lists the name Procyon for Alpha (α) Canis Minoris.
- Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) labels this star "Orionis al Procyon est Algomeisa".
- Procyon is listed in charts in English astronomer John Flamsteed's *Atlas Coelestis* in 1729 as a name for Alpha (α) Canis Minoris.
- A wooden precession globe (1730) by German uranographer Johann Georg Puschner (Dekker 2003) lists this star as "Procyon".
- The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) lists this star as "Procyon".
- The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) lists "Procyon" for Alpha (α) Canis Minoris, as does the 1778 edition.
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Procyon".

- Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists Alpha (α) Canis Minoris as "Procione" in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).
- American uranographer William Croswell (1760 – 1834) lists "Procyon" for Alpha (α) Canis Minoris on his *Mercator Map of the Starry Heavens* in 1810.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists "Procyon" for Alpha (α) Canis Minoris in his *Celestial Atlas* and his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822).
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich list this star as "Procyon".
- *An Improved Moveable Planisphere* (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, lists "Procyon" for Alpha (α) Canis Minoris.
- The star Procyon is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on Jamieson's *Celestial Atlas*.
- German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists Alpha (α) Canis Minoris as "Procyon".
- English astronomers Crossley, Gledhill, and Wilson list "Procyon" in *A Handbook of Double Stars with a Catalogue of Twelve Hundred Double Stars and Extensive Lists of Measures* (1879).
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as "Procyon".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists Alpha (α) Canis Majoris as "Procyon" or "the Little Dog Star".
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as "Procyon".
- German astronomer Hermann Joseph Klein (1844 – 1914) lists "Procyon" in his *Star Atlas* (1893).
- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Procyon" and describes it as "precursor dog".
- *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Procyon" for Alpha (α) Canis Minoris.
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list this star as "Procyon".
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lits "Procyon" for this star.
- The IAU approved the name Procyon for the star Alpha (α) Canis Minoris A.
- NOTE: 2nd century Greek physician Aeliius Galenus (Galen) listed Prokyon as a name for the star Alpha (α) Canis Majoris (Sirius) according to R. H. Allen in his *Star Names* in 1899.

This Latin star "Antecanis" is Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor, given this name as it rises before the star Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major:

- Variations include "Anticanis", "Antecedens Canis" ("the most advanced dog", appearing in the 1515 edition of the *Almagest*).
- The *De ordine ac positione stellarum in signis* ("*On the order and position of the stars in the signs*") in the Salzburg compilation (810 – 818) of Abbot Arno of Salzburg (785 – 821) lists "Anticanis".

- The Maass 1898 manuscript of the 11th century *De signis caeli* lists "Anticanis" for the constellation and the name "Anticanian" for Alpha (α) Canis Majoris (Syrius) "because it is the opposite of the canine". The Klosterneuberg 685, Paris BN 5239, Paris BN 5543, Vat lat 643, and Zwettl 296 manuscripts of *De signis caeli* depict a collared dog leaping to the left. The Laon 422 and Rouen 26 manuscripts of *De signis caeli* depict him running to the right.
- "Antecanis" listed in Johann Bayer's *Uranometria* (1603).
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Antecanis" and "Algomeisa" as names for Canis Minor.
- This star is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as "Procyon" and "Antecanis".
- Antecanis appears in Robert Hues' *A Learned Treatise of Globes* in 1659 and in John Hill's *Urania* in 1754. Hues also lists the variation "Antecanis Coeruleus".
- English Admiral Henry William Smyth's *Prolegomena* of 1844 lists "Procyon" and his *Bedford Catalogue* in 1844 lists "Ante Canis".

This Arabic asterism "Al Kalb al Mutaḳaddim" is the IAU constellation Canis Minor as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

Predecessor of the Two Stars:

This ancient Egyptian star "Tepi-a-Sebawy" is Gamma (γ) Geminorum in the IAU constellation Gemini. The "Two Stars" is their asterism Pair of Stars (see above).

Predator's Vessel:

This Latin asterism "Navigium Praedatorium" is Ptolemy's asterism Argo's Ship (see above).

Presage Rain:

"Serogabolo" Tswana star is possibly Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion.

Prestis:

This Greek asterism is the IAU constellation Cetus as listed in John Hill's *Urania* in 1754.

Pretty One of Leo:

This **telescopic** asterism "Béllus Leónis" is the spiral galaxy NGC 3433 in the IAU constellation Leo. It was discovered in 1784 by William Herschel who listed it as "III 20". It became GC 2240 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Pretty Woman:

This Cahuilla star is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (see Little Dipper, above).

Pride Double Cluster:

This **telescopic** asterism is the pair of open clusters NGC 1528 and 1545 in the IAU constellation Perseus. These were discovered by the English astronomer William Herschel in 1790: Herschel lists the first as "VII 61" and the second as "VIII 85" in his catalogue. They are GC 820 and GC 831 in the *General Catalogue* of 1864. NGC 1545 is also known as the Magic Pentagram Cluster. In March 2025 the

Sunshine Coast Pride organization in collaboration with the World Asterisms Project named this double cluster the “Pride Double Cluster” to honour 2SLGTBQ+ culture. It is also known as the “M & M Double Cluster” (see above).

Pride of Lions:

This /Xam asterism is the IAU constellation Crux (Dechend 1975). This is described as 3 lionesses and one lion.

Priest:

This Lithuanian star “Kunigas” is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga.

Prima Hyadum:

See First of the Hyades, above.

Prime Minister:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty “Xiàng” (相) is the star 7 Canum Venaticorum in the IAU constellation Canes Venatici.

This Chinese xing guan “Xiàng” (相) is the star 5 Canum Venaticorum in the IAU constellation Canes Venatici.

This Chinese Chenzhuo xing guan “Xiang” is the star Chi (χ) Ursae Majoris in the IAU constellation Ursa Major.

Primordial Fire:

This Mayan asterism “Oxib' Xk'ub'” is the Orion Nebula (Messier 42, NGC 1976, SH 2-281, LBN 974, Ced 55d)). The Paddler Gods (see above) carry the Maize God in a canoe to the place of creation. The Three Hearthstones at this place are Zeta (ζ) Orionis (Alnitak), Kappa (κ) Orionis, (Saiph), and Beta (β) Orionis (Rigel). This is in the middle of the Mayan asterism “Aak” (see Turtle below).

Prince of the Heavenly Signs:

This Latin asterism “Princeps signorum coelestium” is the IAU constellation Aries. This relates to its position as the indicator of the vernal equinox thousands of years ago. Around 420 C.E. this moved into Pisces. Johann Bayer’s *Uranometria* (1603) lists this name.

Prince of the Zodiac:

This Latin asterism “Princeps Zodiaci” is the IAU constellation Aries. This relates to its position as the indicator of the vernal equinox thousands of years ago. Around 420 C.E. this moved into Pisces.

Prince of Ursa Major:

This **telescopic** asterism “Princeps Úrsae Majóris” is the spiral galaxy NGC 2857 (Arp 1) in the IAU constellation Ursa Major. It was discovered by R. J. Mitchell in 1856. It became GC 1834 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Prince of Youth:

This Latin asterism “Princeps juventutis” is the IAU constellation Aries as it was shown on one of the Roman emperor Domitian’s coins as listed by English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 and by R. H. Allen in his *Star Names* in 1899.

Princelet:

This Greek star “βασιλίσκος” (“vasilískos”- “Kinglet”) or “βασιλισκός ἀστήρ” (“vasiliskós astír”) is Alpha (α) Leonis (Regulus) in the IAU constellation Leo as named by Ptolemy (c.100 – c.170):

- It was Nicolas Copernicus (1473 – 1543) that latinized this to “Regulus” (“prince” or “little king”) in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543).
- Edward Sherburne lists “Regulus” in his *Sphere of Marcus Manilius* in 1675.
- The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) lists the star “Regulus”.
- The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) lists this star as “Regulus”.
- Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists this star as “Regulus“.
- American uranographer William Croswell (1760 – 1834) lists “Regulus” on his *Mercator Map of the Starry Heavens* in 1810.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists “Regulus” in his *Celestial Atlas* Scottish uranographer Alexander Jameison’s *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822).
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depict this star as “Regulus”.
- This is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852 as “Cor Leonis vel Regulus: The author is unknown, but it is based on Jamieson’s *Celestial Atlas*.
- English Admiral Henry William Smyth’s *Prolegomena* of 1844 lists “Regulus” and his *Bedford Catalogue* in 1844 lists “βασιλίσκος, from an opinion of its influencing the affairs of the heavens”.
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as “Regulus”.
- English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists this star as “Regulus”.
- German astronomer Johann Elert Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this star as “Regulus”.
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as “Regulus”.
- German astronomer Hermann Joseph Klein (1844 – 1914) lists “Regulus” in his *Star Atlas* (1893).
- American astronomer Winslow Upton’s *Star Atlas* (1896) lists this star as “Regulus” and translates this as “chief”.
- The 1st edition of British schoolmaster Arthur P. Norton’s *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list “Regulus” for this star.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this star as “Regulus”.
- In 2016 the IAU approved the name Regulus for the star Alpha (α) Leonis A.

This Latin star “Basilicus” is Alpha (α) Leonis (Regulus) in the IAU constellation Leo as listed by Danish astronomer Tycho Brahe (1546 – 1601). “Basiliscus” is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and translated as “regia stella” (“royal star”). “Basilicus” is in John Hill’s *Urania* in 1754 and R. H. Allen’s *Star Names* in 1899.

Princess With a Bad Hair Day:

This Dutch **telescopic** asterism is the galaxy NGC 218 and MCG+06-02-017 (PCG 2726) in the IAU constellation Andromeda. It is also known as Vorontsov-Vel’yamiov 527 and Karachentsev 16. This name was listed in the *Deep Sky Forum* by Victor van Wulfen in October 2021.

Princip:

This asterism “Princip” was made up of stars of the IAU constellation Lepus by German astronomer Erhard Weigel (1625 – 99) who produced his *Astrocopium Orbi Europaeo Sacrum* chart in 1661, 1681 and 1688 in which he tried to replace existing constellations a new system based upon the heraldry of the nation states and principalities of seventeenth century Europe, as well as of its principal hierarchies and social classes. It is depicted as a silver and red crown.

Principes de Asturias Nebula:

This **telescopic** asterism is planetary nebula PN G126.6+01.3 (IPHASX J012507.9+635652) in the IAU constellation Cassiopeia. This was discovered in 2005 in the Isaac Newton Photometric H-Alpha Survey. It was named “Nebulosa de los Príncipes de Asturias” (“Nebula of the Princes of Asturias”) after its dedication by the Instituto de Astrofísica de Canarias to the Spanish Princes on the occasion of their wedding, which took place in Madrid on May 22, 2004.

Printing Office:

This asterism “Officina Typographica” was created by astronomers Johann Elert Bode and Joseph Jérôme de Lalande in 1798 to honour the printing press of Johannes Gutenberg. Bode called it “Buchdrucker-Werkstatt” originally in his *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) but changed to this name in 1825. It is east of Alpha (α) Canis Majoris (Sirius), north of the IAU constellation Puppis, and south of the IAU constellation Monoceros.

Italian astronomer Father Angelo Secchi included this asterism on his planisphere in 1878.

Scottish uranographer Alexander Jamieson (1782 – 1850) listed it in his *Celestial Atlas* in 1822 as “L’Atelier de L’Imprimeur”: Jamieson depicts this as a typeset drawer with a piece of paper labelled “Magna Charta” next to a Gutenberg printing press .

Italian charts listed it as “Tipografia” and German as “Buchdrucker Presse”.

Prison:

This is an alternate name for the xing guan Celestial Discipline according to Kemp et al (2022). Compare to Celestial Prison (above).

This Chinese Chenzhuo xing guan “Yu” is the star Beta (β) Aurigae (Menkalinan) in the IAU constellation Auriga. It is part of their xing guan Five Chariots.

Prize Comet Cluster:

This **telescopic** asterism is globular cluster NGC 6229 in the IAU constellation Hercules. It was discovered by English astronomer William Herschel in 1787 who listed it as "IV 50". It is GC 4244 in the *General Catalogue* of 1864. It may be the remnant of a spheroidal dwarf galaxy.

Proclaimer of the Dawn:

This Babylonian star "Dil-kar" is Alpha (α) Arietis (Hamal) in the IAU constellation Aries as listed in R. H. Allen's *Star Names* in 1899. Allen writes that "Jensen" lists this as "As-kar" and "others as Dil-gan, the Messenger of Light".

Procyon:

See Preceding the Dog, above.

Prometheus:

This Greek asterism is the IAU constellation Sagittarius as listed by as listed by Mosenkis in his *Mycenaean Oecumene* (date n/k).

This asterism "Prometheus" is the IAU constellation Hercules. Prometheus was a Titan in Greek mythology, a trickster who stole fire from the Gods, which resulted in him being chained to a rock. In one version of the myth, Heracles rescues Prometheus:

- Johann Bayer's *Uranometria* (1603) lists "Prometheus" as a name for this constellation.
- "Prometheus is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as an alternate name for Hercules.
- John Hill lists "Prometheus" as a name for Hercules in his *Urania* in 1754.
- R. H. Allen lists "Prometheus" as a name for Hercules in his *Star Names* in 1899.

Prometheus' Torturer:

This Latin asterism "Tortor Promethei" is the IAU constellation Aquila.

Prone before Lycaon:

This Latin star "Prona Lycaonia" is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes as listed by 1st century Roman poet Marcus Manilius. Lycaon was an Arcadian king in Greek mythology. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists it as "Lycaon".

Pronghorn:

This Seri star "Haamoha" is Epsilon (ε) Orionis (Alnilam) in the IAU constellation Orion.

Propeller:

There are six **telescopic** "propeller" asterisms:

- One is HII region DWB 111 (Simeis 57) in the IAU constellation Cygnus. This name was posted on the *Deep Sky Forum* by American astronomer Paul Aisling in August 2014.
- One is NGC 7479 (Caldwell 44) is a barred spiral galaxy in the IAU constellation Pegasus. It was discovered by English astronomer William Herschel in 1784 who listed it as "I 55". It is GC 4892 in the *General Catalogue* of 1864. It is also known as the Superman Galaxy (see below), "V" (see below), and the Lawn Sprinkler (see above).

- One is Raymond 8 in the IAU constellation Pisces. René Merting lists it on the *Faint Fuzzies* website and describes it as a "conspicuous… very flat S-curve, which runs southeast-northwest- a good dozen faint stars involved here- due to the kink in the middle one could mistake the whole thing for a propeller." Size 51' X 17'. One end of the "propeller" is HIP 117704A, the other is HIP 117445, with HIP 117529 as part of the "propeller hub".
- One, the "Propeller" or the "Fornax Propeller" is the galaxy NGC 1365 in the IAU constellation Fornax. It was discovered by English astronomer John Herschel in 1837. It is GC 731 on the *General Catalogue* of 1864. This appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010) as "Dipterus Fornácis" ("propeller of Fornax"): They gave it this name as the "wide symmetric arms… put in mind the two wings of a propeller". The Latin term "Dipteros" means "with two wings". This is O'Meara 17 on astronomer Stephen James O'Meara's *Hidden Treasures Catalogue* (2007), who states that it "has been nicknamed the Dipterous Galaxy".
- One is the globular cluster Messier 13 in the IAU constellation Hercules. This was discovered by English astronomer Edmund Halley in 1714. English astronomer William Parsons, 3rd Earl of Rosse (1800 – 1867), noted three dark lanes radiating propellor like from the cluster's center. This is also known as the Hercules Cluster, the Great Star Cluster, the Great Globular Cluster, and the Great Hercules Cluster.
- One, "Propéllens Aríetis" ("propeller of Aries") is the edge on spiral galaxy NGC 678 in the IAU constellation Aries. It was discovered by English astronomer William Herschel in 1784. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Propus:

See Forward Foot, above.

Prosperous Frontier:

This Chinese Chenzhuo xing guan "Kaifan" is the star Zeta (ζ) Draconis in the IAU constellation Draco. It is part of their xing guan Purple Forbidden East Wall.

Proserpine:

This Latin asterism "Proserpine" or "Proserpina" is the IAU constellation Virgo as listed in R. H. Allen's *Star Names* in 1899. Proserpine is the Roman version of the Greek Goddess Persephone.

This French asterism with the Latin name "Proserpine" is the IAU constellation Corona Borealis as described by French astronomer Jérôme Lalande (1732 – 1807). Persephone is the Greek Goddess of the Underworld, known to the Romans as Proserpine.

Protecting Ministers:

This Japanese asterism depicted on the ceiling of the Takamatsu Zuka Kofun tomb is believed to be four stars in the IAU constellation Cepheus: These are supposed to be protecting Polaris (see Center of the Universe, above), Kochab (see Emperor, above), Pherkad (see Crown Prince, above), and 4 Ursae Minoris (see Cadet Prince, above) in the IAU constellation Ursa Major. One is identified "2 Cep" which would be Theta (θ) Cephei in the neighbouring IAU constellation Cepheus, one is unidentified, and the other two are listed as "51H Cep" and "39H Cep" (Renshaw 2014). These last two aren't correct as the

Flamsteed list for the constellation Cepheus only goes as high as 31 Cephei. The Flamsteed list for the constellation Draco, which also borders Ursa Minor contains 39 Draconis and 51 Draconis, so I wonder if this is a mistake in identification of the constellation?

Provided with a Square of Eridanus:

This **telescopic** asterism "Quadráta Erídani" is the intermediate spiral galaxy NGC 1415 in the IAU constellation Eridanus. It was discovered in 1784 by William Herschel who listed it as "II 267. This became GC 759 in the *General Catalogue* of 1864. NOTE: American astronomer Lewis Swift observed this galaxy in 1896 and classified it as IC 1983. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): The name refers to a square of foreground stars at the southeast side of this galaxy.

Provider:

This Latin star "Provindemiator" is Epsilon (ε) Virginis (Vindemiatrix) in the IAU constellation Virgo. Cicero (106 – 43 B.C.E.) gave it the name "Protygeter", which also appears as "Protrigetrix".

In his *Star Names* in 1899 R. H. Allen lists "Provindemiator" as a name used by Roman statesman Marcus Tullius Cicero (106 – 43 B.C.E.) for Alpha (α) Boötis in the IAU constellation Boötes. Allen acknowledges that this is also a name for Epsilon (ε) Virginis.

Prow:

This ancient Egyptian asterism "Khentet" is the IAU constellation Scorpius and is found on star tables on coffin lids c. 2000 B.C.E. NOTE: Some ethnoastronomers suggest that this is part of the Egyptian asterism "Wia" (see Boat, above) which would mean that it includes stars of the IAU constellation Sagittarius.

Proxima:

See Nearest Centaur, above.

Proxima Centauri:

See Nearest Centaur, above.

Proxima Ophiuchi:

See Barnard's Star, above.

Przybylski's Star:

This telescopic rotating variable star is HIP 56709 (HD101065) in the IAU constellation Centaurus (magnitude 8.03). It is named for Polish-Australian astronomer Antoni Przybylski, who discovered its peculiar spectrum in 1961: This star contains an unusually high abundance of lanthanide elements.

Ptah and the Three Noble Ladies:

This Egyptian asterism is the IAU constellation Crux as listed in the 19th dynasty Cairo Calendar (Hardy 2003). Ptah is the God of Memphis, creator of the world, lord of truth: He appears in the First Dynasty (c. 3150 – 2613 B.C.E.).

Ptolemaion:

This Seleucid star "Ptolemaion" is Alpha (α) Carinae (Canopus) in the IAU constellation Carina. It was given this name by the Ptolemaic rulers of Egypt as its acronychal rising marked the date of their Ptolemaia festival every four years (262 – 145 B.C.E.). This would be Ptolemy X Alexander 1, who ruled Egypt from 107 B.C.E. to 88 B.C.E. in co-regency with Cleopatra III as Ptolemy Philometor Soter until 101 B.C.E. and then with Berenice III as Ptolemy Philadelphus.

- Johann Bayer's *Uranometria* (1603) lists the names "Ptolemaeus" and "Ptolemaeon" for this star.
- John Hill lists it as "Ptolemais" in his *Urania* in 1754 and states the name honours "Ptolemy Lagus, one of the Egyptian sovereigns".
- R. H. Allen lists it as Ptolemeaon" and "Ptolemaeus" in his *Star Names* in 1899.

Ptolemy's Cluster:

This Greek asterism is the open cluster Messier 7 (NGC 6475) in the IAU constellation Scorpius, which was first recorded by Claudius Ptolemy in 130 B.C.E. as "νεφελοειδής" ("nefeloeidís" or "nebular"). The 1551 edition of the *Almagest* calls it "Girus ille nebulosus" ("the foggy gyrus"). Italian astronomer Giovanni Battista Hodierna observed it in 1654 and in 1764 French astronomer Charles Messier added it to his catalogue. The General Catalogue of 1864 lists it as GC 4340. It is also the Chinese and Korean asterism "Fish" (see above) and Ulugh Beg Mirza's "That Which Follows the Sting" (see below).

Ptolemy's Triangle:

This asterism is made up of stars in the IAU constellations Boötes and Corona Borealis: Alpha (α) Boötis (Arcturus), Alpha (α) Coronae Borealis, and Gamma (γ) Boötis.

Pua-tawhiwhi o Tautoru:

This Māori star is Beta (β) Orionis (Rigel) in the IAU constellation Orion.

Puaka:

This Māori (south island) star is Beta (β) Orionis (Rigel) in the IAU constellation Orion.

Puddle of Sky:

This Korean asterism "Haneul-ui Ungdeong-I" (하늘의 웅덩이) is a series of four lines of stars radiating out from the star AE Aurigae in the IAU constellation Auriga:

- One line goes to 14 Aurigae,
- One line goes to 16 Aurigae,
- One line goes to IQ Aurigae, and
- One line goes to 19 Aurigae.

Puff Cluster:

This **telescopic** asterism is the planetary nebula NGC 5882 in the IAU constellation Lupus. This was discovered by English astronomer John Herschel in 1835 who listed it as h 3594. It is GC 4066 in the *General Catalogue* of 1864. South African astronomer Auke Slotegraaf gave it the name "Puff Cluster" in his observations in 2009. It is also known as the Ghost of Uranus (see above).

Puffer Fish:

This Sama asterism “Buntal” is the IAU constellation Crux (Santos et al 2019, Margiza 2022). They used this for navigation and determining wind direction. Ambrosio (2008) lists it as “Bunta”.

Pulaha:

This Vedic star “Pulaha” or “Visvâmitra” is Beta (β) Ursae Majoris in the IAU constellation Ursa Major as listed in R. H. Allen’s *Star Names* in 1899, Boutet (2014), and Bhagwath (2019). This is one of the sons of Brahma, who appears as Vashishtha (the star Zeta (ζ) Ursae Majoris). The other sons of Brahma are the other stars in the Big Dipper asterism (see Seven Sages, below).

Pulastya:

This Vedic star “Pulastya” is Gamma (γ) Ursae Majoris in the IAU constellation Ursa Major (Bhagwath 2019). This is one of the sons of Brahma, who appears as Vashishtha (the star Zeta (ζ) Ursae Majoris). The other sons of Brahma are the other stars in the Big Dipper asterism (see Seven Sages, below).

Puller of Cows Star:

This Japanese star “Kengyuu Boshi” or “Hiko Boshi” is Alpha (α) Aquilae (Altair) in the IAU constellation Aquila (Renshaw and Ihara 2001).

Pulling:

This Zulu star “inDonsemasuku” or “inDosa” (“pulling” or “stretching”) is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Slotegraaf).

Pulling Out the Dawn:

This Tswana and Venda star “Kgogamasigo” (“pulling out the dawn”) is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Slotegraaf 2013). Compare this to the Sotho star “Kgogamashego” (see Drawer Up of the Night, above) or “Kogamasigo” (see Pulls the Night Across, below).

Pulls the Night Across:

This Tswana star “Kogamasigo” is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Slotegraaf 2013). Compare this to the Tswana asterism “Kgogamasigo” (see Pulling Out the Dawn, above).

Puma:

This huge Tukano asterism “Yai” consists of stars of the IAU constellations Camelopardalis, Cassiopeia, and Perseus (Cardoso 2015, Cardoso 2016):

- The “head” is a triangle of stars: Alpha (α) Cassiopeiae (Schedar), Beta (β) Cassiopeiae (Caph), and Gamma (γ) Cassiopeiae (Navi),
- Faint stars form “ears” beside Schedar and Navi,
- The front “leg” runs from Epsilon (ε) Cassiopeiae to a “foot” formed by Psi (ψ) and 43 Cassiopeiae,
- The back “leg” runs from Gamma (γ) Persei to a “foot” formed by CE and CS Camelopardalis, and
- The tightly curving “tail” starts at Alpha (α) Persei (Mirfak) and runs through Delta (δ), 48, 51, b, Lambda (λ), and 43 Persei, ending at the star HIP 17772.

This Quechua asterism is dark nebulosity in the Milky Way near the IAU constellation Centaurus (Moyano 2011).

Pumo:

This Tibetan khyim "Pumo" is the IAU constellation Virgo (Johnson-Groh 2013). It is their version of the Vedic rashi Kanya (see above).

Punish:

This Korean asterism "Beolhada" (벌하다) is a line of two stars in the IAU constellation Equuleus: Gamma (γ) and Delta (δ) Equuleus.

Punishment:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of three stars in the IAU constellation Ophiuchus: Starting with the determinative star Psi (ψ) Ophiuchi it runs through Chi (χ) Ophiuchi to Phi (ϕ) Ophiuchi.

This Chinese xing guan "Fá" (罰) is a line of three stars in the IAU constellations Scorpius and Libra: 18 and 11 Scorpii and 49 Librae.

This Chinese Chenzhuo xing guan "Fá" is a line of three stars in the IAU constellation Ophiuchus: Psi (ψ) Ophiuchi, Chi (χ) Ophiuchi, and Phi (ϕ) Ophiuchi.

Punk of Sculptor:

This **telescopic** asterism "Punkiána Sculptóris" is the barred spiral galaxy NGC 7755 in the IAU constellation Sculptor. This was discovered in 1834 by John Herschel who listed it as h 4005 and later as GC 5012 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the rather tangled and upright aspect of the spiral arms of this galaxy is reminiscent of the typical hairstyle of the punk movement".

Pup:

This **telescopic** asterism is the distorted dwarf galaxy NGC 4627 (Arp 281) in the IAU constellation Canes Venatici. William Herschel listed this as "II 659". John Herschel listed this as h 1391 and later as GC 3159 in the *General Catalogue* of 1864. Cypriot astronomer Roland Constantinides posted this name in the *Deep Sky Forum* in May 2014. It is also known as the "Small Whale of Canes Venatici". It is interacting with NGC 4631.

Pupil:

This German star with the Latin name "Pupilla" ("pupil of the eye") is Alpha (α) Coronae Borealis (Alphecca) in the IAU constellation Corona Borealis. Johann Bayer's *Uranometria* (1603) lists "Pupilla" for this star. German astronomer Johann Bayer (1572-1625) lists "Pupilla" for this star.

This Latin asterism "Pupilla" is the IAU constellation Lyra. Johann Bayer's *Uranometria* (1603) lists "Pupillam" as a name for Lyra. German astronomer Christian Ludwig Ideler (1776 – 1846) lists the name "Pupilla".

Puppies:

This Cheyenne asterism is the Pleiades cluster in the IAU constellation Taurus.

This Finnish asterism is the Pleiades cluster in the IAU constellation Taurus (Kuperjanov 2006).

Puppis:

The brightest star in Puppis is the 2nd magnitude Zeta (ζ) Puppis which is the 71st brightest star on the list of 90 brightest stars and its stars appear in 147 of the asterisms listed in this handbook.

The IAU constellation Puppis (IAU abbreviation Pup) was once part of the larger and older constellation Argo Navis (see Argo's Ship, above). As this was such a large and unwieldy group of stars, in 1763 French astronomer Abbé Nicolas Louis de Lacaille (1713 – 1762) divided it into three constellations now recognized by the IAU: Carina (the hull or keel), Puppis (the poop deck) and Vela (the sails). Note: Lacaille did not rename the stars, keeping the Greek letters of the Bayer classifications for Argo Navis, so Carina has stars in the first part of the Greek alphabet, Vela has the middle letters, and Puppis has the end of the alphabet.

"Puppis" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875): He indicates the borders of this constellation on the chart but offers no illustration of it. NOTE: Argelander also depicts "Argo" on another chart.

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Puppis, The Poop" as an official constellation "recognized in the catalogue of the British Association", though it also mentions "Argo, The Ship Argo".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Puppis" and describes it as the "Stern (of Ship Argo)".

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists this constellation as "Puppis: the poop of the good ship Argo".

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) reincorporated Puppis into Argo's Ship (see Argo's Ship, above) in his book *The Stars - A New Way to See Them* (1952). *Sky and Telescope Magazine*, founded in 1941, depicts Puppis in their magazine and publications in the same manner as Reyersbach.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Puppis in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* as a constellation separate from Vela and Carina consisting of two interconnecting triangles, one having a "tail":

- One triangle is Tau (τ) Puppis, Nu (ν) Puppis, and Sigma (σ) Puppis,
- One triangle is Sigma (σ) Puppis, Pi (π) Puppis, and Zeta (ζ) Puppis, and
- The "tail" runs from Zeta (ζ) Puppis through Xi (ξ) Puppis to Rho (ρ) Puppis.

Puppy:

This Latin asterism "Catulus" is the IAU constellation Canis Minor.

This English asterism "Catuli" is the IAU constellation Canes Venatici. English astronomer Richard Anthony Proctor gave it this name in 1873 as he believed that shortening the name would make more

room on astronomical charts. However, it is listed as "Canes Venatici, The Hunting Dogs" in Proctor's *A New Star Atlas* (1887) as an official constellation "recognized in the catalogue of the British Association".

This German asterism "Catuli" is the name German poet Philip von Zesen (1619 – 1689) gave to both the IAU constellations Ursa Minor and Ursa Major. It is probably a corruption of the asterism Cynosura (see Dog's Tail, above).

Purad:

This Gond asterism is the IAU constellation Canis Major (Vahia 2014).

Pure of Sextans:

This **telescopic** asterism "Cáthara Sextántis" is the Magellanic spiral galaxy NGC 3115 in the IAU constellation Sextans. This was discovered by English astronomer William Herschel in 1787 who listed it as "I 163" in his catalogue. It is GC 2008 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of its "perfect lenticular form and clean, spotless appearance". It is also known as the "Spindle Galaxy" (see below).

Pure Virgin:

This Turkish asterism "Dufhiza Pakhiza" is the IAU constellation Virgo as listed in R. H. Allen's *Star Names* in 1899.

Pure Yoke:

"Ogias Uedon" ("pure yoke" or "yoke of youth") is a proposed early Celtic name for the IAU constellation Leo from the Book of Ballymote through an etymological reconstitution (Boutet 2014).

Purle:

This unidentified Kaurna star was listed by Hamacher in 2015. It may be a generic term for "star".

Purple Crowned Lorikeet:

This Boorong asterism "Totyarguil" was listed by Stanbridge (1857), Morieson (1999), and Hamacher and Frew (2010) and is made up of the stars of the IAU constellation Aquila:

- The body runs from the "head" at Beta (β) Aquilae (Alshain) through Alpha (α) Aquilae (Altair) to Gamma (γ) Aquilae in the "tail", and
- The "wingtips" are Mu (μ) Aquilae and HIP 99158A.

Note: Duane Willis Hamacher II in his excellent *On the Astronomical Knowledge and Traditions of Aboriginal Australians* asserts that Totyarguil (purple crowned lorikeet or Parvipsitta porphyrocephala) is the star Alpha (α) Aquilae (Altair) as Stanbridge's description of this did not refer to a group of stars. Compare this to the Kaurna asterism "Ngakallamurro" (see Lorikeet Ashes, above).

Totyarguil throws a boomerang "Won" (see Boomerang, above). Totyarguil's mother Neilloan, the star Alpha (α) Lyrae (Vega- see Mallee Fowl, above). Totyarguil is killed but his remains are rescued by his uncle Collenbitchick (see Ant, above). The stars on either side are his wives.

This Wotjobaluk koori star "Totyerquil" is Alpha (α) Aquilae (Altair) in the IAU constellation Aquila (Hamacher 2011). They saw it as the son-in-law of Yerredet-kurrk (Rigel).

Purple Forbidden Enclosure:

Purple Forbidden Enclosure "Zǐwēiyuán" (紫微垣) is one of the three enclosures in Chinese sky culture, the others being Supreme Palace Enclosure and Heavenly Market Enclosure (see Lunar Mansions, Stations of the Moon, Nakshatra, and Zodiacs, above). This represented the place of the emperor (Krupp 1983).

Two asterisms mark the boundaries of this enclosure in the Yixiangkaocheng of the 18th century:

Purple Forbidden Left Wall:

This Chinese xing guan "Zǐwēizuǒyuán" (紫微左垣) is a long line of stars in the IAU constellations Cassiopeia, Cepheus, and Draco: Iota (ι), Theta (θ), Eta (η), Zeta (ζ), Upsilon (υ), and 73 Draconis, Eta (η) Cephei, and 23 Cassiopeiae. This xing guan shares some stars with one line of a pair of Korean asterisms "Purple (Violet) Low Border" (see below).

This xing guan is a long line of stars in the IAU constellations Cepheus and Draconis, each with a name:

- HIP 6522: "Shaocheng" ("Second Imperial Minister"),
- Rho (ρ) 1 and 2 Cephei: "Shaowei" ("Second Imperial Guard"),
- Kappa (κ) Cephei: "Shangwei" ("Great Imperial Guard"),
- Phi (ϕ) Draconis: "Shaobi" ("Second Protector"),
- Zeta (ζ) Draconis: "Shangbi" ("Great Protector"),
- Eta (η) Draconis: "Shaozai" ("Second Prime Minister"),
- Theta (θ) Draconis: "Shangzai" ("Great Prime Minister"), and
- Iota (ι) Draconis: "Zuoshu" ("Left Pivot").

Purple Forbidden Right Wall:

This xing guan is a long line of stars in the IAU constellations Camelopardalis, Cassiopeia, and Draco, each with a name:

- HIP 14862: "Shangcheng" ("Great Imperial Minister"),
- HIP 24254: "Shaowei" ("Second Imperial Guard")
- HIP 33827: "Shangwei" ("Great Imperial Guard")
- 24 Ursae Majoris: "Shaofu" ("Second Advisor"),
- Lambda (λ) Draconis: "Shangfu" ("Great Advisor"),
- Kappa (κ) Draconis: "Shaowei" ("Second Commandant"), and
- Alpha (α) Draconis (Thuban): "Youshu" ("Right Pivot").

This Chinese xing guan "Zǐwēiyòuyuán" (紫微右垣) is a long line of stars in the IAU constellations Camelopardalis, Draco, and Ursa Major: It starts at HIP 15520 and runs through Alpha (α) and 43 Camelopardalis, 24 Ursae Majoris, Lambda (λ) and Kappa (κ) Draconis and ends at Alpha (α) Draconis (Thuban). This xing guan shares some stars with one line of a pair of Korean asterisms "Purple (Violet) Low Border" (see below).

Purple Forbidden Palace:

This Chinese Chenzhuo xing guan Zigong (紫宫, Purple Palace) consists of two "walls" of stars:

- **Purple Forbidden West Wall**: This is a curving line of stars of the IAU constellations Camelopardalis, Draco, and Ursa Major. Starting at HIP 25110 ("Xingui" ("Trustworthy Turtle")) it runs through HIP 33694 ("Tongling" ("Phoenix Tree Mound")), HIP 40793 ("Ziguang" ("Purple

Radiance")), 27 Ursae Majoris ("Zhimen" ("Straight Gate")), HIP 52425 ("Jianxing" ("Treacherous Star")), and Lambda (λ) Draconis ("Ziming" ("Catalpa Brightness")), 6 Draconis ("Shoumen" ("Gatekeeper")), and Kappa (κ) Draconis ("Tianyi" ("Celestial Great One")), to 4 Draconis ("Taiyi" ("First Great One")).

- **Purple Forbidden East Wall**: This is a curving line of stars in the IAU constellation Draco: Starting at HIP 92056 ("Shunguang" ("Harmonious Radiance"), it runs through Phi (φ) Draconis ("Guangbo" ("Lord of Light"), Zeta (ζ) Draconis ("Longdeng" ("Dragon Ascendant")), Eta (η) Draconis ("Kaifan" ("Prosperous Frontier")), Theta (θ) Draconis ("Panxing" ("Academy Star")), and Iota (ι) Draconis ("Qingmen" ("Celebration Gate") to Alpha (α) Draconis (Thuban, "Touguan" ("First Observatory").

Purple Radiance:

This Chinese Chenzhuo xing guan "Ziguang" is the star HIP 40793 in the IAU constellation Camelopardalis. It is part of their xing guan Purple Forbidden West Wall.

Purple (Violet) Low Border:

"Bolasaeg Naj-eun Teduli" (보라색 낮은 테두리) is one of the three enclosures in Korean sky culture, the others being Sky Market Border and Big Low Border (see Lunar Mansions, Stations of the Moon, Nakshatra, and Zodiacs, above). This consists of two asterisms of long curving lines of stars in the IAU constellations Draco and Ursa Major:

- One line starts at Kappa (κ) Draconis and runs through Lambda (λ) Draconis, HIP 52425, 27 Ursae Majoris, and HIP 33694 and ends at HIP 25110. Note that the Chinese xing guan "Purple Forbidden Right Wall" (see above), which is longer, contains some of the same stars.
- One line starts at Alpha (α) Draconis (Thuban) and runs through Iota (ι), Theta (θ), Eta (η), Zeta (ζ), and Omega (ω) Draconis, ending at Phi (φ) Draconis. Note that the Chinese xing guan "Purple Forbidden Left Wall" (see above), which is longer, contains some of the same stars.

Pursuers:

This Dakelh asterism "Enitəɬ" is the IAU constellation Orion (Cannon 2021).

Purt-mayel:

This Wotjobaluk star is Alpha (α) Centauri (Rigil Kentaurus) in the IAU constellation Centaurus (Massola 1968, Hamacher 2011).

Pushan:

This Vedic star "Pūṣan" or "Pushan" is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major as listed in the Rig-Veda (Ivanković 2021). This was considered a projection of the Vedic solar God Pūṣan, who was one of the children of Aditi (see above).

Putara:

This Māori star is Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion.

Pwupw:

This Poluwatese asterism is the IAU constellation Crux (Holton et al 2015).

Pwuupw:

This Micronesian asterism is the IAU constellation Crux.

Pyeittha:

This Myanmar yathi (zodiac constellation) “Pyeittha” (ပြဿ) is the IAU constellation Taurus.

Pyramid:

This Latin asterism “Pyramme” is the IAU constellation Ara as listed in John Hill’s *Urania* in 1754. He describes it as a Greek name, but the Greek word for pyramid is “pyramida”.

This **telescopic** asterism is in the IAU constellation Canis Major and is Corder 1084 on the observing list of American astronomer Jeffrey Corder. Size 50’ X 25’. This is six 6^{th} – 8^{th} magnitude stars including HIP 30461, 30390, 30288, 30263, 30203, and 30066.

Python:

This Latin asterism “Python” is the IAU constellation Draco. Johann Bayer’s *Uranometria* (1603) lists the name “Python” for this constellation.

Pyxis:

None of the stars of Pyxis are on the list of 90 brightest stars and the stars of this constellation only show up in 31 of the asterisms in this handbook.

This IAU constellation (IAU abbreviation Pyx) was originally the “mast” of Ptolemy’s constellation Argo Navis (see Argo’s Ship, above). Pyxis was created by French astronomer Abbé Nicolas Louis de Lacaille in 1752, who “disassembled” Argo Navis into the three IAU constellations Carina, Puppis, and Vela. He named this part “la Boussole” (“the Marine Compass”) and it appears under this name on Lacaille’s *Planisphère des Étoiles Ausralea* (1756), depicted as a compass. Lacaille later latinized the name to “Pixis [sic] Nautica” on his 1763 sky chart.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts “la Boussole” as a marine compass.

English astronomer Francis Baily (1774 – 1844) reattached it to the asterism Argo’s Ship (see above), but American astronomer Benjamin Apthorp Gould (1824 – 1896) listed it in his *Uranometria Argentina* in 1879.

Scottish uranographer Alexander Jamieson (1782 – 1850) listed it in his *Celestial Atlas* in 1822 as “Pyxis Nautica”.

German astronomer Johann Elert Bode (1747 – 1826) later extended it to form the obsolete constellation “Lochium Funis” (see Log and the Line, above) although in his *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) he labels it “Compas Logleine”. Bode’s *Vorstellung Der Gestirne* (1782) lists this constellation as “Wintelmasse”.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depict “Pyxis Nautica” as a marine compass.

The 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) lists "Pyxis" and describes its "original form" as "Pyxis Nautica", describing it as "The Compass".

On a standard IAU chart this constellation is a line of three stars: Gamma (γ), Alpha (α), and Beta (β) Pyxidis.

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) reassembled the obsolete constellation Argo Navis (see Argo's Ship, above) and incorporated Pyxis as the "tiller" in his book *The Stars - A New Way to See Them* (1952): He did this by extending a line from Beta (β) Pyxidis to Zeta (ζ) Puppis.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Pyxis in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* as a bending line of the stars Theta (θ), Kappa (κ), Delta (δ), Gamma (γ), Alpha (α), and Beta (β) Pyxidis.

Sky and Telescope Magazine, founded in 1941, depicts Pyxis in their magazine and publications as the line of stars Zeta (ζ) Puppis, Beta (β) Pyxidis, Alpha (α) Pyxidis, and Gamma (γ) Pyxidis.

Q:

This **telescopic** asterism is the open cluster IC 4665 in the IAU constellation Ophiuchus. It was discovered in 1745 by Swiss astronomer Phillipe Loys de Chéseaux. Despite its brightness, it was not catalogued by Charles Messier or William Herschel. American astronomer Edward Emerson Barnard (1857 – 1923) recorded it, which resulted in it becoming IC 4665 in the *Index Catalogue*. This was listed by South African astronomer Auke Slotegraaf (1995), who described it as "a loop of nine stars with a little tail of three stars leading off to the northwest, just like the capital letter 'Q'". It is also known as the Summer Beehive, Poseidon's Trident, Mini Grus, Lambda, or the Black Swallowtail Butterfly.

Qet:

This Egyptian decan "Qet" was in the IAU constellation Aries. In later Hellenistic texts it was named "ϫονταϫρє" ("Si-ket"). In the Testament of Solomon, it became "Barsafael", Aristobulus of Paneas called it "Mensour", in Greek Hermeticism it became "Chontaret", in Latin Hermeticism "Sabaoth", Roman astrologer Julius Firmicus Maternus called it "Senacher" or "Asenter", Cosmas of Maiuma (d. 760) called it "Persephone", French scholar Joseph Justus Scaliger (1540 - 1609) called it "Senacher", and German Jesuit astronomer Athanasius Kircher (1602 – 1680) called it "ⲁⲛⲟⲩⲃ" ("Anubis"). Variations include "Kontaret" or "Kau". It has been depicted as a figure with a dog's face with a scepter in the right hand and a disk in the left.

Qí:

This Chinese star "Qí" from the 3 Kingdoms and Ming Dynasty Period is the star 112 Herculis in the IAU constellation Hercules and is and is part of their xing guan Heavenly Market East Wall (see above).

Qín:

This Chinese star "Qín" from the 3 Kingdoms and Ming Dynasty Period is the star Epsilon (ε) Serpentis in the IAU constellation Serpens and is part of their xing guan Heavenly Market West Wall (see above).

Quadrantum:

See Rhombus, below.

Quadrilateral:

This **telescopic** asterism is made up of stars of the IAU constellation Vulpecula and was posted in *Cloudy Nights* by Will Rothfuss in July 2022. The stars are 12, 13, 16, 17, and 14 Vulpeculae. Will Rothfuss uses this to locate Messier 27, the Dumbbell Nebula, which is near 14 Vulpeculae.

Quadrireme of Libra:

This **telescopic** asterism "Quadrirémis Líbrae" is the intermediate spiral galaxy IC 4538 in the IAU constellation Libra. It was discovered by Lewis Swift in 1895. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this "because of its four spiral arms this galaxy is named after a quadriremis". A quadrireme is a galley with four banks of oars.

Quarter:

This Arabic asterism "ar-Ruba῾" (الرُّبَع) is the main body of the IAU constellation Draco (see Draco, above), later latinized to "Alawaid".

Queen Kassiepeia:

This Greek asterism "Κασσιέπεια" or "Kassiépeia" is the name for the IAU constellation Cassiopeia used in Ptolemy's *Almagest* in the 2nd century. Aratus (315 – 240 B.C.E), Euripides (480 – 408 B.C.E.), and Sophocles (d. 406 B.C.E.) all used this name. On modern star maps this is depicted as a bent W (see W below) but it is a more complex asterism in the *Almagest*:

- Queen Kassiepeia's "body" starts at her "shoulders" at Alpha (α) Cassiopeiae (Shedar) and runs down through Eta (η) Cassiopeiae to "hips" at Gamma (γ) Cassiopeiae and then to a "knee" at Delta (δ) Cassiopeiae to a "leg" that runs through Epsilon (ε) Cassiopeiae to a "foot" at Iota (ι) Cassiopeiae,
- Her "head" is the star Zeta (ζ) Cassiopeiae,
- One "arm" (draped across the back of the "throne") runs from Shedar to a "hand" at Sigma (σ) Cassiopeiae,
- The other "arm" runs from Shedar to an "elbow" at Theta (θ) Cassiopeiae and a "hand" at Phi (ϕ) Cassiopeiae, and
- Beta (β) Cassiopeiae and Kappa (κ) Cassiopeiae form parts of the "throne".

Queen of Phoenix:

This **telescopic** asterism "Basilíssa Phoenícis" is the elliptical galaxy IC 1633 in the IAU constellation Phoenix. It was discovered American astronomer Lewis Swift (1820 – 1913). This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "this giant elliptical galaxy dominates its neighbourhood as the queen her realm."

Queen of Virgo:

This **telescopic** asterism "Regina Virginis" is the lenticular or elliptical galaxy NGC 4406 (Messier 86) in the IAU constellation Virgo. It was discovered by Charles Messier in 1781. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

It forms one of the "eyes" of the Great Galactic Face (see above) and is part of Markarian's Chain (see above).

Queen's Cache:

This **telescopic** asterism is the open cluster NGC 3228 in the IAU constellation Carina. It was discovered by French astronomer Nicolas Louis de Lacaille in 1751-2 who listed it as "II 7" in his catalogue. It is GC 2090 in the *General Catalogue* of 1864. This is also known as the Little Flower Cluster (see above) and "V" (see below). Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) lists this without a name.

Queen's Kite:

See Kite above.

Queen's Reflection:

This **telescopic** asterism is the open cluster Collinder 463 in the IAU constellation Cassiopeia. It is called this as it is roughly a "W" shape which is aligned with the constellation Cassiopeia, as if it was a reflection of it.

Question Mark:

There are eighteen **telescopic** "question mark" asterisms:

- One is emission nebula and open cluster NGC 7822 (SH 2-171, LBN 589, SNR G118.3+04.8) in the IAU constellation Cepheus. John Herschel listed this as h 2302 and later as GC 5051 in his *General Catalogue* of 1864. It is also known as the Devil's Head (see above).
- One, also known as the Cosmic Question Mark, can be found in the IAU constellation Cetus. The curve of stars starts with HIP 12272 and runs through HIP 12148, 12022 and 12114 then straightens out through HIP 12113 and ends at Nu (ν) Ceti. This is Patchick-Weinerroither 1 on the asterisms list of astronomer Dana Patchick. Its size is 150' X 50'.
- One is Cseh 21 listed by Hungarian astronomer Viktor Cseh which is a group of stars in the IAU constellation Pavo. Cseh describes it as a "small group with 5 – 6 cluster members. Its shape resembles a question mark.
- One is Hay-Merting 5 in the IAU constellation Sagitta. This was discovered by the German astronomer Christopher Hay in 2016. Size 12' X 5'. Robert Zebahl lists it on his *Faint Fuzzies* website and explains that it "shows the clear shape of a question mark. There are no notably bright stars in the immediate vicinity, so the pattern is quite apparent.
- One is Leiter 4 in the IAU constellation Sagitta.
- One is Prestgard 56 on the list of French astronomer Trygve Prestgard, which is in the IAU constellation Taurus. This is a group of 6^{th} – 10^{th} magnitude stars 10° north of Alpha (α) Orionis (Betelgeuse). One end of the "question mark" is HIP 28416 and the other end is HIP 28327
- One is Corder 562 in the IAU constellation Fornax, from the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 25'. This includes HIP 16851, 16886, and 16904.
- One is Corder 2072 in the IAU constellation Hydra. This includes the stars HIP 52920, 52905, 52894, 52888, 52950, 52841, and 52789.
- One is Corder 2398 in the IAU constellation Hydra, from the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 45' X 20'. Corder describes it as "an elongated group of eight stars that are magnitudes 8 and 9… elongated in a north/south direction."

- One is Corder 4653 in the IAU constellation Vulpecula and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 30' X 10'. Includes HIP 110508.
- One is in the IAU constellation Camelopardalis and is Ennis 35 on the observing list of Canadian astronomer Charles Ennis. A curve of 6^{th} – 8^{th} magnitude stars is formed by HD 22400, HIP 17083, HIP 17075, HIP 17008, HD 22221, HD 22057 and 16749 forms the "loop" and a line from HD 237152 through HIP 16581 to double star HIP 16303A at the end as the "period".
- One is in the IAU constellation Hydra and is Corder 2033 on the observing list of American astronomer Jeffrey Corder. Size 40'. This is twelve 8^{th} – 10^{th} magnitude stars including HIP 51598 and 51447.
- One is in the IAU constellation Corvus and is Corder 2347 on the observing list of American astronomer Jeffrey Corder. Size 40'. This is five 7^{th} – 8^{th} magnitude stars including HIP 60708, 60623, 60486, and 60474.
- One is in the IAU constellation Sagittarius and is Corder 3433 on the observing list of American astronomer Jeffrey Corder. Size 50' X 15'. This is nine 9^{th} – 10^{th} magnitude stars including the double star HIP 88477A.
- One is in the IAU constellation Draco and is Corder 3867 on the observing list of American astronomer Jeffrey Corder. Size 60' X 40'. This is eight 6^{th} – 9^{th} magnitude stars including HIP 95167 and 95382. Corder describes this as a "'question mark' or sheep herder's 'Staff'".
- One is Messier 51 (NGC 5194), a pair of interacting galaxies in the IAU constellation Canes Venatici. It was discovered by French astronomer Charles Messier in October 1773. Irish astronomer Lord Rosse first recorded its spiral structure in 1845. Dreyer describes it in the 1888 New General Catalogue as the "Great Spiral Nebula". It is listed in the 1864 General Catalogue as GC 3572 and in John Herschel's catalogue as h 1623. *1001 Wonders as Observed with Home Built Instruments*, 3^{rd} edition (1931), by American astronomer Charles Howard Barns lists it as "resembling more of an eternal question mark". It is also known as the Whirlpool (see below), Herschel's Ring, and Rosse's Galaxy (see below).
- One is Arp 148 (PGC 33423), a pair of colliding galaxies in the IAU constellation Ursa Major. It was discovered by American astronomer Nicholas U. Mayall (1906 – 1993) at the Lick Observatory in March 1940 using the 36" Crossley reflector telescope. It appears to be a ring galaxy with a tail emerging from it. Mayall described it as being shaped like a question mark. It is also known as Mayall's Object (see above).
- One is the Pleiades Cluster in the IAU constellation Taurus. It was posted on *Cloudy Nights* by female astronomer "Terra Nova" in February 2022.

Queue:

This Serbian asterism "Porednice" is the Belt and Sword of the IAU constellation Orion.

Quiet One of Fornax:

This **telescopic** asterism "Plácida Fornácis" is the intermediate spiral galaxy NGC 1371 (AKA 1367) in the IAU constellation Fornax. It was discovered by English astronomer William Herschel in 1784 and listed as NGC 1371. American astronomer Ormond Stone observed it in 1886 and listed it as NGC 1367. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Quiet One of Virgo:

This **telescopic** asterism "Tranquíllus Vírginis" is the spiral galaxy NGC 4235 in the IAU constellation Virgo. It was discovered in 1784 by William Herschel who listed it as "II 17". It became GC 2821 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name due to the lack of active star formation.

Quintuplet Cluster:

This **telescopic** asterism is a star cluster about 100 light years away from the Galactic Center of our galaxy in the IAU constellation Sagittarius and contains the Pistol Nebula (see above).

Quiver:

The stars of this Tanacross asterism "k'aath" are unidentified at present (Cannon 2021).

This Latin asterism "Pharetra" is the IAU constellation Sagittarius. This is listed in the *Uranometria* (1603) by German astronomer Johann Bayer (1572-1625). John Hill lists it in his *Urania* in 1754 and describes it as "one of the Arabian constellations" but does not identify the modern constellation or the source.

Quntur:

This Inca star is Delta (δ) Orionis (Mintaka) in the IAU constellation Orion (Gamarra & Gamarra 2009).

Quyllur:

This **telescopic** star is a red supergiant in the El Gordo galaxy cluster in the IAU constellation Phoenix. Quyllur is a Quechua word meaning "Star".

Rabbit:

This Pawnee asterism is the "W" asterism in the IAU constellation Cassiopeia (see W below.

This Tupi asterism "Tapiti" is the IAU constellation Libra (De Freita Mourão 2009).

This **telescopic** asterism is the star cluster Collinder 29 (Trumpler 2) in the IAU constellation Perseus. It is listed on the AstroHam blog of the William Brydone Jack Unit of the New Brunswick Centre of the RASC. Size 20'.

This Estonian asterism "Jänes" is the IAU constellation Lepus and appears in the *Sky of Ests (Chudes)* by Aleksander Heintalu (Sass of Vigala) (Kuperjanov 2006).

Rabbit Nest:

This Southern Paiute asterism "Sonee" is the Pleiades cluster in the IAU constellation Taurus (Gillard 2021). This is the home for Coyote's children.

Rabbit Net:

This Shoshone asterism is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above).

This Numic asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Berezkin 2005). This is a net put out by Rabbit.

Rabbit Tracks:

This Diné asterism “Gah Hahat’ee” or “Gah Heet’e’ii” is a group of stars in the IAU constellation Scorpius at the feet of their asterism First Big One (see above): Iota (ι) 1, Kappa (κ), Lambda (λ) and Upsilon (υ) Scorpii (Childrey 2008). The Diné believed that it was inappropriate to hunt when these stars were visible.

Rabbit Warren:

This Wichi and Toba asterism was first noted in 1935 but the stars have not been identified (Mariani 2017). Compare to the Tupi asterism “Tapiti” (see Rabbit, above).

Raccoon’s Children:

This Shasta asterism is the Pleiades cluster in the IAU constellation Taurus.

Radiant of Ursa Major:

This **telescopic** asterism “Rádians Úrsae Majóris” is the intermediate spiral galaxy NGC 2841 in the IAU constellation Ursa Major. It was discovered by William Herschel in 1788. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to its “very dissolved appearance”. It is also known as the “Tiger’s Eye” (see below). Stephen James O’Meara’s *Hidden Treasures Catalogue* (2007) lists this as O’Meara 49 without these names.

Radio Antenna:

This asterism from the Saguaro Astronomy Club’s asterism database is the “head” of the IAU constellation Hydra: Delta (δ), Rho (ρ), Eta (η), Zeta (ζ), and Epsilon (ε) Hydrae form a circlet of stars.

Radio Telescope:

There are two **telescopic** “radio telescope” asterisms:

- One is open cluster NGC 1981 in the IAU constellation Orion. It was discovered by English astronomer John Herschel in 1827 becoming h 362 on his list and GC 1184 in the *General Catalogue* of 1864. It was given this name by American astronomer Wayne Schmidt, who describes it as a radio telescope with the dish pointing to the upper left.
- One is Vastagh 8, listed in 2009 by Hungarian astronomer László Vastagh, which is in the IAU constellation Cygnus. Its apparent diameter is 1° 3’. Vastagh describes this as a “Large asterism with many bright members… and resembles a radio antenna, has a moderately loose structure. Number of stars, - up to 12 cores, - at least 80 pcs. The support bracket of the astronomical antenna, its plate in profile and the sensor head are clearly visible. The surrounding area is richly dotted with fainter stars.”

Radioactive Warning Sign:

This Canadian **telescopic** asterism is in the IAU constellation Taurus and was discovered by RASC member Stephe Bedingfield, who lives in Yellowknife, NWT: He spotted this close by Alpha (α) Tauri (Aldebaran). This is a triangle of double stars, 35’ across, the three apex groupings being:

- Theta (θ) 1 and 2 Tauri,
- 80 and 81 Tauri, and
- HIP 21053 and HIP 21029.

Raedgastran:

This Anglo-Saxon asterism “Raedgastran”, “Raegasnan”, or “Redgaestrum” is the Hyades cluster in the IAU constellation Taurus as listed in R. H. Allen’s *Star Names* in 1899. The meaning is unknown.

Ragged of Hydra:

This **telescopic** asterism “Tetrímmenus Hýdrae” is the spiral galaxy NGC 5085 in the IAU constellation Hydra. It was discovered in 1789 by William Herschel who listed it as “II 780”. It became GC 3492 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “the outer disk of this galaxy is filled with fragmented arms”.

Ragged of Pavo:

This **telescopic** asterism “Pannúceus Pavónis” is the dwarf peculiar galaxy IC 4710 in the IAU constellation Pavo. It was discovered by DeLisle Stewart in 1900. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of its “ill-defined spiral structure”.

Railings:

This Chinese xing guan “Héng” (衡) is a bent line of four stars in the IAU constellation Centaurus: Nu (ν), Mu (μ), Phi (ϕ) and Chi (χ) Centauri. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Héng” is a bent line of four stars in the IAU constellation Centaurus: Nu (ν) Centauri, Mu (μ) Centauri, Phi (ϕ) Centauri, and Chi (χ) Centauri.

Rain:

This Nambikwara asterism is the Hyades cluster in the IAU constellation Taurus (De Freita Mourão 2009).

Rain Bringing:

This Latin asterism “Imbrifer” is the IAU constellation Capricornus. Johann Bayer’s *Uranometria* (1603) lists the name “Imbrifer” for Capricornus.

Rain Bull:

This Jū/Wãsi, Jū /’hoansi, !O Kung, and Nyae Nyae !Kung asterism “Tshxum” is the Pleiades cluster in the IAU constellation Taurus (Alcock 2014). Scholars are uncertain as to which animal “Tshxum” refers. The Jū/Wãsi connect Tshxum with the stars Alpha (α) Carinae (Canopus) in the IAU constellation Carina (which they call “Naka”, the “Horn Star”) and Alpha (α) Aurigae (Capella) in the IAU constellation Auriga (which they call the “Green Leaf Horn”): together they call the stars “the horns of the Tshxum”. These stars are separated by 98 degrees of celestial latitude, although they are near to each other in right ascension, and the Pleiades cluster is ahead of them by and hour and a half, so it is difficult for outsiders to see how they connected these three into an asterism.

Rain Star:

This Hungarian asterism “Esöcsillag” from the Hortobágy Puszta area is unidentified but may be near to the IAU constellation Perseus.

This Lithuanian star “Lietaus žvaigždė” is currently unidentified. Compare to the Hungarian star by the same name.

Rain Stars:

This /Xam and Khoikhoi asterism “tiqua” is the Pleiades cluster in the IAU constellation Taurus (Alcock 2014).

This Japanese asterism “Ame Fure Boshi” is the Hyades cluster in the IAU constellation Taurus (Renshaw and Ihara 2001).

Rainbow:

This Babylonian asterism “TIR.AN.NA” or “manzât” as listed in Anthony Hope’s *A Guide to Ancient Near Eastern Astronomy* in 1996 is the IAU constellation Centaurus.

This Chaldean asterism “mul.tir.an.na” from the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period is the IAU constellation Centaurus (Koch-Westenholz 1995). It is also described in this list as “tir.an.na ud nu-uh-su mu.bi mar-ra-tum” (“Rainbow, its name is ‘day of plenty’, the rainbow”).

Rainbow of Pegasus:

This **telescopic** asterism “Íris Pégasi” is the spiral galaxy NGC 7217 in the IAU constellation Pegasus. William Herschel listed this as “II 207”. John Herschel listed this as h 2149 and later as GC 4760 in his *General Catalogue* of 1864. This galaxy is part of a group of interacting galaxies including NGC 7173, 7174, and 7176. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of its “clear transition of colours”.

Rainbow Runner:

This Kiribati asterism “Kama” or “Kaáma” is the IAU constellation Crux (Trussel and Groves 1978). This is a species of fish (Elagatis bipinnulata).

Rainbow Serpent:

This Wiradjuri asterism “Wawi” is made up of the stars of the dust lanes of the Milky Way through the IAU constellations Crux, Centaurus, Norma, Scorpius, and Triangulum Australe. It stretches between Crux and Scorpius with Triangulum Australe as the tail (Clarke 2009).

This Wardaman asterism “Gorrondolmi” is made up of the stars of the dust lanes of the Milky Way through the IAU constellations Crux, Centaurus, Norma, Scorpius, and Triangulum Australe. It stretches between Crux and Scorpius with Triangulum Australe as the tail.

Rainy Goat Star:

This Greek star “Κινῆσαι Χειμῶνας” or “Kinísai Cheimónas” is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga as described by Aratus (3rd century B.C.E.) and listed in R. H. Allen’s *Star Names* in 1899. It indicated the beginning of the rainy season to ancient navigators. Compare this to Olympic Rainy Capella, above.

Rainy of Coma Berenices:

This **telescopic** asterism “Ímbrica Cómae Bereníces” is the elliptical galaxy NGC 4278 in the IAU constellation Coma Berenices. It was discovered in 1785 by William Herschel who listed it twice: Once as

"I 90" and once as "II 322". John Herschel listed it as h 1186 and later as GC 2855 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name because "like a cloud of droplets many globular clusters surround this galaxy".

Rainy Season Thieves' Cross:

This K'iche' asterism is the IAU constellation Crux (Milbrath 1999). It is considered a portal to the underworld as it is in a rift section (Xibalba be) in the Milky Way. They also had a Dry Season Thieves' Cross (see above).

Rainy Weather:

This Latin asterism "Pluviales" is the Haedi asterism (see Kids above) as described by 1st century B.C.E. Roman poet Quintus Horatius Flaccus (Horace (65 – 8 B.C.E.)) and 1st century Roman poet Marcus Manilius. The 1st century B.C.E. Roman poet Publius Ovidius Naso (Ovid, b. 43 B.C.E.) called them "Nimbosi" ("rainy"). They indicated the beginning of the rainy season to ancient navigators.

Raised Tail of the Scorpion:

This Arabic and Bedouin manzil "Al-Shawlah", "Al-Šawlah" (الشولة), or "ʾAsh-Shawlah" (ٱلْشَّوْلَة), which translates as "sting of the scorpion" or "raised tail of the scorpion" is in the IAU constellation Scorpius and is the stars Lambda (λ) Scorpii (Shaula) and Upsilon (υ) Scorpii (Lesath):

- "al-Shawla", "Shawlat al-Sura", and "Shawlat al-'Aqrab" are listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists the name "al-shawla" for Nu (ν) Scorpii.
- This was later latinized to "Shaula", "Shauka", "Alascha", "Mosclek", and "Shomlek".
- The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) labels this star "Cauda" ("tail".
- Robert Hues (1659) listed it as "Schomlek" and Hues adds the variation "Moselek".
- In his *Urania* in 1754, John Hill lists it as "Alasha" and describes it as ""a misspelling of the term alshaula, the Arabic name of this part of the constellation… it is also called Shamelau". Later in *Urania* Hill gives the name "Shaula or Al Shaula" as "a name of certain stars in the tail of the constellation Scorpio".
- W. Brennand lists this as "Al-Shaula" in his *Hindu Astronomy* in 1896.
- R. H. Allen translates it in his *Star Names* in 1899 as "the Sting" (which is actually the Arabic name for Messier 7) but notes that astronomer Abu Rayhan Muhammad ibn al-Biruni (in turn citing 8th century astrologer Mashallah ibn Athari) translated it as "raised".
- John Chilmead (1899) listed it as "Schomlek"
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists Lambda (λ) Scorpii as "Shaula".
- The IAU approved the name Shaula for the star Lambda (λ) Scorpii Aa.

This Yemeni manzil "Shawla" is the stars Lambda (λ) Scorpii (Shaula) and Upsilon (υ) Scorpii (Lesath) in the IAU constellation Scorpius (Varisco 1995). This appears in the *Kitāb al-Tabṣira Fī'ilm al-Nujūm* of 13th century Rasulid ruler al-Malik al-Ashraf 'Umar ibn Yūsuf (d 1296).

Rake:

This Old High German asterism is the belt of Orion in the IAU constellation Orion.

This German asterism from the Chaco region of Argentina is the belt of Orion and the star Beta (β) Orionis (Rigel) in the IAU constellation Orion (Mudrik 2011).

This French asterism "le Rateau" is the belt of Orion in the IAU constellation Orion and appears in the French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719).

This Estonian asterism "Reha" is the belt of Orion asterism plus the star Beta (β) Orionis (Rigel) in the IAU constellation Orion (Kuperjanov 2003) and appears in the *Sky of Ests (Chudes)* by Aleksander Heintalu (Sass of Vigala).

This English asterism is the Belt of Orion asterism in the IAU constellation Orion. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists this as the "Rake of husbandmen".

This Belarussian asterism "Grabli" is a line of stars running through the sword of Orion from HIP 26263A to HIP 26173A with a line running out either side of HIP 26173A to form a "T", one to 49 Orionis and the other to 36 Orionis (Avilin 2009). The three stars of Orion's belt are "the mowers" (see Mowers, above) using that "rake".

This French asterism "Râteau" is the belt of Orion in the IAU constellation Orion as listed in R. H. Allen's *Star Names* in 1899. Allen only identifies the source as "husbandmen of France and along the Rhine".

This Romanian asterism "Grebla" is made up of stars of the IAU constellation Orion (Ottescu 2009). The "plough" is a quadrilateral created by Orion's belt and the stars Beta (β) Orionis (Rigel) and Kappa (κ) Orionis (Saiph), with the handle being a line from Delta (δ) Orionis (Mintaka) to Gamma (γ) Orionis (Bellatrix). It is also known as the Little Plough (see above) or simply the Plough (see above).

Rake and Scythe:

This Ukrainian asterism "Krabli ta Kosa" (Граблі та коса) is the IAU constellation Orion. Some versions describe this as a rake and flail.

Rakers:

This Italian (Piedmont and Ligurian Alps) asterism "Rastliris" is the stars Alpha (α) Orionis (Betelgeuse) and Beta (β) Orionis (Rigel) in the IAU constellation Orion. It is related to their asterism Mowers (see above).

This Lithuanian asterism "Grėbėjos" is the sword of Orion in the IAU constellation Orion.

Rakuman:

This Carib star represents Rakuman, one of the first Caribs. Its present location is unknown (Magaña, and Jara, 1982).

Ram:

This Greek asterism "Κριός" ("Kriós") is the IAU constellation Aries as mentioned in Aratus' poem *Phaenomena* (270 B.C.E.) and as originally described in Ptolemy's *Almagest* in the 2nd century, being made up of stars in the IAU constellations Aries and Cetus:

- Alpha (α) Arietis (Hamal) is not actually part of the asterism, being described by Ptolemy as "the star over the head",
- The "head" is a quadrilateral of the stars Gamma (γ) Arietis, Iota (ι) Arietis, Theta (θ) Arietis, and Eta (η) Arietis,
- From Gamma (γ) Arietis a curved "horn" is formed by the stars Beta (β) Arietis (Sheratan), HIP 9492, 9815, and 9248,
- One side of its "body" runs from the "neck" at Iota (ι) Arietis through HIP 10050, and Nu (ν) Arietis to Epsilon (ε) Arietis,
- The back side of the "body" runs from Epsilon (ε) Arietis through Rho (ρ) Arietis and Sigma (σ) Arietis to an "ankle" at 38 Arietis and a "hoof" at Mu (μ) Ceti, with the front of the "leg" running from 38 Arietis to 42 Arietis,
- The underside of the "body" runs from 42 Arietis through 29 Arietis and 19 Arietis back to the neck at Iota (ι) Arietis, and
- The "tail" starts at Epsilon (ε) Arietis and runs around through Delta (δ) Arietis, Tau (τ) 1 and 2 Arietis, and Zeta (ζ) Arietis then back to Epsilon (ε) Arietis.

This Seleucid asterism "LU" (see Hired Man, above) or "UDU.NIT" ('ram") from the tablet SBTU II No 43 (W 22646) from the Seleucid (Hellenistic) period (275 B.C.E. – 116 C.E.) is the IAU constellation Aries (Foxvog 1993).

NOTE: The Greek Ram appears alongside a sitting cat in the Daressy Zodiac of the Roman Imperial Period.

This Arabic asterism "al Hamal" is the IAU constellation Aries:

- It was later listed by Italian astronomer Giovanni Battista Riccioli (1598 – 1671) as "Hammel".
- German astronomer Wilhelm Schickard (1592 – 1635) listed it as as "Alchamalo".
- This constellation is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as "Elhamel" and Alchamalo".
- John Chilmead in his *A Learned Treatise on Globes* (1889), which was a translation of the Latin work by English geographer and mathematician Robert Hues (1553 – 1632) named it "Alhamel".

This Arabic asterism "Alkabsh" (الكبش) is the IAU constellation Aries.

This Egyptian Dendera asterism is the IAU constellation Aries (Hoffman 2017). It is a ram, not the Babylonian Hired Man (see below).

This German asterism "Widder" is the IAU constellation Aries. "Widder" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as a common name for Aries:

- German astronomer Johann Bayer (1572-1625) listed it as "Wider".
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Widder".
- "Widder" is listed in the *Nördliche Sternhimmel* sky map of O. S. Reuters based on the work of German astronomer Johann Elert Bode (1747 – 1826).
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "der Widder".

This Hittite asterism is the IAU constellation Aries as listed in the III KUB XXV 37 tablets (Boutet 2014).

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as "Ariete" in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).

This French asterism “Bélier” is the IAU constellation Aries.

This Saxon asterism “Ramm” is the IAU constellation Aries.

This Norman asterism “Multuns” is the IAU constellation Aries.

This Belarussian asterism “баран” (“Baran”) is the IAU constellation Aries.

This Romanian asterism “Berbecul” is the IAU constellation Aries (Ottescu 2009, Lite, Lodina, and Ignat 2018).

Ramming Ship of Pegasus:

This **telescopic** asterism “Ėmbolus Pégasi” is the pair of spiral galaxies NGC 7253 (Arp 278) in the IAU constellation Pegasus. They were discovered by Albert Marth in 1863. It became GC 6037 in the General Catalogue of 1864. This galaxy is part of a group of interacting galaxies including NGC 7173, 7174, and 7176. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “Galaxy NGC 7253A looks like a ship ramming NGC 7253B”.

Ramming Ships of Draco:

This **telescopic** asterism “Émbole Dracónis” is the interacting galaxies NGC 6670 in the IAU constellation Draco. It was discovered by Lewis Swift in 1886. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “both distant galaxies are seen edge-on, resembling slender ships, creating the impression of one ship ramming another”. It is also known as the “Leaping Dolphin” (see above) and the “Poster Girl”.

Rampart:

This Korean asterism “Seongbyeog” (성벽) is a line of stars attached to a quadrilateral in the IAU constellations Aquarius and Capricornus:

- The line runs from Gamma (γ) Aquarii through Sigma (σ) and Iota (ι) to Delta (δ) Capricorni at one corner of the quadrilateral, and
- The four stars in the quadrilateral are Delta (δ), Gamma (γ), Epsilon (ε), and Kappa (κ) Capricorni.

Ramphastes:

This Greek asterism is the IAU constellation Tucana as listed in John Hill’s *Urania* in 1754.

Ram’s Head:

This **telescopic** asterism Hay-Merting 3 is in the IAU constellation Orion. It was discovered in 2014 by German astronomer René Merting and listed by Robert Zebahl on his *Faint Fuzzies* website. Zebahl describes it as “located about 40’ northwest of Abell 12. A narrow and a wide curved star chain give a slightly three-dimensional impression of the horns of a ram. Observers with a lot of imagination can additionally see the ram’s skull”. The brightest star appears to be the variable star DN Orionis (HIP 28456). Size 6’ X 6’.

Ran:

This IAU star is Epsilon (ε) Eridani in the IAU constellation Eridanus and is named for Rán, the Norse goddess of the Sea. The IAU approved the name Ran for Epsilon (ε) Eridani in 2015. This has an exoplanet named Ægir.

Rangawhenua:

This Māori asterism is the IAU constellation Corona Borealis.

Ranger:

This American asterism is made up of the stars of the front end of the IAU constellation Serpens and was created by Brad and Kathryn Templeton for *The Vault of Heaven* star map for the 2004 Burning Man event held in Black Rock Desert in Nevada (Kuperjanov 2006). It is depicted as a park ranger whose "hat" is the head of Serpens.

Rangi-Matanuku:

This Māori asterism is the Large Magellanic Cloud (Orchiston 2017).

Rangifer:

See Reindeer, below.

Rapasti-su:

This Babylonian ziqpu "mul sa gisKUN" from cuneiform text AO 6478 (Schaumberger 1952) is Delta (δ) and Theta (θ) Leonis in the IAU constellation Leo.

Rapeto:

This **telescopic** Malagasy star is HIP 83547 (HD 153950) in the IAU constellation Scorpius (magnitude 7.38). It was given this name in the IAU NameExoWorlds campaign. Rapeto is a giant creature in Malagasy mythology. This has an exoplanet named Trimobe, who is an ogre from Malagasy legends.

Raphael:

This German asterism "Raphael" or "Saint Raphael the Archangel" is the IAU constellations Dorado, Tucana, Hydrus, and the two Magellanic Clouds and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures. This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "S. Raphael". It later appears in Edward Sherburne's *Sphere of Marcus Manilius* in 1675 and in John Hill's *Urania* in 1754.

This is one of the Archangel Stars (see above), Alpha (α) Leonis (Regulus) in the IAU constellation Leo.

Rarae:

The stars of this Kiribati asterism "Rarae" or "Riru ma Rarae" are unidentified at present (Trussel and Groves 1978).

Rasalas:

See Northern Part of the Head of the Lion, above.

Rasalgethi:

See Head of the Kneeler, above.

Rasalhague:

See Head of the Snake Man, above.

Raspberry Nebula:

See Spirograph Nebula, below.

Rastaban:

See Head of the Snake, above.

Rat:

This Netwar asterism “Kahaur Rul”, also known as the Scorpion’s Dart, is made up of four stars of the IAU constellation Scorpius: Lambda (λ), Upsilon (υ), Kappa (κ), and Iota (ι) Scorpii.

This Micronesian star “Jiic” is Alpha (α) Leonis (Regulus) in the IAU constellation Leo.

This Polynesian star “Iti” or “Itiiti” is Alpha (α) Leonis (Regulus) in the IAU constellation Leo.

This is a name that the President of the Sunshine Coast Centre of the RASC, Bruce Fryer, came up with for the IAU constellation Ursa Major. In February 2019 I was operating the telescope at our Sunshine Coast Centre observatory in Wilson Creek, BC, when I noticed that Bruce was out on the observatory deck with another telescope and was gazing at the sky northwards. Having come to a point where I could take a break, I went out to see him and turning to look in the direction that he was, I saw he was looking at the Big Dipper asterism in the IAU constellation Ursa Major. I asked him what he was looking at, and he said: “That’s not a bear, it’s a rat.” The stars have moved since Ursa Major was first named “the Great Bear”, and I have to say that I agree with him: It does look more like a rat now. We’ve called it “the Great Rat” ever since.

Rat Seen in the Evening in Zenith When it is Time to Prepare Gardens:

“Lahuk Rul” is a Nahwal name for the star Alpha (α) Virginis (Spica) in the IAU constellation Virgo (Ramík 2019).

“Kahau rul” is a Netwar name for the star Alpha (α) Virginis (Spica) in the IAU constellation Virgo (Ramík 2019).

Ratatoskr:

This Norse asterism “Ratatoskur” or “Ratatoskr” is made up of stars of the IAU constellation Lacerta and was created by Canadian Bjorn Jónsson (1920 – 1995) who was trying to reconstruct traditional Scandinavian skies (Kuperjanov 2006). Ratatoskr is a squirrel who runs up and down the world tree Yggdrasil to carry messages between the eagles at the top and the serpent Niöhöggr, who dwells beneath its roots.

Rattle:

This Ininew asterism “Sisikwun” is made up of the stars of the IAU constellations Cepheus and Ursa Minor (Buck 2020):

- The “head” of the rattle is Zeta (ζ) Cephei, Iota (ι) Cephei, Beta (β) Cephei (Alfirk), and Alpha (α) Cephei (Alderamin),

- The “handle” extends from 31 Cephei through a line of fainter stars to Alpha (α) Ursae Minoris (Polaris).
- The “handle” of the Little Dipper asterism is seen as a thong attached to the handle.

Rattlesnake:

There are two versions of this Mayan asterism “Chaan”:

- One is made up of stars from the IAU constellations Corona Australis, Sagittarius, and Telescopium. The body is a wavy line of stars from Sigma (σ) Sagitarii through Zeta (ζ), Epsilon (ε), Eta (η) Scorpii, to a bend at Theta (θ) Scorpii and running down through Alpha (α) Telescopii to the curving line of the IAU constellation Corona Australis that forms the “rattle”.
- In the postclassic Paris Codex this Mayan asterism is a combination of the Pleiades cluster in the IAU constellation Taurus with the stars of the IAU constellation Perseus (Milbrath 2014). The line of stars from Eta (η) Persei through Alpha (α) Persei (Mirfak) to Zeta (ζ) Persei is the body of the snake with the Pleaides as the “rattle”. Compare this to the Yucatec asterism “Tzab” (see Rattlesnake’s Rattle, below) which is only the Pleaides cluster in the IAU constellation Taurus.

Rattlesnake’s Rattle:

This Yucatec asterism “Tzab” or “Tsab” is the Pleiades cluster in the IAU constellation Taurus (Milbrath 1999). Compare this to the Mayan asterism “Chaan” (see Rattlesnake, above).

This Lacandon and Manche Ch’ol asterism is the Pleiades cluster in the IAU constellation Taurus (Milbrath 1999).

NOTE: Milbrath notes that the Chiccan Serpent, which is a rain serpent prominent in Mayan culture, may be associated with this asterism as the glyph for this Serpent has a rattle tail.

Ravana:

This Hindu asterism is the IAU constellation Hydra (Bhagwath 2019). Ravana is a multi-headed demon monster.

Raven:

This Greek asterism “Κόραξ” (“Kórax”) is the IAU constellation Corvus as mentioned in Aratus’ poem *Phaenomena* (270 B.C.E.) and as originally described in Ptolemy’s *Almagest* (2nd century).

This Arabic asterism “Ghurab Aswd” (غراب اسود) or “Al Ghurāb” is the IAU constellation Corvus:

- “al-Ghurāb” was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- Johann Bayer’s *Uranometria* (1603) lists “Algorab” and “Gorab” for Corvus.
- The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch gives “Algorab” and “Algorabo” as names for Corvus, as well as the local names “Grapp vel Kapp/Meis Kaab”.
- Robert Hues lists “Algorab” as an Arabic name for the constellation Corvus in his *A Learned Treatise of Globes* in 1659.

This Arabic star “al-Ghurāb” (الغراب) is Delta (δ) Corvi in the IAU constellation Corvus:

- This was later latinized to “Algorab” in the *Alfonsine Tables* (Kunitzsch 1986), “Algores”, or “Algorel”.

- The Sloane astrolabe BM SL 54 in the British Museum which dates to 1290 – 1300 lists "Algorab" (Dekker 2000).
- This is listed on the 14th century astrolabe #4560 from Christian Spain as "9ORUUS", the "9" representing a hard "C" sound, making this "Coruus", from the Latin "Corvus" (King 2002) and associates it with Gamma (γ) Corvi.
- The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.170v-171r lists "Algorab" for this star.
- The 15th century *Alfonsine Tables* list Algorab as a name for Gamma (γ) Corvi (Gienah).
- The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists "Algorab" for Gamma (γ) Corvi.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Algorab" and "Corab" as both a name for Corvus and as a name for Delta (δ) Corvi.
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Algorab".
- William Herschel lists "Algorah" in his *Catalogue of 500 new Nebulae* in 1802.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists this star as "Algorab" in his *Celestial Atlas* in 1822.
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Al ghoráb, the raven".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Algores".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists the names "Algorab", "Algorel", and "Algores", but his 14th edition only lists "Algorab" for Delta (δ) Corvi.
- The IAU approved the name Algorab for the star Delta (δ) Corvi A.

Raven is the IAU constellation Corvus as described by English author Geoffrey Chaucer (c.1340s – 1400).

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists Delta (δ) Corvi as "Algorab".

This German asterism "Rabe" is the IAU constellation Corvus.

This Hebrews asterism "'Ōrebh" or "Ōrev" is the IAU constellation Corvus.

This Romanian asterism "Corbul" is the IAU constellation Corvus (Ottescu 2009, Lite, Lodina, and Ignat 2018).

This Babylonian asterism from the MUL.APIN tablets "MUL.UGA.MUSHEN" or "UGA(.MUSHEN)" (Anthony 1996) is the IAU constellation Corvus. The *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) list it as "MUL.UGA" or "u-ga" and the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period as "mul.ug.ga" or "mul.uga" (Koch-Westenholz 1995). It appears in later Seleucid sky lore.

This Assyrian asterism "Aribu" (Anthony 1996, Hunger 1992) or "u-ga[MUL.UGA]" (Hunger 1992) and "UGA" as listed in the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) is the IAU constellation Corvus.

This Babylonian and Sumerian asterism "uga" as listed in the BM 78161 tablet (Liechty 1988) is made up of stars of the IAU constellations Corvus and Crater.

Ravens:

This Arabic asterism “Al Aghribah” is a bending line of stars in the IAU constellation Canis Majoris and Columba listed by the 16th century Arabic astronomer Al Tizini: Zeta (ζ) Canis Majoris, Delta (δ) Columbae, Beta (β) Columbae, Alpha (α) Columbae, and Epsilon (ε) Columbae. It is also known as the Solitary Ones (see below).

Raven’s Beak:

This Arabic star “al-manxar al-ghurab” (منقار) is Alpha (α) Corvi in the IAU constellation Corvus:

- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists “minqār al-ghurāb”.
- The rete of the 14th century Spanish astrolabe NMM AST0570 in the National Maritime Museum lists the name “Alglari” as a name for Gamma (γ) Corvi (Dekker 2000).
- “al-manxar al-ghurab” is listed in the *Calendarium* of Al Achsasi al Mouakket in 1650.
- “Al Minẖar al Ghurāb” (الغراب) is listed by Persian astronomer Ulugh Beg Mirza (1394 – 1449).
- This was later latinized to “Al Minliar al Ghurab” or “Minkar al Ghurab”.
- John Hill lists this star as “Mimkaralgerah” in his *Urania* in 1754.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Minkár al ghoráb, the raven’s beak”.
- NOTE: The IAU are considering the latinized name Minkar as the name for the nearby star Epsilon (ε) Corvi.

Rawa:

This Kiribati star “Rawa” or “Te Rawa” is one of the stars of the IAU constellation Aquila (Trussel and Groves 1978).

Rayfish:

This Karajá asterism “Boró” is made up of the Coal Sack Nebula and stars of the IAU constellation Crux (De Freita Mourão 2009):

- The “body” is the Coal Sack Nebula, and’
- Its “eyes” (“Borórruéneare”) the stars Alpha (α) Crucis (Acrux) and Beta (β) Crucis (Mimosa).

Ray’s Shrimp:

This **telescopic** asterism, Howard 1 from the asterism list of Ray Howard of the Eastbay Astronomical Society, is in the IAU constellation Puppis 1.5 deg south of the star 19 Puppis. The brightest star, 7th magnitude HIP 40100, is the nose of Ray’s Shrimp with a cluster of 8th and 9th magnitude stars forming the body.

Ready:

This Chakavian asterism “Gâta” is the IAU constellation Cassiopeia.

Reaper:

This Hungarian asterism “Kaszás” or “Kaszáscsillag” (“reaper constellation” is the IAU constellation Orion. It is also known as “Nimrod” (see below), and Archer (see above). 15th century sources name it “Kaza Hug”.

This Italian asterism “Mietitore” is the asterism Custos Messium (see Harvest Keeper, above).

Reapers:

This Lithuanian asterism “Pjovėjos” is the belt of Orion in the IAU constellation Orion. Compare this to the asterism Rakers (see above) and the Old High German asterism “Three Reapers” (see below).

This Hungarian asterism “Kaszás Csillag” is made up of stars of the IAU constellation Orion. The celestial map of Hungarian uranographer Sandor Nagy (1915) depicts this asterism as a row of three reapers (the three stars of the “Belt of Orion”) with the “sword of Orion” and the star Beta (β) Orionis (Rigel) representing field workers bundling what has been reaped.

Rear Foot of the Lion:

This Persian (Achaemenid Period 539 – 331 B.C.E.) star “GIS KUN A” is Beta (β) Virginis (Zavijava) in the IAU constellation Virgo (Hunger and Sachs 1988).

Rear Foot of the Little Twins:

This Babylonian star is part of the asterism “mul mas.tab.ba.tur.tur” (see Little Twins, below) listed in *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period as and depicted on the K 8538 planisphere as “mulmaš-tab-ba-tur-tur”. The specific star is Xi (ξ) Geminorum as listed in the BM 78161 tablet as the 19th ziqpu (Liechty 1988, Leitz 2019).

Rear Footstool of Al-Jawza:

This Arabic asterism “al-kursi al-mu’akhar” (الكرسي المؤخر) or “Kursiyy al-Jawzā' al-Mu'akhkhar” is a quadrilateral of stars in the IAU constellation Lepus: Alpha (α) Leporis, Beta (β) Leporis, Gamma (γ) Leporis, and Delta (δ) Leporis. Compare this to Footstool of Al-Jawza, above. This has also been translated as the “Hindmost Chair of Jawza”, the “Throne of Jawzā'” (see below) or “Camels Quenching their Thirst” (see above). In English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 Smyth writes that the Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) called this asterism “al muakkherah, the succeeding” but claims that it consisted of “λ, β, and ψ Eridani”.

Rear Head:

This Chukchi star is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra. The star Arcturus is the “Front Head” (see above). They use these two stars for navigation.

Rear Knight:

This Arabic star is Alpha (α) Cygni (Deneb) in the IAU constellation Cygnus. Dorn (1829) lists this as “backrider” and describes this as appearing depicted on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya’ al-Qazwini (1203 – 1283). It is part of their asterism Knights (see above).

Rear of Scorpius:

This Arabic star “tālī al-shawla” is Lambda (λ) Scorpii in the IAU constellation Scorpius as listed on the star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003).

Rear One of the Fish:

This Arabic star is Beta (β) Gruis (Alnair) in the IAU constellation Grus as listed by 16th century Arabic astronomer Al Tizini. He saw this as part of the "tail" of nearby Piscis Austrinus, and listed Gamma (γ) Gruis as "Tail" (see below).

Rear Ostrich:

This Arabic star "Al Thalimain Posterior", "Al Thalimain II", or "Althalimain" is Iota (ι) Aquilae in the IAU constellation Aquila and is part of their asterism Two Ostriches (see below).

Rear Pillar:

This Tahitian star "Anamuri" is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus (Edwards 2015).

Rear Spear Tassel:

See Armed One, above.

Rear Star:

This Arabic star "tali an-najm" is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus. It is called this as it rises after the Pleiades.

- "Tālī al-Najm" is listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- "tali an-najm" appears in the list of "rain stars" of Qutrub (d. 821 C.E.) but as an indicator of the second period of summer heat.
- English Admiral Henry William Smyth lists this as "Táliyu l nejm" and as "Taliy-n-nejm, as following or driving the Pleiades" in his *Bedford Catalogue* in 1844.
- Compare to "Follower of the Star" (above).

Rear Star of the Crab to the North:

This Persian (Achaemenid Period 539 – 331 B.C.E.) star "MUL ar sa ALLA sa SI" is Gamma (γ) Cancri in the IAU constellation Cancer (Hunger and Sachs 1988) and is part of their asterism Crab (see above).

Rear Star of the Crab to the South:

This Persian (Achaemenid Period 539 – 331 B.C.E.) star "MUL ar sa ALLA sa ULU" is Delta (δ) Cancri in the IAU constellation Cancer (Hunger and Sachs 1988) and is part of their asterism Crab (see above).

Rear Star of the Goat Fish:

This Persian (Achaemenid Period 539 – 331 B.C.E.) star "MUL ar sa SUHUR MAS" is Delta (δ) Capricorni in the IAU constellation Capricornus (Hunger and Sachs 1988).

Rear Star of the Head of the Hired Man:

This Persian (Achaemenid Period 539 – 331 B.C.E.) star "MUL ar sa SAG HUN" is Alpha (α) Arietis (Hamal) in the IAU constellation Aries (Hunger and Sachs 1988) and is part of their asterism Hired Man (see below).

Rear Star of the Twin's Feet:

This Persian (Achaemenid Period 539 – 331 B.C.E.) star "MUL ar sa se-pit MAS-MAS" is Mu (μ) Geminorum in the IAU constellation Gemini (Hunger and Sachs 1988) and is part of their asterism Twins (see below).

Rear Twin Star:

This Persian (Achaemenid Period 539 – 331 B.C.E.) star "MAS-MAS ar" is Beta (β) Geminorum (Pollux) in the IAU constellation Gemini (Hunger and Sachs 1988) and is part of their asterism Twins (see below).

Rear Two Crossbars of the Bucket:

This Arabic asterism "al-'arquwatan al-mu'akharatan min ad-dalw" (العرقوتان المؤخرتان من الدلو) is two stars in the IAU constellations Andromeda and Pegasus: Alpha (α) Andromedae (Alpheratz) and Gamma (γ) Pegasi. It is also known as the Second Spout (see below) or the Lower Crossbar of the Bucket (see above).

Rebar:

This American asterism is a line of two stars in the IAU constellation Virgo and was created by Brad and Kathryn Templeton for *The Vault of Heaven* star map for the 2004 Burning Man event held in Black Rock Desert in Nevada (Kuperjanov 2006): Mu (μ) and Iota (ι) Virginis.

Reber's of Cygnus:

This **telescopic** asterism "Rebérius Cýgni" is the galaxy PGC 63932 (3C 405, Cygnus A) in the IAU constellation Cygnus. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because this "was discovered by Grote Reber (1911 – 2002) in 1939. It was the first hyper-active galaxy to be discovered".

Rebua:

This Kiribati star is Alpha (α) Centauri (Rigil Kentaurus) in the IAU constellation Centaurus (Trussel and Groves 1978). Rebua is the name of one of two legendary waves, the other being Tokia. Rigil Kentaurus and Hadar are known to them as "Tokia ma Rebua" (see below).

Receptacle:

This Latin asterism "Conceptaculum" is the IAU constellation Ara as listed in John Hill's *Urania* in 1754.

Recommending Virtuous Men:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty "Jinxian" is the star Theta (θ) Virginis in the IAU constellation Virgo.

This Chinese xing guan "Jìnxián" (进贤) is the star 44 Virginis in the IAU constellation Virgo.

This Chinese Chenzhuo xing guan is the star Theta (θ) Virginis in the IAU constellation Virgo.

Record of Family:

This Korean asterism "Gajog Gilog" (가족 기록) in the IAU constellation Ophiuchus is three lines of stars radiating out of the central star 70 Ophiuchi:

- One goes out to the star 66 Ophiuchi,
- One goes out to the star 67 Ophiuchi, and
- One goes out to the star 68 Ophiuchi.

Recover and Protector Star:

This Mongolian star is 80 Ursae Majoris (Alcor) in the IAU constellation Ursa Major (see Big Dipper, above). It is in a binary system with the star Zeta (ζ) Ursae Majoris (Mizar): The ancient Mongolians believed Alcor had been placed there by their God of Heaven, Tengeriin, to protect Mizar and that you could not be an archer unless you could see both stars (Lagain & Rousseau 2015).

Rectangle:

There are six **telescopic** "rectangle" asterisms:

- One is in the IAU constellation Lynx and is Corder 1627 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is four 7^{th} – 9^{th} magnitude stars including HIP 41933, 41836, and the double star HIP 41844.
- One is in the IAU constellation Ursa Minor and is Corder 1742 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is four 8^{th} – 9^{th} magnitude stars including HIP 44490.
- One is in the IAU constellation Ursa Major and is Corder 1907 on the observing list of American astronomer Jeffrey Corder. Size 45' X 30'. This is four 7^{th} magnitude stars including HIP 47791, 48132, 48266, and 47929.
- One is in the IAU constellation Centaurus and is Corder 2577 on the observing list of American astronomer Jeffrey Corder. Size 30'. This is six 7^{th} – 8^{th} magnitude stars including HIP 68273 and 68231.
- One is in the IAU constellation Microscopium and is Corder 4213 on the observing list of American astronomer Jeffrey Corder. Size 90' X 25'. This is a 6^{th} magnitude star and three 8^{th} magnitude stars including HIP 102014 and 101918.
- One is in the IAU constellation Pegasus and is Corder 4707 on the observing list of American astronomer Jeffrey Corder. Size 65'. This is four 6^{th} – 7^{th} magnitude stars including HIP 111541 and 111263 and the double stars 39 Pegasi and HIP 111535A.

Rectitude:

This Sogdian asterism "Rashnawand" is the belt of Orion in the IAU constellation Orion (see above) as listed in R. H. Allen's *Star Names* in 1899.

This Khorasmian asterism "Khawiya" is the belt of Orion in the IAU constellation Orion (see above) as listed in R. H. Allen's *Star Names* in 1899.

Red:

This Chaldean star "mul sa" or "ul.sa" is listed in the *Great Star List* (Koch-Westenholz 1995) and is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes.

This Persian lunar mansion “Gel” is the star Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius as listed by R. H. Allen in his *Star Names* in 1899.

This Kamilaroi star “Guembila” or “Guebilla” is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes (William Ridley 1875).

Red and Blue of Phoenix:

This **telescopic** asterism “Erythrocyáneus Phoenícis” is the pair of interacting galaxies NGC 454 in the IAU constellation Phoenix. It was discovered by John Herschel in 1834 who listed it in his catalogue as 2397. It became GC 253 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as one red elliptical galaxy appears red and the other irregular galaxy blue.

Red Ant:

This Wardaman asterism is made up of the stars of the IAU constellation Capricornus (Cairns 1999). Compare this to the Boorong asterism “Marpeankurrk” (See “Meat Ant”, above).

This Barasana star “Mekahianmu” is Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion. This is the leaf-cutter ant, and Hugh-Jones (2006) translates this as “Leaf Cutter”.

Red Backed Spider:

This Noongar star “Kara” is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes.

Red Bar of Aquarius:

This **telescopic** asterism “Rubritrabeátus Aquárii” is the barred spiral galaxy NGC 7723 in the IAU constellation Aquarius. This was discovered in 1785 by William Herschel who listed it as “I 110”. It became GC 4998 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of “the beautiful reddish bar in the central region”.

Red Blonde of Volans:

This **telescopic** asterism “Fúlvia Volántis” is the elliptical galaxy NGC 2434 in the IAU constellation Volans. It was discovered in 1834 by John Herschel who listed it as 3096 and later as GC 1561 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name due to its “reddish colour”.

Red Blue of Boötes:

This **telescopic** asterism “Rubricaésius Boótis” is the interacting galaxy UGC 9618 (Arp 302) in the IAU constellation Boötes. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it “consists of a blue spiral galaxy, seen face-on, MCG+4-35-18, and a reddish edge-on galaxy MCG+4-35-19”. It is also known as the Exclamation Point Galaxy (see above).

Red Dog:

This Latin asterism “Rubra Canicula” is Canis Majoris. This is listed in William Henry Smyth’s *Bedford Catalogue* in 1844: Smyth attributes this to the Roman poet Quintus Horatius Flaccus (Horace, 65 – 27 B.C.E.).

Red Dragonfly:

This Lacandon star “Chäk Tulix” is Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion (Milbrath 1999).

Red Emperor:

This Chinese star “Chidi” from the Three Kingdoms to Ming Dynasty is HIP 57779 in the IAU constellation Leo and is part of their xing guan Seats of the Five Emperors (see above).

Red Fox:

This Inuit asterism “Kaguyagat” is the Pleaides cluster in the IAU constellation Taurus (MacDonald 1998).

This Nunamiut star “Kajuqtuq Tiriganniaglu” is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major. It is sometimes interpreted as “white fox”.

Red Jaguar:

This Kogi asterism “Neb-Šiža” or “Neb-Siji” (“puma” or “red jaguar”) is identified either as the belt or the sword of Orion in the IAU constellation Orion.

Red Kangaroo:

This Boorong asterism “Purra” is made up of the stars of the IAU constellations Auriga and Perseus and was listed by Stanbridge (1857), Morieson (1999) and Hamacher and Frew (2010). The kangaroo’s “feet” are the star Alpha (α) Aurigae (Capella). The “body” contains the stars Epsilon (ε), Eta (η), and Zeta (ζ) Aurigae and the tip of the kangaroo’s “tail” is the star Zeta (ζ) Persei. This kangaroo was pursued and killed by Yurree (see Fan Tailed Cockatoo, above) and Wanjel (see Eastern Long Necked Turtle, above).

This Wotjobaluk star “Purra” is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga (Hamacher 2011). It is part of their asterism Two Hunters (see below).

Red Kangaroo Leader:

This Wardaman star “Unumburrgu” is Beta (β) Orionis (Rigel) in the IAU constellation Orion (Cairns and Harney 2003) and is related to their asterism Red Kangaroo (see above). The rest of the stars in this constellation are his ceremonial tools and entourage.

Red-Kneed Dotterel:

This Boorong asterism “Berm-berm-gle” or “Bermbermgle” is made up of stars in the IAU constellations Centaurus and Circinus and was listed by Stanbridge (1857), J. Morieson (1999), and Hamacher and Frew (2010). The “head” is the star Alpha (α) Centauri (Rigil Kentaurus). The middle of the “body” is HIP 72131. From HIP 72131 four lines go out:

- One goes to HIP 70235,
- One goes out to HIP 73036,
- One goes out to Eta (η) Circini, and
- One goes out to Alpha (α) Circini.

Red Light of Virgo:

This **telescopic** asterism "Erýthrophos Vírginis" is the elliptical galaxy NGC 5813 in the IAU constellation Virgo. It was discovered in 1786 by William Herschel who listed it as "I 127". It became GC 4026 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the red colour of this elliptical galaxy".

Red Limbed of Pegasus:

This **telescopic** asterism "Erythrocólus Pégasi" is the barred lenticular galaxy NGC 7743 in the IAU constellation Pegasus. This was discovered in 1784 by William Herschel who listed it as "II 256". It became GC 5006 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the smooth red arms of this… galaxy".

Red Necked Emu:

This **telescopic** asterism from *Pattern Asterisms* by American astronomer John A. Chiravalle is in the IAU constellation Cygnus and is also known as the Bent Fan or Spiral. It is Harrington 26 on American astronomer and author Phil Harrington's list of asterisms. This is Corder 4088 on Jeffrey Corder's list. Size 45'. It is close to open cluster Do Dz 3:

- The body is a quadrilateral of six 8^{th} – 9^{th} magnitude stars including HIP 99719 and 99628,
- The "neck" is the stars HIP 99769, 99777, and 29 Cygni, and
- The "foot" is four stars forming a right-angle including HIP 99667.

Red Ochre:

This Maasai star "Orkaria" is the red dwarf star GJ 1214 in the IAU constellation Ophiuchus. It received this name in the IAU's NameExoWorlds competition in 2022. It has an exoplanet GJ 1214b, "Enaiposha", which refers to large bodies of water and their tumultuous nature.

Red Ochre Woman:

This Arrernte star "Alknarinja" is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius (Maegraith 1932) and is part of their asterism Three Women (see below).

Red of Cetus:

This **telescopic** asterism "Rubicúnda Céti" is the lenticular galaxy NGC 357 in the IAU constellation Cetus. It was discovered in 1785 by English astronomer William Herschel who listed it as II 434. It is GC 190 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to its "reddish colour".

Red of the Prow:

This ancient Egyptian star "Tjmes en Khentet" is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius and is part of their asterism Prow (see above).

Red One:

There are two Vedic stars by this name:

- One is Vedic nakshatra (lunar mansion) “Rohinī” or “Rohini” (“the red one” or “ruddy”) is the star Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus and appears in the *Artharveda*, the Rig-Veda and the *Taittirīya Brāhmana* (Bhagwath 2019, Ivanković 2021) and on the nakshatra list of the scholar Varahamihir (Leitz 2019). It is part of their larger asterism Climber (see above). The maharshi Parasara listed this asterism “Rohini” as Alpha (α) Tauri (Aldebaran), Delta (δ) 1 Tauri, Epsilon (ε) Tauri, Gamma (γ) Tauri, and Theta (θ) 1 Tauri (Leitz 2019). It is related to their deity Brahma or Prajapati. They also call it the “Star of Ascent” or “Brahmi”. They call the constellation Orion “Mriga” (see Deer, above) and Rohini is the roe that he is chasing. W. Brennand lists this as “Rohini” in his *Hindu Astronomy* in 1896 and translates this as “a wheel carriage”. Bhagwath (2019) lists the symbols of this nakshatra as a cart, temple, or banyan tree.
- One, “Rohinī”, found in the *Taittiriya Samhita* and the *Taittiriya Brahmana*, is the star Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius (Leitz 2019, Ivanković 2021): This is an alternate name for their nakshatra Jyestha (see Eldest, above), sometimes described as “second Rohini”.

This Myanmar nekkhat (lunar mansion) “Yawhani” (ရောဟဏီ) is the star Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus.

This Tibetan gyukar (lunar house) “Snar Ma” or “Narma” is the star Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus (Johnson-Groh 2013).

Red Phoenix:

This **telescopic** Chinese star “Danfeng” (丹凤) is the red dwarf type star L 168-9 in the IAU constellation Tucana. It received this name in the IAU’s NameExoWorlds competition in 2022. Danfeng is the red phoenix which symbolizes good fortune. It has an exoplanet L 168-9b, “Qingluan” (青鸾). This refers to the sacred blue bird, a messenger of love.

Red Rectangle Nebula:

This **telescopic** asterism is protoplanetary nebula HD 44179 is in the IAU constellation Monoceros.

Red Ringed of Aquarius:

This **telescopic** asterism “Rubrocíncta Aquárii” is the barred spiral galaxy NGC 7184 in the IAU constellation Aquarius. This was discovered in 1783 by William Herschel who listed it as “II 1”. It became GC 4739 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “this galaxy has a beautiful inner ring in the central region, which is especially visible in red and infrared light”. It is also known as the “Saturn Ring Galaxy”.

Red-Rumped Parrot:

This Boorong asterism “Djuit” is made up of the stars of the IAU constellation Scorpius as listed by Stanbridge (1857), Morieson (1999), and Hamacher and Frew (2010). The “body” runs from Tau (τ) Scorpii through Alpha (α) Scorpii (Antares) and Sigma (σ) Scorpii. The “wings” run from the multiple star system Beta (β) Scorpii (Acrab) to Rho (ρ) Scorpii. Djuit is the son of Marpeankurrk (see Meat Ant, above). Compare this to the Ngarrindjeri asterism “Waiyungari” (see Waiyungari below).

This Wotjobaluk star is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius (Hamacher 2011).

Red Sea:

This German asterism is the IAU constellation Eridanus and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures. It later appears in Edward Sherburne's *Sphere of Marcus Manilius* in 1675 as "the Passage of the Israelites through the Red Sea" and in John Hill's *Urania* in 1754.

Red Spider Nebula:

This **telescopic** asterism is planetary nebula NGC 6537 in the IAU constellation Sagittarius. This was discovered by American astronomer Edward Charles Pickering in 1885.

Red Square Nebula:

This **telescopic** asterism is protoplanetary nebula containing the star MWC 922 in the IAU constellation Serpens. It was first imaged by the Mount Palomar Hale Telescope in 2007.

Red Star:

This Hawaiian star "Hoku'ula, also known as "Kapuahi" (see Sacred Fire, below) is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus.

This is also an alternate Hawaiian name for their star Lehuakona (Alpha (α) Scorpii (Antares) - see Southern Lehua Blossom, below).

This Elvish (Sindarin) star "Borgil" ("red star" or "hot star") is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus and appears in the works of J. R. R. Tolkien (1892 – 1973). It is related to Luinil (see Blue Star, above).

This Skidi star is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius (Krupp 1983). They considered it to be one of the four pillars of heaven.

"Izar Gorria" is a Basque name for Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius (Knörr 1999).

"Tsahal k'anal" is a Tzotzil name for Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes (Milbrath 2000). NOTE: They also use this name for Mars.

Red-Tail:

This Wardaman star "Gamakba" is Gamma (γ) Tauri in the IAU constellation Taurus and one of the stars in their asterism "Little Fishes" (see above).

Red that is in the Neck of the Victor:

This Hebrew star "ha-adom she-hu' be-savar ha menasse'h" ("The red that is in the neck of the victor") is Alpha (α) Hydrae (Alphard) in the IAU constellation Hydra as listed in the star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985)

Redback Spider:

This Kokatha star "Kara" is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes (Leaman, Hamacher, and Carter 2016).

Reddish of Coma Berenices:

This **telescopic** asterism “Rubélla Cómae Bereníces” is the elliptical galaxy NGC 4473 in the IAU constellation Coma Berenices. It was discovered by William Herschel in 1784. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). It is part of Markarian’s Chain (see above).

Reddish of Corvus:

This **telescopic** asterism “Rubéllula Córvi” is the intermediate spiral galaxy NGC 4050 in the IAU constellation Corvus. It was discovered in 1785 by William Herschel who listed it as “II 509”. It became GC 2689 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Reddish of Horologium:

This **telescopic** asterism “Rússula Horológii” is the lenticular galaxy NGC 1527 in the IAU constellation Horologium. It was discovered in 1826 by James Dunlop. John Herschel listed it as h 2616 in his catalogue and later as GC 819 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Reddish of Hydra:

This **telescopic** asterism “Rubécula Hýdrae” is the ringed lenticular galaxy NGC 2855 in the IAU constellation Hydra. It was discovered in 1786 by William Herschel who listed it as “I 132”. It became GC 1835 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “although mostly two-armed in the inner regions, the spiral pattern could be interpreted as being six-armed in the outer regions”.

Reddish One:

This Bedouin (coastal Saudi Arabia) star “al-Iḥaimir” (الاحيمر) is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes.

Redness of Virgo:

This **telescopic** asterism “Rubor Vírginis” is the lenticular galaxy NGC 4546 in the IAU constellation Virgo. It was discovered in 1786 by William Herschel who listed it as “I 160”. It became GC 3092 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Reed Bundle:

This Babylonian asterism “MUL.GILIM.MA” from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) and “mul.gilim” or “mul.min” in the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period is the IAU constellation Centaurus (Koch-Westenholz 1995)..

Reed Forest:

This Vedic moon station is a line of three stars in the IAU constellations Monoceros and Orion: Epsilon (ε) Monocerotis and 67 and 54 Orionis.

Reef:

This Kiribati star "Atinikabo" or "te Atinikabo" is the star Iota (ι) Ceti in the IAU constellation Cetus (Trussel and Groves 1978).

Reference Stars:

An instrument for determining the time at night based on the relative positions of two or more stars in the night sky during the Middle Ages was the "Nocturnal" or "Horologium" (French "Nocturlabe"). This was an important instrument in determining tides for certain ports. It was first mentioned by Raymond Lull in the 12th century as sphaera horarum noctis or astrolabium nocturnum. This system used "reference stars" (also known as "pointer stars") with most commonly used reference stars for this instrument being:

- Alpha (α) Ursae Majoris (Dubhe) and Beta (β) Ursae Majoris (Merak), or
- Beta (β) Ursae Minoris (Kochab) and Gamma (γ) Ursae Minoris (Pherkad).

Regor:

This American star is Gamma (γ) Velorum in the IAU constellation Vela. It was created by American astronaut Gus Grissom and is the name "Roger" backwards (Roger being first name of fellow astronaut Roger Chaffee. It is believed that Grissom was influenced by the stars Sualocin and Rotanev which were reversed Latinized names of Giuseppe Piazzi's assistant Nicolo Cacciatore and decided to name some other stars in this area with reversed names.

Regulus:

See Princelet, above.

Rehoboam's Scorpion:

This German asterism is the IAU constellation Scorpius as listed by German poet Philipp von Zesen (1619 – 1689). Rehoboam is listed in the *Hebrew Bible* as the last monarch of the United Kingdom of Israel. R. H. Allen describes this connection between Rehoboam and a scorpion in his *Star Names* in 1899 as "mistakenly considered": There doesn't appear to be any mention of a scorpion in the accounts of Rehoboam.

Rehua:

This Māori star is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius. Rehua is a plant with red flowers. In their sky lore it is a bird with one wing broken who mates with Pekehawani or Ruhi-te-rangi (a star close by). The other star close by, Whaka-onge-kai ("she who makes food scarce before the new crops can be harvested"), is his other mate. Compare this to the Hawaiian star Lehuakona (see Southern Lehua Blossom, below) and to the Kiribati "Rebua" (see above).

Reichsapfel:

See Leopold's Orb, above.

Reindeer:

This asterism “Rangifer” or “Tarandus” was created in 1736 by the French astronomer Pierre Charles Le Monnier to commemorate the expedition of Maupertuis to Lapland to prove the Earth’s oblateness. Le Monnier called it “Renne”, the Germans “Rennthier”. It is the stars Iota (ι) and Psi (ψ) Cassiopeiae and 43, 46, 48, and 50 Cassiopeiae:

- German astronomer Johann Elert Bode (1747 – 1826) listed it in his *Die Gestirne* and in Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) as “Renthier” and depicts it as a reindeer standing in front of a Cepheus.
- Scottish astronomer Alexander Jamieson (1782 – 1850) listed “Tarandus” in his Celestial Atlas in 1822.
- The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts “Le Réene” as a reindeer running to our right. This also appears in the 1778 edition.
- English Admiral Henry William Smyth mentions Rangifer in his *Bedford Catalogue* in 1844.
- This is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852 as “Tarandus”: The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822.

This large Sami asterism “Sarva” or “Sarvis” is made up of the stars of the IAU constellations Cassiopeia, Perseus, and Taurus (Lundmark 1982, Persson 2022). Some Sami describe it as an elk. This is how it is constructed:

- The “W” of Cassiopeia is the “antlers” (see W below),
- The “neck” runs down from Delta (δ) Cassiopeiae to Alpha (α) Persei (Mirfak) and Delta (δ) Persei,
- The “body” runs from Delta (δ) Persei to Alpha (α) Aurigae (Capella), and
- The elk’s “feet” are the stars Beta (β) Tauri (Elnath), Iota (ι) Aurigae, Zeta (ζ) Persei, and Beta (β) Persei (Algol).

NOTE: R. H. Allen lists this Sami asterism as “Sarw” in his *Star Names* in 1899 and calls these people “Lapps”.

This Chukchi and Koryak asterism is the IAU constellation Cassiopeia (see W below). The reindeer is being pursued by a hunter represented by Orion (see Hunter, above).

This Nganasan asterism is the Pleiades cluster in the IAU constellation Taurus. Some versions have the Pleiades as a group of hunters with a net (see Hunters, above) and some have Orion as the Hunter and the Pleiades as the reindeer.

Reins Holder:

This Greek asterism “Ενίοχος” or “Eniochos”, latinized to “Heniochus” is the IAU constellation Auriga (see Charioteer, above).

De Astronomica (“the astronomy”), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This lists the names “Heniochus” and “Auriga” and depicts this as a male in tunic and pointed cap in a four wheeled cart drawn by two horses and two oxen. He is holding the reins in his left hand and waving with his right hand. A goat is perched on his left shoulder and another on the back of his left hand.

Danish astronomer Tycho Brahe's *Astronomiae Instauratae Progymnasmata* (1602) lists Heniochus as a name for Auriga.

John Hill lists "Heniochus" as a name for Auriga in his *Urania* in 1754.

This Arabic asterism "Masick Al Inan", "Al Dhu al ʻInān", "Al Māsik al ʻInān", or "Al Mumsik al ʻInān, , is the IAU constellation Auriga:

- John Hill lists it as "Masick Al Inan" in his *Urania* in 1754.
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Mumsiki-l a' inan, or holder of the reins".
- John Chilmead (1899) lists it as "Mumassich Alhanam", which he derived from Robert Hues' *A Learned Treatise of Globes* (1659), where it is listed as "Memassich Alhanam".

This Arabic asterism "Hamil Maqalid" (حامل مقاليد) is the IAU constellation Auriga.

This Hebrew asterism "Masik" is the IAU constellation Auriga as listed in John Hill's *Urania* in 1754.

Rejoicing in Fire of Leo:

This **telescopic** asterism "Pyríchares Leónis" is the elliptical galaxy NGC 3379 (Messier 105) in the IAU constellation Leo. It was discovered by Pierre Méchain in 1781. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Relic Galaxy:

This **telescopic** asterism NGC 1277 is a lenticular galaxy in the IAU constellation Perseus. It was discovered by Irish astronomer Lord Rosse in 1875. It was entered in the *General Catalogue* of 1864 as GC 5304 and 5055. It has been called the "Relic" or "relic of the early universe" due to its stars being formed during a 100-million-year long interval about 12 billion years ago.

Reliquary:

This **telescopic** asterism is the open cluster NGC 6811 in the IAU constellation Cygnus. It was discovered by English astronomer John Herschel in 1829 who listed it as h 2044. It is GC 4505 in the *General Catalogue* of 1864. It is also known as the Hole in a Cluster, "83", Nefertiti's Headpiece, the Smoke Ring, and the Bicycle.

Remainder:

This Gaelic asterism "An Còrr" is the IAU constellation Ursa Major.

Remen-heru-an-Sah:

This Egyptian decan "Remen-heru-an-Sah" was in the IAU constellation Taurus. In later Hellenistic texts it was named "ρємєииαρє" ("Remen-hare"). In the Testament of Solomon, it became "Sphendonael", Aristobulus of Paneas called it "Ballat", in Greek Hermeticism it became "Rhomenos", in Latin Hermeticism "Erchmubris", Roman astrologer Julius Firmicus Maternus called it "Romanae" or "Arfa", Cosmas of Maiuma (d. 760) called it "Litai", French scholar Joseph Justus Scaliger (1540 - 1609) called it "Aharph" and German Jesuit astronomer Athanasius Kircher (1602 – 1680) called it "ⲁⲡⲱⲡⲓⲥ" ("Apopis"). Variations include "Hromenos". It has been depicted as a dog's head with curls with a scepter in the right hand and the left hand touching his backside.

Remen-kher-Sah:

This Egyptian decan "Remen-kher-Sah" was in the IAU constellation Gemini. In later Hellenistic texts it was named "ⲟⲩⲁⲣⲉ" ("Uaret"). In the Testament of Solomon, it became "Belbel", Aristobulus of Paneas called it "Vaspan", in Greek Hermeticism it became "Ouari", in Latin Hermeticism "Samurois", Roman astrologer Julius Firmicus Maternus called it "Ver" or "Asuae", Cosmas of Maiuma (d. 760) called it "Kybele", French scholar Joseph Justus Scaliger (1540 - 1609) called it "Verasua" and German Jesuit astronomer Athanasius Kircher (1602 – 1680) called it "ϰⲟⲩϰⲗⲟⲯ" ("Cyclops"). It has been depicted as a man with a goat head with a staff in his right hand and his left hand on his thigh.

Remote One of Virgo:

This **telescopic** asterism "Remótus Vírginis" is the edge-on spiral galaxy NGC 4703 in the IAU constellation Virgo. It was discovered in 1786 by William Herschel who listed it as "III 514". It became GC 3232 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Renshin:

This Japanese star Renshin (廉貞) is Epsilon (ε) Ursae Majoris (Alioth) in the IAU constellation Ursa Major (Kotyk 2018).

Rep un kamuy noka-nociw:

This Ainu Nociw ("asterism") is the IAU constellation Canis Minor.

Rerehu:

This Māori star is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius**.** Compare to Rehua, above.

Rescuer:

This asterism is the IAU constellation Perseus as listed in R. H. Allen's *Star Names* in 1899. Robert Burnham lists it as a classical Greek name for this constellation in his *Burnham's Celestial Handbook* in 1978.

Resting Palace:

This Chinese Chenzhuo xing guan "Lígōng" is four lines of stars radiating out of a central star in the IAU constellation Pegasus: The central star is Beta (β) Pegasi (Scheat). From this star four lines called "Resting Place (Adjunct to Ying Shi" run out:

- One runs through Tau (τ) Pegasi to Nu () Pegasi,
- One runs to Alpha (α) Pegasi (Markab),
- One runs through Mu (μ) Pegasi to Lambda (λ) Pegasi, and
- One runs through Omicron (ο) Pegasi to Eta (η) Pegasi.

Resting Palace (Vassal of Encampment):

This Chinese xing guan “Lígōng” (离宫(附室宿)) is a network of star lines radiating out of the central star Beta (β) Pegasi (Algol) in the IAU constellation Pegasus and is part of their asterism Encampment (see above):

- One star line goes out to Eta (η) and Omicron (ο) Pegasi,
- One star line goes out to Mu (μ) and Lambda (λ) Pegasi,
- One star line goes out to Tau (τ) and Upsilon (υ) Pegasi.

This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

Restrained Cloud:

This Anutan asterism “Te Ao Toka” is the Small Magellanic Cloud.

Resurrected Christ:

This star “Christo Resucitado” from the German Volga Community in Argentina is Beta (β) Orionis (Rigel) in the IAU constellation Orion (Mudrik 2011).

Reticulum:

None of the stars of Reticulum are brighter than 3rd magnitude and the stars of this constellation only show up in 20 of the asterisms in this handbook.

This IAU constellation (IAU abbreviation Ret) first appeared on a globe by French professor of astronomy and mathematics Isaac Habrecht II in 1621. Habrecht named it “Rhombus”. French astronomer Abbé Nicolas Louis de Lacaille repurposed this in a slightly different form in 1755 as “le Réticule Rhomboide” (“the rhomboid reticule”) to commemorate the reticule in his telescope eyepiece. Lacaille later latinized it to “Reticulum Rhomboidalis” and shortened to “Reticulum” in his later star catalogue *Coelum Australe Stelliferum*. Lacaille’s *Planisphère des Étoiles Ausralea* (1756) depicts this as a circle in a square: inside the circle, which represents the eyepiece of a telescope, one sees a rhomboidal reticule and spots representing stars.

The *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) labels this constellation with the abbreviated “Retic” and depicts it as a parallelogram.

The 1688 celestial globe of Italian priest and uranographer Vincenzo Maria Coronelli (1650-1718) includes this as the “Rhomboid” (Stevenson 1921).

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this “Le Romboide” and depicts it as a parallelogram.

Dutch uranographer Carel Allard’s *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) labels this constellation “Quadrantum” and depicts it as a square frame with cross hairs inside.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts “le Reticule Romboide” as a reticule eyepiece.

Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) depicts this constellation as a rhomboid reticule, however I could not make out the label on the chart that I examined.

"Reticulum" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875): He indicates the borders of this constellation on the chart but offers no illustration of it.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depict "Reticulum" as a reticule eyepiece.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this constellation on its charts as "Reticule".

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Reticulum, The Net" as an official constellation "recognized in the catalogue of the British Association".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Reticulum" and describes it as a "Net".

The 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) lists "Reticulum" and gives the "original form" as "Reticulum Rhomboidalis", describing it as "The Net".

A standard IAU chart shows Reticulum as a diamond shaped pattern of five stars: Alpha (α) Reticuli, Epsilon (ε) Reticuli, Iota (ι) Reticuli, Delta (δ) Reticuli, and Beta (β) Reticuli.

To the French it is "Réticule" or "Rhombe", to the Germans "Rhomboidische Netz" ("rhomboid mesh"), and to the Italians "Reticolo".

Reticulum Cluster:

See Sérsic Cluster below.

Retina Nebula:

This **telescopic** asterism is planetary nebula IC 4406 in the IAU constellation Lupus. This was discovered by American astronomer Williamina Paton Stevens Fleming (1857 – 1911) and American astronomer DeLisle Stewart (1870 – 1941), both of whom worked at the Harvard Observatory.

Retinue (In Room Mansion):

This Chinese xing guan "Cóngguān" (从官) is a line of two stars in the IAU constellation Lupus: Psi (ψ) and Chi (χ) Lupi. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan "Cóngguān" is a line of two stars in the IAU constellation Scorpius: 4 Scorpii and HIP 77900.

Retinue (In Supreme Palace Enclosure):

This Chinese xing guan "Cóngguān" (从官) is the star 92 Leo in the IAU constellation Leo. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan "Congguan" is the star 92 Leonis in the IAU constellation Leo.

Retireti:

This Kiribati star "Retireti" is an unidentified star in the IAU constellation Scorpius (Trussel and Groves 1978).

Retracted Arm:

This Arabic asterism "Al Dhirāʿ al Asad al Maḳbuḍah" is part of their asterism Lion (see above) and is the stars Alpha (α) Canis Majoris (Sirius) and Beta (β) Canis Majoris (Mirzam) in the IAU constellation Canis Major.

Returning Ostriches:

There are two versions of the Arabic asterism "al-Naʿām al-Ṣādir" (النعم الصادر), translated as "Returning Ostriches" or "Ostriches Leaving the River", later latinized to "Al Naʿām al Ṣādirah" or "Namalsadirah", which is made up of stars in the IAU constellation Sagittarius:

- One is the stars: Phi (ϕ) Sagittarii (Namalsadirah I), Tau (τ) Sagittarii (Namalsadirah II), Xi (ξ) 1 Sagittarii (Namalsadirah III), and Xi (ξ) 3 Sagittarii (Namalsadirah IV). English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "al na'ám al sádirah, the ostriches returning" but later in the text describes "Min al na'aim al Sádirah" as "going camels".
- One, "an-na'am as-sadir", "the Returning Ostriches" or "Ostriches Leaving the River", is the stars Phi (ϕ), Sigma (σ), Tau (τ), and Zeta (ζ) Sagittarii, which form the "handle" of the asterism "Teapot" (see below). These are seen as leaving the "river" (the Milky Way) to return to the Ostrich Nest (see above). W. Brennand lists this as "Al-Sadira" in his *Hindu Astronomy* in 1896.

NOTE: The "river" that these "ostriches" are leaving is the Milky Way.

Revati:

See Wealthy, below.

Revealer of Stars of Ursa Major:

This **telescopic** asterism "Astróphantor Úrsae Majóris" is the Magellanic spiral galaxy NGC 5204 in the IAU constellation Ursa Major. It was discovered by Prussian astronomer Heinrich d'Arrest. William Herschel listed it as "IV 63". It became GC 3575 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "this galaxy… is relatively easily resolvable in stars, as already mentioned by Edwin Hubble in 1949".

Revenant of the Swan:

This star is the luminous blue variable star 34 Cygni in the IAU constellation Cygnus. It was unknown until 18 August 1600 by Dutch astronomer Willem Janszoon Blaeu, when it suddenly brightened to 3rd magnitude. German Johann Bayer (1572-1625) listed it as a "nova" in his *Uranometria*. The name of course refers to the constellation that it is situated in.

Reverse Kids:

This asterism is in the IAU constellation Auriga and is listed by Jeffrey Corder of the Ancient City Astronomy Club in Florida as Corder 839. Corder attributes it to John Raymond. Size 120' X 70'. It runs from HIP 24738 through Rho (ρ) Aurigae, HIP 25143, and HIP 24902A to Lambda (λ) Aurigae. It is called this as it is situated on the opposite side of the star Alpha (α) Aurigae (Capella) from the asterism the Kids (see above).

Revolved of Lepus:

This **telescopic** asterism "Convolúta Léporis" is the spiral galaxy NGC 2196 in the IAU constellation Lepus. It was discovered in 1784 by English astronomer William Herschel who listed it as "II 265". It became GC 1384 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Revolver Galaxy:

This **telescopic** asterism PGC 29152 is a galaxy in the IAU constellation Sextans.

Revolving One of Cetus:

This **telescopic** asterism "Contórta Céti" is the edge on spiral galaxy NGC 881 in the IAU constellation Cetus. This was discovered in 1785 by William Herschel who listed it as "II 436". It became GC 518 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name because of "its beautiful winding spiral arms".

Rhea:

This Mocoví and Toba (Qom) asterism "Mañic" or "el Ñandú" ("the Rhea") has two versions (Mudrik 2014, 2015):

- One is dark nebulosity in the Milky Way stretching from its "head" in the Coal Sack Nebula (see Coal Sack Nebula, above), with the "body" extending to the IAU constellation Scorpius and the legs reaching the IAU constellation Sagittarius. NOTE: This represents the rhea or ema or emu (Rhea Americana). Compare this to Suri (above).
- The other is the Southern Cross in the IAU constellation Crux or stars in that region (Mudrik 2014).

The Mocoví tell of a powerful man who chased this Mañic around the world. The Mañic climbed an ombú tree into the sky where the shadow of his soul (la'al) is seen. They used this asterism to indicate when the rainy seasons were to begin. Mudrik reports that a Piemontese family in this region referred to this asterism as "the ostrich".

This Apinajé asterism "Mã-tí" One is dark nebulosity in the Milky Way stretching from its "head" in the Coal Sack Nebula (Lima and De M. Figueirôa, 2007), with the "body" extending to the IAU constellation Scorpius and the legs reaching the IAU constellation Sagittarius. NOTE: This represents the rhea or ema or emu (Rhea Americana).

There are three Wichi asterisms "Ñandú" or "Suri" (Mariani 2017):

- One, representing a male Rhea, is the Coal Sack Nebula (see Coal Sack Nebula, above).
- One, representing a female Rhea and her chicks, is made up of stars of the IAU constellations Scorpius and Ara.
- One is the IAU constellation Crux.

Rhea Foot:

This Mapuche asterism "Namün Choyke" ("rhea foot") is the IAU constellation Crux (Menares 2008). It is also known as "Pünon Choyke" (See Rhea Footprint, below).

Rhea Footprint:

This Mapuche asterism "Pünon Choyke" ("rhea footprint") is the IAU constellation Crux (Menares 2008). It is also known as "Namün Choyke" (See Rhea Foot, above).

Rhea's Nest:

This Mapuche asterism is the Pleiades cluster in the IAU constellation Taurus.

Rhea's Trail:

This Mapuche asterism is the belt of Orion in the IAU constellation Orion.

Rhineland Palatinate Coat of Arms:

This asterism was made up of stars of the IAU constellations Aquila and Sagittarius by German astronomer Erhard Weigel (1625 – 99) who produced his *Astrocopium Orbi Europaeo Sacrum* chart in 1661, 1681 and 1688 in which he tried to replace existing constellations a new system based upon the heraldry of the nation states and principalities of seventeenth century Europe, as well as of its principal hierarchies and social classes. It is depicted by a wagon wheel (which appears to be labelled "Mainz") with a cross on either side, one labelled "Colon" and the other "Frevir".

Rhinoceros:

This Venda asterism "Makhali" is the belt and sword of Orion in the IAU constellation Orion with the "sword" being the "horn" of the rhinoceros.

Rhinoceros and Its Infant:

This **telescopic** asterism is NGC 4490, a barred spiral galaxy, which is interacting with the smaller galaxy NGC 4485 in the IAU constellation Canes Venatici. It was discovered by English astronomer William Herschel in 1778 who listed it as "I 198". It is GC 3042 in the *General Catalogue* of 1864. South African astronomer Magda Streicher wrote in April 2006 that it "Reminds me of a Rhino animal and little infant on its side". It is also known as the "Cocoon Galaxy" (see above).

Rhinoceros Beetle:

This English asterism "Scarabaeus" was created in 1754 by British botanist and natural philosopher John Hill and published in his *Urania: Or a Complete View of the Heavens***.** It is made up of the stars of the IAU constellation Scorpius:

- The "body" is a triangle of the stars Psi (ψ), Chi (χ) and Xi (ξ) Scorpii.
- From Psi (ψ) Scorpii an "antenna" is a line running through 16 Scorpii to 18 Scorpii.

Rho:

This **telescopic** asterism is in the IAU constellation Eridanus and was listed as Corder 477 on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Corder attributes it to John Raymond. It resembles a Greek letter Rho (ρ) and includes the stars HIP 14124, HIP 13944, Rho (ρ) 1, 2, and 3 Eridani, and HIP 14355. Size 50' X 20'

Rho Ophiuchi Streamers:

See Ophiuchus Nebula, above.

Rhombus:

This French asterism "Quadrantum" is made up of the stars of the IAU constellation Reticulum and first appeared on a globe by French professor of astronomy and mathematics Isaac Habrecht II in 1621. Edward Sherburne lists it in his *Sphere of Marcus Manilius* in 1675. It has a rhombus shape. French astronomer Abbé Nicolas Louis de Lacaille (1713 – 1762) later repurposed it as the IAU constellation Reticulum (see above).

There are two **telescopic** Rhombus asterisms:

- One is Cseh 37, listed by Hungarian astronomer Viktor Cseh, is in the IAU constellation Octans. Cseh describes it as "a small group of stars located around the 9th magnitude star TYC 9529-792. Its shape resembles a rhombus, and its size is 10' X 5'".
- One is Hahn 2 in the IAU constellation Triangulum. German amateur astronomer Christoph Hahn discovered it in October 2023. The stars forming the rhombus are 12 Trianguli, 13 Trianguli, HIP 11541 and HIP 11490A.

Ribbon of the Fishes:

This is an alternate name for the Seleucid asterism "Tails" (see below).NOTE: English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 frequently refers to a "kheït, or ribbon, connecting the two fishes".

Rice Hat Nebula:

This **telescopic** asterism is the supernova remnant SH 2-224 in the IAU constellation Auriga.

Rice Stars:

This Japanese asterism "Komeinya Boshi" is the belt of Orion in the IAU constellation Orion.

Rich and the Poor:

This Italian (Piedmont and Ligurian Alps) asterism "lu Rik" ("the rich") and "lu Paure" ("the poor") is the stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini. They were used to forecast good or poor harvests.

Rich Man's Jewel Box:

This **telescopic** asterism is the open cluster NGC 3766 (Caldwell 97) in the IAU constellation Centaurus. It was discovered by French astronomer Nicolas Louis de Lacaille in 1751-2 who listed it as "III 7" in his catalogue. It is GC 2468 in the *General Catalogue* of 1864. It is also known as the Pearl Cluster and Hilda's Cluster. South African astronomer Auke Slotegraaf noted in 1997 that it appears like a "lop sided jewel box" and lists it as the "Rich Man's Jewel Box" and "Hilda's Cluster" in his observations at Mount Ceder in 2008.

Richest One:

See Most Famous, above.

Ricks of Grain:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of three stars in the IAU constellation Fornax: Mu (μ) Fornacis, Nu (ν) Fornacis (the determinative star) and n Fornacis.

This Chinese xing guan “Tiānyǔ” (天庾) is a line of three stars in the IAU constellation Fornax: Beta (β) Fornacis, Omega (ω) Fornacis and Nu (ν) Fornacis.

This Chinese Chenzhuo xing guan “Tiānyǔ” is a triangle of stars of the IAU constellation Fornax: Omega (ω), Kappa (κ), and Nu (ν) Fornacis.

Rider:

This Lithuanian asterism “Jojkėlis” is the IAU constellation Cassiopeia (Vairkünas 1999). A variation is “Justandis”.

Riders:

There are two Arabic asterisms with this name:

- One, “al-Fawāris” (الفوارس) is made up of the stars of the IAU constellation Cygnus. Shams al-Dīn Muhammad B. Mu’ayyad al-‘Urdī’s inlaid celestial globe (1288) depicts this as a hen in flight as viewed from below but has “al-Fawāris” written across its wings. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists this as “el fawaris, the riders” (and adds the star Epsilon (ε) Cygni). The Arabs saw this as three stars:
    - Kappa (κ) Cygni: Fawaris I,
    - Delta (δ) Cygni: “Fawaris II”, a binary star. The IAU has approved the name Fawaris for Delta (δ) Cygni A.
    - Zeta (ζ) Cygni: “Fawaris III”.
- One, “Al Rakabah” or “Al Rukkabah” is the star Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor:
    - The celestial globe (1480) of German mechanic Hans Dorn (c 1430 – 1506) lists this star as “CAVDA”.
    - The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists “Alrucaba Stella polaris”.
    - This appears in the 1521 edition of the *Alfonsine Tables* as “Alrucaba” (Kunitzsch 1986) and another edition mentioned by English Admiral William Henry Smyth’s Bedford Catalogue in 1844 lists “Reicchabba” and assigns it to Beta (β) Ursae Minoris (Kochab).
    - The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) lists this star as “Alrukaba” and “Stella Polaris”.
    - “Alrukabah” and “Arrucabatho” are listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
    - Robert Hues lists it as “Alrucaba” in his *A Learned Treatise of Globes* in 1659 and translates it as “a Wagon or Chariot”.
    - Irish astronomer Agnes M. Clerke (1842 – 1907) lists the name “Alruccaba”.
    - Italian astronomer Giovanni Battista Riccioli (1598 – 1671) lists “Dubherukabah”.
    - German astronomer Johann Bayer (1572-1625) lists “Alruccabah” and “Ruccabah Ismaelitis” as names for this star and “Eruccabah” as a name for Ursa Minor in his *Uranometria* in 1603.
    - John Hill lists it as “Arrucha”, “Al Rucha”, and “Rucha” in his *Urania* in 1754.

- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists this as "Al Dubb-al-ahgar", going on to say that this becomes "Alrucaba" in the *Alfonsine Tables*. NOTE: English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "rider" as an Arabic name for 80 Ursae Majoris (Alcor).
- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Alruccabah" and describes it as "the chariot".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and the 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) list "Alruccabah" for this star.
- In his *Star Names* in 1899, R. H. Allen notes that 17th century Dutch astronomer Hugo Grotius (1583 – 1645) "asserted that it is from the Chaldee Rukub, a Vehicle, the Hebrew Rɛkhūbh".

Ridged and Wrinkled:

This Basotho star "Tsika le maropo" is unidentified at present (Alcock 2014). Possible but unconfirmed identities include Saturn, Canopus, and Arcturus.

Riding Camel:

This Arabic asterism "Al Ḳaʿūd" is the IAU constellation Delphinus:

- "Al Ḳaʿūd"was listed by Iranian scholar and astronomer Abu Rayhan Muhammad ibn al-Biruni (973 – c.1050).
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "el ʻakúd, the necklace."
- "Al Ḳaʿūd"was listed in R. H. Allen's *Star Names* in 1899.

Riding Reindeer:

The Chukchi see the IAU constellation of Auriga as a scene of traveling by reindeer.

Rigel:

See Left Foot of al Jawza, above.

Right Angle of Canes Venatici:

This **telescopic** asterism "Órthus Cánum Venaticórum" is the irregular galaxy IC 883 (Arp 193) in the IAU constellation Canes Venatici. It was discovered by Austrian astronomer Rudolf Ferdinand Spitaler in 1891. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "this… system has two tails perpendicular to each other."

Right Angle Triangle:

There are two American asterisms labeled "Right Angle Triangle":

- One is made up of the stars of the IAU constellations Andromeda and Perseus: Alpha (α) Persei (Mirfak), Beta (β) Persei (Algol), and Gamma (γ) Andromedae (Almach). *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 –

1886) uses the name “Algenib” for Alpha (α) Persei and describes it as “a right-angled triangle opening toward Cassiopeia. The figure is so perfect that the stars may easily be recognized.”

- One is made up of stars of the IAU constellations Boötes and Canes Venatici: Alpha (α) Boötis (Arcturus), Gamma (γ) Boötis (Seginus) and Alpha (α) 2 Canum Venaticorum (Cor Caroli). *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) describes it this way: “Seginus forms with Cor Caroli and Arcturus a triangle, right-angles at Seginus”.

Right Conductor:

This Chinese xing guan “Yòushètí” (右攝提) is a triangle of stars in the IAU constellation Boötes: Eta (η) Boötis (the determinative star), Tau (τ) Boötis, and Upsilon (υ) Boötis. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Yòushètí” is a triangle of stars in the IAU constellation Boötes: Eta (η) Boötis, Tau (τ) Boötis, and Upsilon (υ) Boötis.

Right Dog:

This Latin asterism “Canis Dexter” is the IAU constellation Canis Major. German astronomer Johann Bayer (1572-1625) lists “Canis Dexter”.

Right Elm:

This Korean asterism “Oleunjjog Neuleub Namu” (오른쪽 느릅 나무) is a diamond of stars with a line running off one end in the IAU constellation Pisces:

- The “diamond” is the four stars Eta (η), 102, and 105 Piscium and HIP 7447.
- From HIP 7447 a line runs off to Iota (ι) Arietis.

Next to this is the similar Korean asterism “Left Elm” (see above).

Right Flag:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a zagged line of stars in the IAU constellation Aquila: Sigma (σ) Aquilae, Upsilon (υ) Aquilae, Mu (μ) Aquilae, 22 Aquilae, Delta (δ) Aquilae (the determinative star), Iota (ι) Aquilae, 36 Aquilae, 26 Aquilae and Kappa (κ) Aquilae.

This Chinese xing guan “Yòuqí” (右旗) is a zagged line of stars in the IAU constellation Aquila: Mu (μ), Sigma (σ), Delta (δ), Nu (ν), Iota (ι), 42, Kappa (κ), and 56 Aquilae and HIP 96392. The xing guan Left Flag (see above) is nearby. Note: this xing guan shares some stars with the Korean asterism “Right Flag” (see below).

This Korean asterism “Oleunjjog Gisbal” (오른쪽 깃발) is a curving line of stars in the IAU constellation Aquila with a fork at the end. A line of stars starts at Theta (θ) Aquilae and runs through Eta (η), Iota (ι), and Nu (ν) Aquilae to Delta (δ) Aquilae. At Delta (δ) Aquilae, one line runs off to the star Mu (μ) Aquilae and the other to the star Sigma (σ) Aquilae. Note: this asterism shares some stars with the Chinese xing guan “Right Flag” (see above).

Right Foot:

This Chinese star “Youzu” from the 3 Kingdoms and Ming Dynasty Period is Beta (ν) Orionis (Rigel) in the IAU constellation Orion and is part of their xing guan Send Armed Forces to Suppress (see below).

This Chinese Chenzhuo xing guan “Youzu” is the star Beta (β) Orionis (Rigel) in the IAU constellation Orion.

Right Foot of Al Jawza:

This Arabic star “Rijl al-jawzā’ al-yumnà” is Kappa (κ) Orionis (Saiph) in the IAU constellation Orion as listed on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992). R. H. Allen in his *Star Names* in 1899 lists “Rijl Jauzah al Yamnā”, which he translates as “Right Leg of the Jauzah” (even though “Rijl” means “foot”).

Right Forearm:

This Arabic star “adh-Dhirāʿu l-Yamīn” (الذراع اليمين) or “Al Dhirāʿ al Yamīn” (“right forearm”) is the star Alpha (α) Cephei in the IAU constellation Cepheus:

- The Sloane astrolabe BM SL 54 in the British Museum which dates to 1290 – 1300 lists “Alderaim” (Dekker 2000).
- The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists “Alderaimim”.
- This was later latinized to “Al Deraimin” in the *Alfonsine Tables* of 1521 and in another edition as “Alderaimim” (Kunitzsch 1986). Other variations include “Alderamin”, “Al Derab”, “Al Deraf”, “Alderaf”, and “Alredat”.
- It is listed as “Alderaimin” by German astronomer Johann Bayer (1572-1625).
- Johann Bayer’s *Uranometria* (1603) lists “Aderaimin” and “Alderamin” for this star.
- It is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as “Alderaimon” and “Addherao”.
- It is listed as “Adderoiaminon”, “Assemani”, and “Alderal jemin” by German astronomer Wilhelm Schickard (1592 – 1635).
- Robert Hues lists it as “Alderaimin” in his *A Learned Treatise of Globes* in 1659.
- Johann Elert Bode‘s *Vorstellung Der Gestirne* (1782) lists this star as “Alderamin“.
- English Admiral Henry William Smyth’s *Prolegomena* of 1844 lists “Alderamin” and his *Bedford Catalogue* in 1844 lists “Alderamin, a corruption of the Aldera-imin of the Alphonsine [sic] Tables” and “the Arabic al-dhirá al yemin, the right arm”.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists “Alderamin” in his Celestial Atlas in 1822.
- This is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852 as “Alderamin”: The author is unknown, but it is based on Jameison’s *Celestial Atlas*.
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists “Alderamin” for this star.
- English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists this star as “Alderamin”.
- American astronomer Winslow Upton’s *Star Atlas* (1896) lists this star as “Alderamin” and describes it as “the arm”.
- The 1st edition (1910) and the 14th edition of British schoolmaster Arthur P. Norton’s *A Star Atlas* (1959) list “Alderamin” for this star.

- The IAU Working Group on Star Names chose Alderamin as name for Alpha (α) Cephei in 2016.

Right General:

This Chinese star "Youjiangjun" from the Three Kingdoms to the Ming Dynasty is the star Gamma (γ) Aquilae in the IAU constellation Aquila and is part of their asterism Drum at the River (see above).

Right Hand of Al Jawza':

This Arabic star "Yad al-jawzā' al-yumnà" is Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion as listed on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992):

- Scottish uranographer Alexander Jameison's *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822) lists it as "Betelgeux".
- R. H. Allen lists it as "Al Yad al Yamnā" in his *Star Names* in 1899.
- John Chilmead in his *A Learned Treatise on Globes* in 1889 listed the name "led Algeuze" as "Orion's hand".
- NOTE: This is part of their asterism Al Jawza' (see above).

Right-Handed Brother:

This Kokatha and Ngalea asterism "Mugaru" or "Badhu-Wudha" is the Large Magellanic Cloud, which is part of their asterism "Boolbarradu" or "Balbaradu" (see Brothers, above) which is both Magellanic Clouds. The "left-handed brother" is "Oimbu" or "Kurulba" the Small Magellanic Cloud (see Left-Handed Brother, above). Compare this to the Luritja and Arrernte asterism Tracks of Men Pursuing an Emu (below).

Right Knee of the Giant:

This Arabic star "Rekbah al Jauza al Yemeniat" is Kappa (κ) Orionis in the IAU constellation Orion as listed in the Calendarium of 17th century Egyptian astronomer Al Achsasi al Mouakket. This was later latinized as "Genu Dextrum Gigantis".

Right Law Administrator:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty "Youzhifa" is the star Beta (β) Virginis (Zavijava) in the IAU constellation Leo and is part of their xing guan Supreme Palace Right Wall (see below).

This Chinese Chenzhuo xing guan "Youzhifa" is the star Beta (β) Virginis (Zavijava) in the IAU constellation Virgo. It is part of the Supreme Palace Right Wall.

Right Linchpin (Adjunct to Chariot):

This Chinese Chenzhuo xing guan "Yoùxiá" is the star 3 Corvi in the IAU constellation Corvus. It is part of their xing guan "Chariot".

Right Linchpin (Vassal of Chariot):

This Chinese xing guan "Yoùxiá" (右辖(附轸宿)) is a line of two stars in the IAU constellation Corvus, attached to their xing guan "Chariot" (see above): Alpha (α) Corvi (Alchiba) and Epsilon (ε) Corvi. This

xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

Right Pivot:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty "Youshu" is the star Alpha (α) Draconis (Thuban) in the IAU constellation Draco and is part of their xing guan Purple Forbidden Right Wall (see above).

Right Shoulder:

This Chinese star from the Three Kingdoms to the Ming Dynasty "Youjian" is Gamma (γ) Orionis in the IAU constellation Orion.

This Chinese Chenzhuo xing guan "Youjian" is the star Gamma (γ) Orionis in the IAU constellation Orion.

Right Wing of the Raven:

This Arabic star "Al Janāḥ al Ghurāb al Ayman" is Gamma (γ) Corvi in the IAU constellation Corvus:

- "Al Janāḥ al Ghurāb al Ayman" is listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- "Al Janāḥ al Ghurāb al Aiman" as listed by Persian astronomer Ulugh Beg Mirza (1394 – 1449).

Rigil Kentaurus:

See Foot of the Centaur, above.

Rigilalsabie:

This English star is Beta (β) Andromedae (Mirach) in the IAU constellation Andromeda as listed on the Sloane astrolabe BM SL 54 in the British Museum which dates to 1290 – 1300 (Dekker 2000). NOTE: This could also be Gamma (γ) Andromedae (Dekker 2000).

Rim Nebula:

This **telescopic** asterism is emission nebula NGC 6188 in the IAU constellation Ara. It is also known as the Dragons of Ara. John Herschel listed this as h 3640 and later as GC 4223 in the *General Catalogue* of 1864.

Rim of Aquarius:

This **telescopic** asterism "Perídromus Aquárii" is the lenticular galaxy NGC 7585 (Arp 223) in the IAU constellation Aquarius. This was discovered in 1784 by William Herschel who listed it as "II 236". John Herschel listed it as h 2226 and h 3979 and later as GC 4928 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the special feature of this galaxy is the big rim structure."

Rimwimata:

This Kiribati star is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius (Trussel and Groves 1978). It indicated a good season for sailing ("Rimwimata, tai n rimwimata").

Rimwimata ni meang:

This Kiribati star is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes (Trussel and Groves 1978).

Ring:

There are forty-six **telescopic** "ring" asterisms:

- One is Sánta 59, listed in 2007 by Hungarian astronomer Sánta Gábor, which is a ring of 10th – 14th magnitude stars in the IAU constellation Canis Majoris.
- One is Sánta 122, listed in 2007 by Hungarian astronomer Sánta Gábor, which is in the IAU constellation Cepheus. Gábor describes it as "ring of stars, Kron. 23, BDSB03 are parts of it".
- One is Sánta 172, listed in 2007 by Hungarian astronomer Sánta Gábor, which is in the IAU constellation Lyra. Gábor describes it as "circle of stars 9 – 13 [magnitude], nice."
- One is Sánta 202, listed in 2015 by Hungarian astronomer Sánta Gábor, which is in the IAU constellation Lacerta. Gábor describes it as "very tiny oval of stars 11 – 15 [magnitude]".
- One is Sánta 211, listed in 2015 by Hungarian astronomer Sánta Gábor, which is in the IAU constellation Camelopardalis. He describes it as "HD 76702 group, a drop-like ring of 8 – 11 [magnitude] stars, nice asterism". The double star HIP 44815 A (HD 76702) is the brightest star in this "ring".
- One is Kernya 9, listed by listed in 2007 by Hungarian astronomer Gábor János Kernya, which is a group of 11th – 17th magnitude stars in the IAU constellation Cepheus. Kernya describes it as a "very small, ring-like shape, made up of only six stars."
- One is Kernya 13, listed by Hungarian astronomer Gábor János Kernya, which is a group of 10th – 15th magnitude stars in the IAU constellation Piscis Austrinus. Kernya describes it as "an elongated ring of stars in the neighbourhood of the spiral galaxy NGC 7314.
- One is Kernya 48, listed in 2013 by Hungarian astronomer Gábor János Kernya, which is in the IAU constellation Monoceros. Kernya describes it as the "HD 50528 group" (HIP 33110) and as "ring shaped. The bright stars are visible in the middle and on the northern and western sides of the ring, while the rest of the ring is made up of faint components."
- One is Kernya 71, listed in 2015 by Hungarian astronomer Gábor János Kernya, which is in the IAU constellation Cygnus. Kernya describes it as a "great little asterism." Size 2'. This consists of six faint stars.
- One is Kernya 79, listed by Hungarian astronomer Gábor János Kernya, a group of stars of magnitude 14 or less in the IAU constellation Pegasus. Kernya describes this as "a very small and faint group, its main mass ring shaped… a distant faint galaxy shines behind the ring shape, but two or three stars of the asterism can prove that they are actually distant compact galaxies."
- One is Kernya 81, listed in 2015 by Hungarian astronomer Gábor János Kernya, a group of stars of magnitude 13 or less in the IAU constellation Pegasus. Kernya describes it thus: "Its main mass is ring-shaped. It can be partially resolved with smaller telescopes."
- One is Kernya 85, listed in 2016 by Hungarian astronomer Gábor János Kernya, which is a group of 8th – 14th magnitude stars in the IAU constellation Camelopardalis. Kernya describes this as a "distorted ring shape" which he discovered "using 10 cm binoculars".
- One is Kernya 87, listed by Hungarian astronomer Gábor János Kernya in 2016, which is a group of 7th – 14th magnitude stars in the IAU constellation Draco.

- One is Kernya 91, listed in 2016 by Hungarian astronomer Gábor János Kernya, which is in the IAU constellation Pegasus. Kernya describes the middle star as HD 208122. Kernya notes that this is also listed as Bedo 1.
- One is Kernya 116, listed in 2022 by Hungarian astronomer Gábor János Kernya, a group of 16.5 – 19 magnitude stars in the IAU constellation Canis Major. Kernya describes this as a "very faint ring".
- One is Hay-Merting 4 or "Hay's Ring" in the IAU constellation Cassiopeia. Robert Zebahl lists it on his *Faint Fuzzies* website and describes it as a "ring-shaped star pattern with a diameter of slightly more than 0.7°. The open cluster NGC 225 is involved in the southeastern edge of the ring, the cluster Stock 24 lies slightly inside the western edge. From NGC 225 to Stock 24 a band of stars runs through the ring, with a short branch to the north. The northeastern edge of the ring is broken briefly. Long exposure photos actually show that a dark nebula band crosses the ring there".
- One is the planetary nebula Messier 57 (NGC 6720), discovered by French astronomer Charles Messier in 1779 in the IAU constellation Lyra.
    - English astronomer John Herschel listed it in his *General Catalogue* of 1864 as GC 4447 and described it as a vast, flat, nebular ring.
    - The Earl of Rosse described it in Observations on some of the Nebulae (1844) as an "annular nebula".
    - *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) labels this the "Annular Nebula in Lyra".
    - John Dreyer describes it in the New General Catalogue of 1888 as an "annular nebula".
    - English astronomer William Denning's *Telescopic Work for Starlight Evenings* (1891) lists it as the "Ring Nebula".
    - German astronomer Hermann Joseph Klein (1844 – 1914) lists the "Ring Nebula" in his *Star Atlas* (1893).
    - *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists it as "the Famous Ring".
    - The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list this as the "Ring Nebula".
    - *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this as the "Ring Nebula".
- One is Alessi-Teutsch 10, from the lists of Brazilian astronomer Bruno Alessi, which is in the IAU constellation Taurus. Size 30' X 30'. René Merting describes it on the *Faint Fuzzies* website: "…looks like a ring with a loop, five stars in the SW form a ring, six stars in the NE form a larger, slightly elongated loop. This is Corder 573 on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. This includes HIP 17423 and 17474.
- One is the Engagement Ring in the IAU constellation Ursa Minor. Alpha (α) Ursae Minoris (Polaris) represents the "diamond" of this asterism, with a fainter ring of stars about one degree across forming the ring, including HIP 17195, 11980, 8846 and 7283. Size 60' X 60'. This was listed in 1961 by astronomer William L. Dutton (Sky and Telescope, Jan 1961) and is Harrington 1 on American astronomer Phil Harrington's list of asterisms. It is also listed as the Diamond Ring and Sánta 110 on the list of Gabor Sánta.

- One is the planetary nebula PK 238 +34.1 (Abell 33) which is the "Engagement Ring" in the IAU constellation Hydra. This name was posted by Cypriot astronomer Rolandos Constantinides on the *Deep Sky Forum* in February 2016.
- One is the Lindsay-Shapley Ring asterism, PGC 19481, a lenticular ring galaxy in the IAU constellation Volans. It is also known as the Southern Ellipse (see below) and appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010) as Graham's Ring ("Ánulus Grahamiánus Volántis").
- One, the Ruby Ring, also known as Webb's Wreath, is in the IAU constellation Hercules. This has a golden 7th magnitude star HIP 88348 as the "ruby" on the east side, with a ring of 11th and 12th magnitude stars forming the ring. This asterism is 2.7 degrees southwest of the star Xi (ξ) Herculis. Size 25'. Jeffrey Corder lists this as Corder 3426.
- One is Corder 1596 in the IAU constellation Cancer, from the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 12'. This is six 9th magnitude stars.
- One is Corder 2583 in the IAU constellation Virgo and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 30'. This oval of six stars includes HIP 68398, 68453, 68535, and 68430.
- One is in the IAU constellation Perseus and is Corder 265 on the observing list of American astronomer Jeffrey Corder. Size30'. Corder describes this as an "obvious oval of 10 or 11 stars, magnitudes 8 to 10." This includes HIP 7729, HIP 7660, and the double star HIP 7665A.
- One is in the IAU constellation Perseus and is Corder 541 on the observing list of American astronomer Jeffrey Corder. Size 35'. This is in the cluster Melotte 20. The "ring" includes the stars HIP 16340, 16079, 16137, and 16275 and four other 7th magnitude stars. The "gem" in the "ring" is Sigma (σ) Persei.
- One is in the IAU constellation Perseus and is Corder 618 on the observing list of American astronomer Jeffrey Corder. Size 30'. Circlet of six stars of 8th – 10th magnitude including the double star HIP 18915 and HIP 18867.
- One is in the IAU constellation Auriga and is Corder 916 on the observing list of American astronomer Jeffrey Corder. Size 5'. Corder describes this as "a small circlet of five… stars magnitude 9 to 11."
- One is in the IAU constellation Draco and is Corder 2115 on the observing list of American astronomer Jeffrey Corder. Size 50'. This is ten 7th – 9th magnitude stars including HIP 54039, 53732, 53979, and the double star HIP 53683.
- One is in the IAU constellation Eridanus and is Ennis 64 on the observing list of Canadian astronomer Charles Ennis. Size 5'. This is six 9th – 12th magnitude stars in a ring including Gaia DR3 3187668003459498368 with 7th magnitude star HIP 22301 as the "gem".
- One is in the IAU constellation Lepus and is Corder 938 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is a group of 8th – 10th magnitude stars including HIP 27539 and 27481.
- One asterism is in the IAU constellation Canis Major and is Ennis 71 on the observing list of Canadian astronomer Charles Ennis. Size 15'. Five 8th – 9th magnitude stars form the "ring": HD 54496, SAO 173010, SAO 173011, HD 54391, and SAO 173038. The "gem" is delta (δ) Canis Majoris. This includes stars of Corder 1265 on Jeffrey Corder's list.
- One is in the IAU constellation Puppis and is Corder 1328 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is a ring of ten 8th – 9th magnitude stars including HIP

35899. Towards the north end of the ring is a smaller ring of 9th magnitude stars which one could interpret as a "gemstone".

- One is in the IAU constellation Carina and is Corder 1737 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is five 7th – 9th magnitude stars including HIP 43879.
- One is in the IAU constellation Antlia and is Corder 1856 on the observing list of American astronomer Jeffrey Corder. Size 50'. This is twelve stars of 6th magnitude and dimmer, including HIP 46810, 46777, 46585, 46593, 46646, and the double star HIP 46705.
- One is in the IAU constellation Hydra and is Corder 2702 on the observing list of American astronomer Jeffrey Corder. Size 55'. This is five 6th – 7th magnitude stars including HIP 71862, 72011, and 72035, and the double star HIP 72102A.
- One is in the IAU constellation Libra and is Corder 2773 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is six 9th – 10th magnitude stars including HIP 73888 and 73929.
- One is in the IAU constellation Ophiuchus and is Corder 3277 on the observing list of American astronomer Jeffrey Corder. Size 50' X 35'. This is twenty 8th – 9th magnitude stars including HIP 85601.
- One is in the IAU constellation Sagittarius and is Corder 3512 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is twelve 8th – 9th magnitude stars.
- One is in the IAU constellation Sagittarius and is Corder 3548 on the observing list of American astronomer Jeffrey Corder. Size 30'. This is fifteen 9th – 10th magnitude stars.
- One is in the IAU constellation Telescopium and is Corder 3561 on the observing list of American astronomer Jeffrey Corder. Size 45'. This is eight 7th – 8th magnitude stars including HIP 90555, 90448, and the double star HIP 90470A.
- One is in the IAU constellation Pavo and is Corder 3681 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is ten 8th – 9th magnitude stars.
- One is in the IAU constellation Cygnus and is Corder 4144 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is seven 8th – 9th magnitude stars including HIP 100701 and100795.
- One is in the IAU constellation Pegasus and is Corder 4719 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is six 8th – 9th magnitude stars including HIP 111739.
- One is in the IAU constellation Pegasus and is Corder 4764 on the observing list of American astronomer Jeffrey Corder. Size 30'. This is seven 8th – 9th magnitude stars including HIP 112728 and 112680.
- One is in the IAU constellation Andromeda and is Corder 4982 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is a "circlet" of twelve 9th – 11th magnitude stars including the double star HIP 117762.
- One is the planetary nebula NGC 6894 in the IAU constellation Cygnus. It was discovered by English astronomer William Herschel in 1784 who listed it as "IV 13". It is GC 4565 in the *General Catalogue* of 1864. It is also known as the Diamond Ring Nebula or the Little Ring Nebula.
- One is the planetary nebula Minkowski 1-64 (M 1-64, PN G064.9+15.5, PK 064+15.1) in the IAU constellation Lyra. This is 2.3° NNW of Messier 57, the most well known "Ring Nebula". This name was posted on the *Deep Sky Forum* by German astronomer Uwe Glahn in February 2012.

Ring Bearer of Hydra:

This **telescopic** asterism “Paenanuláta Hýdrae” is the lenticular galaxy NGC 2781 in the IAU constellation Hydra. It was discovered in 1785 by William Herschel who listed it as “I 66”. It became GC 1777 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this (“bearer of a nearly complete ring”) due to “the almost complete ring formed by the outer spiral arms”.

Ring Dance:

This Romanian asterism “Dans de Inel” or “Hora” is the IAU constellation Corona Borealis (Ottescu 2009, Lite, Lodina, and Ignat 2018). The star Alpha (α) Coronae Borealis (Alphecca) is called the Great Maiden in the Ring Dance (see above) and Delta (δ) and Iota (ι) Coronae Borealis are the Singers (see below).

Ring Bearer of Carina:

This **telescopic** asterism “Anulífera Carínae” is the barred spiral galaxy NGC 2381 in the IAU constellation Carina. It was discovered in 1834 by John Herschel who listed it as 3084 and later as GC 1523 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as it has a ring.

Ring Maker of Horologium:

This **telescopic** asterism “Cricopoétria Horológii” is the barred spiral galaxy NGC 1512 in the IAU constellation Horologium. This was discovered by James Dunlop and became 2607 on John Herschel’s list. Later it became GC 808 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Ring of Boötes:

This **telescopic** asterism “Sphéndone Boótis” is the barred spiral galaxy NGC 5876 in the IAU constellation Boötes. It was discovered by Lewis Swift in 1885. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “this galaxy resembles a ring with an embedded stone”.

Ring of the Nibelungen:

This **telescopic** asterism Ferrero 27 from the asterisms list of French astronomer Laurent Ferrero, is a ring of five 11^{th} to 13^{th} magnitude stars in the IAU constellation Draco. Size: 1.7’ X 0.5’.

Ring Tail:

This **telescopic** asterism is NGC 4038 and NGC 4039 (Caldwell 60/61), a pair of colliding galaxies in the IAU constellation Corvus. These galaxies were discovered by English astronomer William Herschel in 1785 who listed them as “IV 28.1” and “IV 28.2”. They are GC 2670 and GC 2671 in the *General Catalogue* of 1864. It was given this name by American astronomer Harlow Shapley (1885 – 1972) and South African astronomer John S. Paraskevopoulos (1889 – 1951) because of the two long “tails” of stars, gas, and dust ejected from the collision, resembling an insect’s antennae. This is also known as the Antennae Galaxies or Antennae (see above), the Snorter (see below), and the Mosquito Larvae (see below).

Ring-Tailed Possum:

This Boorong asterism “Bunya” is the IAU constellation Crux as listed by Stanbridge (1857), Morieson (1999) and Hamacher and Frew (2010). Bunga is pursued by Tchingal, who in his fright lays down his spears at the foot of a tree and climbs it. For his cowardice, he is turned into an opossum.

This Wotjobaluk star “Bunya” is Gamma (γ) Crucis in the IAU constellation Crux (Hamacher 2011).

Ringed of Cygnus:

This **telescopic** asterism “Cricóte Cýgni” is the spiral galaxy NGC 7013 in the IAU constellation Cygnus. It was discovered in 1784 by William Herschel who listed it as “II 203”. It became GC 4632 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of “the small ring in the inner region of this galaxy”.

Ringed Rope:

This Arabic asterism is a loop of stars with two lines running out of either end in the IAU constellation Pisces:

- The loop starts at Iota (ι) Piscium and runs around through Theta (θ) Piscium, 7 Piscium, Gamma (γ) Piscium, Kappa (κ) Piscium, 15 Piscium, Lambda (λ) Piscium, and 19 Piscium.
- From Iota (ι) Piscium a line runs out to Omega (ω) Piscium, and
- From 7 Piscium a line runs out to Beta (β) Piscium.

Rip Torn Cluster:

This **telescopic** asterism is the open cluster IC 2714, discovered by the Scottish astronomer James Dunlop in 1826 in the IAU constellation Carina. It was later recorded by American astronomer Solon Irving Bailey (1854 – 1931) and became IC 2714. It has received this name as the stars are arranged in lanes as if torn apart.

Ritual Cup:

This Sama (Tawi-Tawi) asterism “Basung” is the Hyades cluster in the IAU constellation Taurus (Masong 2017).

Rival:

This Belarussian asterism “Sapernik” is the IAU constellation Lyra (Avilin 2009). It is also known as “Twa Braty” (see Two Brothers, below) and “Niavesta” (see Bride, above).

Rival Fish:

This Wardaman star “Lawara” is Delta (δ) 3 Tauri in the IAU constellation Taurus (Cairns and Harney 2003) and one of the stars in their asterism “Little Fishes” (see above).

Rival to Ares:

This Greek star “Ἀντάρης” (“Antáris”), which has been translated as “like Ares” or “rival to Ares”, later latinized to “Antares”, is Alpha (α) Scorpii in the IAU constellation Scorpius. This star got this name due to its similarity to Mars (whom the Greeks called Ares) in the sky. Hesychius of Alexandria called it “Ἀνταρτης” (“Ántartis” or “rebel”). The Latin version of Ptolemy’s *Tetrabiblos* described it as “Marti

Comparatur" ("Compared to Mars"). Some texts have shortened the name to "Antar", which leads to confusing it with "Antar's Star" (see above):

- The 1515 edition of the *Almagest* lists "Natar" ("rapine"), and the 1521 edition of the *Almagest* lists the translation "tendit ad rapinam" ("tends to prey"). Richard Allen speculates that this might have something to do with the star being associated with Ares.
- "Antares" appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus.
- This star is listed on gores of the globe of Petrus Plancius published in 1598 by Jodocus Hondius as "Antares".
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Antares".
- This star is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as "Antares".
- This star is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "Cor Scorpi Antares".
- Edward Sherburne lists it as "Antares, Heart of Scorpius" in his *Sphere of Marcus Manilius* in 1675.
- Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) lists this star as "Antares Cor Scorpii" ("Antares Heart of Scorpio").
- The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) lists this star as "Antares".
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Antares".
- Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this star as "Antares" in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).
- "Antares" is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801).
- American uranographer William Croswell (1760 – 1834) lists this star as "Antares" on his *Mercator Map of the Starry Heavens* in 1810.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists this star as "Antares" in his *Celestial Atlas* in 1822.
- Antares is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on Jamieson's *Celestial Atlas*.
- Admiral William Henry Smyth's *Prolegomena* of 1844 lists "Antares".
- German astronomer Hermann Joseph Klein (1844 – 1914) lists "Antares" in his *Star Atlas* (1893).
- R. H. Allen writes in his *Star Names* in 1899 that German orientalist Georg Wilhelm Sigismund Beigel (1754 – 1837) interpreted "Antar" as an Arabic word for "Shone".
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as "Antares" and describes it as the "heart of the Scorpion".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Antares" and "Cor Scorpionis".
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as "Antares".

- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Antares" and describes it as "Equal to Mars (red color)".
- *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Antares… Rival to Mars".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and the 14th edition (1959) list "Antares" for this star.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this star as "Antares".
- The IAU approved the name Antares for Alpha (α) Scorpii A.

River:

This Greek asterism "ὁ Ποταμός" ("o Potamós" or "the river") is the IAU constellation Eridanus as mentioned in Aratus' poem *Phaenomena* (270 B.C.E.) and as originally described by Ptolemy (c.100 – c.170) in his *Almagest* and is a bit shorter than the modern constellation. The bending line starts at Lambda (λ) Eridani and runs through Beta (β) Eridani (Cursa), Psi (ψ) Eridani, Omega (ω) Eridani, Mu (μ) Eridani, Nu (ν) Eridani, Xi (ξ) Eridani, Omicron (ο) 1 and 2 Eridani, Gamma (γ) Eridani, 26 Eridani, Delta (δ) Eridani, Epsilon (ε) Eridani, Zeta (ζ) Eridani, Rho (ρ) 2 and 3 Eridani, Eta (η) Eridani, Tau (τ) 1, 2, 3, 4, 5, 6, 7, 8 and 9 Eridani, Upsilon (υ) 1, 2, 3 and 4 Eridani, g Eridani, f Eridani, and h Eridani, ending at Theta (θ) 1 Eridani.

This Arabic asterism "Alnahr" (النهر) or "Al Nahr" is the IAU constellation Eridanus:

- "al-Nahr" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- Johann Bayer's *Uranometria* (1603) lists "Nar", and "Nahar".
- "Nahar" and "Nahron" are listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
- Robert Hues (1659) and John Chilmead (1899) listed it as "Alvahar".
- John Hill lists it as "Nahr" in his *Urania* in 1754.

This Indian asterism "Srotaswini" is the IAU constellation Eridanus.

This is also one of the asterisms found on the cave ceiling in Armintxe, Spain, estimated to be between 12,000 and 14,000 years old, made up of stars of the IAU constellations Andromeda, Lacerta, and Perseus: It starts at 2 Lacertae at one end and runs through 7 Andromedae, 51 Andromedae, Theta (θ) Persei, Beta (β) Persei (Algol), Omega (ω) Persei, and ends at HIP 17584.

This Berber asterism "Guad" is the IAU constellation Eridanus.

- "Guad" is listed by German astronomer Johann Bayer in his *Uranometria* in 1603 and attributes it to "Mauritanis".
- "Guad" is listed by Edward Sherburne in his *Sphere of Marcus Manilius* in 1675: Sherburne also includes the name "Nah'r". Sherburne describes it as "Moorish", which may mean Arabic, as this was an exonym applied to all Arab peoples, or simply the Berbers
- A 1720 edition of the *Uranometria* lists "Guagi".
- It appears as "Guad" in John Hill's *Urania* in 1754. Hill.
- In his *Star Names* in 1899 R. H. Allen suggests that this is derived from the Arabic "wādī" ("valley" or "ravine"), which is a dry channel that floods during rainy periods.

This Latin asterism “Amnis”, “Flumen”, or “Fluvius” (“a river”) is the IAU constellation Eridanus.

- The *De ordine ac positione stellarum in signis* (“*On the order and position of the stars in the signs*”) in the Salzburg compilation (810 – 818) of Abbot Arno of Salzburg (785 – 821) lists “Fluvius, quem Eridanus dicunt” (“The river, which they call Eridanus”) and the 9th century Berlin 130, Madrid 3307, Monza F.9/176 and Vat lat 645 manuscripts of the *De ordine ac positione stellarum in signis* list “Fluvius”.
- The Munich 210 and Vienna ÖNB 387 manuscripts of the *De ordine ac positione stellarum in signis* depict this God with the stream beneath him and a flowing plant above him: He is holding his right hand out palm upwards.
- The Paris BN, 12117 and Vat Reg lat 309 manuscripts of the *De ordine ac positione stellarum in signis* depict this God as horned, lying alongside a stream, holding a fish in his left hand. The Paris BN lat 8663 manuscript of the *De ordine ac positione stellarum in signis* depicts the God sitting in the stream.
- The 12th century Vienna ÖNB Vindob 12600 manuscript of the *De ordine ac positione stellarum in signis* depicts this river God holding a spear.
- English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) labels this constellation “Flumen”.
- Johann Bayer’s *Uranometria* (1603) lists “Flumen” and “Fluvius” for Eridanus.
- Edward Sherburne lists “Fluvius” and “Fluvius Orionis” (“Orion’s River”) in his Sphere of Marcus Manilius in 1675
- John Hill lists “Fluvius” in his *Urania* in 1754.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists it as “Amnis Infirmus” (“weak stream”) in his *Celestial Atlas* in 1822.
- English Admiral Henry William Smyth lists “Fluvius” and “Orion’s River” in his *Bedford Catalogue* in 1844.

This asterism “Gyhon” is the IAU constellation Eridanus as listed in John Hill’s *Urania* in 1754. He does not identify his source but Edward Sherburne also lists this name in his *Sphere of Marcus Manilius* in 1675.

This Berber asterism “Vardi” is the IAU constellation Eridanus as listed by Italian astronomer Giovanni Battista Riccioli (1598 – 1671) and as listed in Edward Sherburne’s *Sphere of Marcus Manilius* in 1675 and in John Hill’s *Urania* in 1754: Riccioli and Hill both describe this name as “Moorish”.

This Hawaiian asterism “Nu’uanu” is the IAU constellation Eridanus, which they have named for a river on O’ahu.

River Adjoining Tower:

This Korean asterism is a quadrilateral in the IAU constellation Lyra: Beta (β) Lyrae (Sheliak), Gamma (γ), Eta (η), and Delta (δ) 2 Lyrae.

River of Ocean:

This Latin asterism is the IAU constellation Eridanus and relates to the 8th century B.C.E. poet Homer’s Ocean Stream flowing around the Earth.

River of Orion:

This Greek asterism is the IAU constellation Eridanus, one end of which is next to the IAU constellation Orion. This name was used by Hipparchus (190 – 120 B.C.E.) and the 5th century Greek philosopher Proclus.

River of Sky:

This Korean asterism "Gang Injeob Tawo" (강 인접 타워) is a line of four stars in the IAU constellation Ophiuchus: 36, Theta (θ), 44, and 51 Ophiuchi.

River of Stars:

This **telescopic** Nawat star "Citalá" is HIP 33719 (HD 52265) in the IAU constellation Monoceros (magnitude 6.29). It was given this name by the IAU NameExoWorlds campaign. It has an exoplanet named Cayahuanca, which means "rock looking at the stars".

River Tigris:

This Dutch asterism, also known as "Tigris", was created in 1612 by the Flemish astronomer Petrus Plancius. One end was near the "shoulder" of the IAU constellation Ophiuchus and the other near the IAU constellation Pegasus. It passed through the IAU constellation Vulpecula between Cygnus and Aquila. "Tigris Fluvius" appears on Plancius' celestial globe published in Amsterdam by Pieter van der Keere in 1613. In his *Star Names* in 1899, R. H. Allen described it thus: "Its course was from β and γ, in the right shoulder of Ophiuchus, onwards between Aquila and the left hand of Hercules; thence between Albireo (β Cygni) and Sagitta to Equuleus and the front parts of Pegasus, ending at the latter's neck."

In the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch this asterism is listed as "Tigris Fluvius" and abbreviated on charts as "Tigris Flu".

"Tigris Fluvius" is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633).

This asterism is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 with the abbreviated label "Tigris Flu".

Edward Sherburne lists it as "River Tigris or Euphrates" in his *Sphere of Marcus Manilius* in 1675.

River Turtle:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is an oval of stars in the IAU constellation Corona Australis: Starting at the determinative star Alpha (α) Coronae Australis, it runs through Gamma (γ) Coronae Australis, Epsilon (ε) Coronae Australis, Lambda (λ) Coronae Australis, Kappa (κ) 2 Coronae Australis, HIP 90887, Theta (θ) Coronae Australis, HIP 91494, Eta (η) 1 Coronae Australis, HIP 92953, Zeta (ζ) Coronae Australis, Delta (δ) Coronae Australis, and Beta (β) Coronae Australis.

This Chinese asterism "Biē" (鱉) is made up of stars of the IAU constellations Corona Australis and Telescopium. It is an oval of stars with one side flattened: Starting at Alpha (α) Telescopii, it runs through Eta (η) 1 Coronae Australis, Zeta (ζ) Coronae Australis, Delta (δ) Coronae Australis, Beta (β) Coronae Australis, Alpha (α) Coronae Australis, Gamma (γ) Coronae Australis, Epsilon (ε) Coronae Australis, Kappa (κ) 2 Coronae Australis, and Theta (θ) Coronae Australis.

This Chinese Chenzhuo xing guan “Biē” is an oval of stars formed by the IAU constellation Corona Australis: Alpha (α), Gamma (γ), Epsilon (ε), Lambda (λ), Kappa (κ) 2, Theta (θ), Eta (η) 1, Zeta (ζ), Delta (δ), & Beta (β) Coronae Borealis and HIP 90887, 91494 and 92953.

River’s End:

There are two stars derived from the Arabic “Ākhir an-nahr” (آخِر النَّهْر) or “Al Āḥir al Nahr” which translates as "the end of the river" or “stream’s end”, “edge”, or “border”:

- One is the star “Acamar” which is the star Theta (θ) 1 Eridani in the IAU constellation Eridanus:
  - “Ākhir al-Nahr” was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
  - The star list of Abraham Bar Hiyya in 1104 (Goldstein 1985) lists the Arabic name of this star as “akhi al-nahr” and the Hebrew name as “aharit ha-nahar”.
  - An anonymous Hebrew star list from 1392 (Goldstein 1985) lists the Arabic name as “akhir al-nahr” and the Hebrew name as “aharit ha-nahar”.
  - The celestial globe (1480) of German mechanic Hans Dorn (c 1430 – 1506) lists “Acarnar” for this star.
  - The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists “Acarnar” for this star.
  - This appears in the 15th century *Alfonsine Tables* as “Acarnar” (Kunitzsch 1986): The Latin translator misread "rn" as "m".
  - *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this star as “Acamar”.
  - The IAU approved the name Acamar for the star Theta (θ) 1 Eridani A.
- One is the star “Achernar” or “Achenar” which is the star Alpha (α) Eridani in the IAU constellation Eridanus:
  - The Astronomicon Caesarium (1540) of Petrus Apianus (1495 – 1552) lists this star as “Acarnar”.
  - The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.170v-171r lists “Acarnar”.
  - German uranographer Johannes Stöffler’s Constance Celestial Globe (1493) lists “Achernar” for this star.
  - German astronomer Johann Bayer (1572-1625) listed this star as “Acharnar”, “Acharnahar”, and “Acharnarim”.
  - A celestial globe (late 1597) of Flemish astronomer Petrus Plancius published by Amsterdam cartographer Jodocus Hondius the Elder lists “Achernar”.
  - “Acharnar” and “Achiron-nahri” are names listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
  - German poet Philipp von Zesen (1619 – 1689) listed this star as “Acarnar”.
  - This star is listed on gores of the globe of Petrus Plancius published in 1598 by Jodocus Hondius as “Alcarnar”.
  - Johann Bayer’s *Uranometria* (1603) lists “Acharnar” and “Acharnarim”
  - The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Acharnar” and “Nahar”.

- This star is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as “Acarnar”.
- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) listed this star as “Acarnaharim” and “Acharnaar”
- French scholar Joseph Justus Scaliger (1540 – 1609) listed this star as “Acharnarin”
- German astronomer Wilhelm Schickard (1592 – 1635) listed this star as “Achironnahri”.
- Hondius also lists “Alcarnar” for this star (Dekker 2016).
- Robert Hues listed “Acharnahar” and “Acarnar” for this star in his *A Learned Treatise of Globes* in 1659.
- Edward Sherburne lists this star as “Acher Nah’r” and “Acarnar” in his *Sphere of Marcus Manilius* in 1675 and translates this as “Ultima Fluminis” (“The Last of the River”).
- Dutch uranographer Carel Allard’s *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) lists this star as “Acarnar”.
- The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) lists “Achernar” for this star.
- Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists this star as ”Achernar”.
- American uranographer William Croswell (1760 – 1834) lists this star as “Achernar” on his *Mercator Map of the Starry Heavens* in 1810.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists this star as “Achernar” in his *Celestial Atlas* in 1822.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 translates “ákher-nahr” as “Ultima Fluvii, end of the river”.
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich list “Achernar” for this star.
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as “Achernar”.
- English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists Alpha (α) Eridani as “Achernar”.
- American astronomer Winslow Upton’s *Star Atlas* (1896) lists this star as “Achernar” and describes it as the “end of the river”.
- *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists “Achernar”.
- The 1st edition (1910) and 14th edition of British schoolmaster Arthur P. Norton’s *A Star Atlas* (1959) list “Achernar”.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985 by Valerie Illingworth, ed., lists “Achernar”.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this star as “Achernar”.
- Variations include “Achenar” and “Archarnar”.
- The IAU Working Group on Star Names approved Achernar as the name for Alpha (α) Eridani A in 2016.

Road for Emperor:

This Korean asterism “Hwangjeleul Wihan Gil” (황제를 위한 길) is a line of four stars in the IAU constellations Cygnus and Lyra: 39, Eta (η), and 15 Cygni and 13 Lyrae.

Road of the Lost Men:

This Romanian asterism “Calea Rătăciţilor” is the IAU constellations Serpens and Ophiuchus (Ottescu 2009).

Roaring Bright One:

This Arabic star “Suhail Hadar” (سهيل هدار) is Zeta (ζ) Puppis in the IAU constellation Puppis and was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of Fixed Stars*.

Robber:

This Chaldean star “mul lu.sa.gaz” is listed in the *Great Star List* (Koch-Westenholz 1995) but the stars have not been identified.

Robe:

This German asterism “Robe” is the IAU constellation Corvus as depicted in the *Nördliche Sternhimmel* sky map of O. S. Reuters based on the work of German astronomer Johann Elert Bode (1747 – 1826).

Robert’s Quartet:

This **telescopic** asterism is a quartet of galaxies in the IAU constellation Phoenix:

- Diffuse barred irregular galaxy NGC 87,
- Barred spiral galaxy NGC 88,
- Barred spiral or lenticular galaxy NGC 89, and
- Spiral galaxy NGC 92.

These galaxies were all discovered by English astronomer John Herschel in September 1834. They became GC 43, GC 44, GC 45, and GC 46 in John Herschel’s 1864 *General Catalogue*. Halton Arp and Barry F. Madore named it after Robert Freedman, who generated many of the updated positions of galaxies in their *A Catalogue of Southern Peculiar Galaxies and Associations* in 1987.

Robin:

This Mi’kmaq star “Jipjawej” is Epsilon (ε) Ursae Majoris (Alioth) in the IAU constellation Ursa Major. It is part of their asterism Muin and the Seven Hunters (see above).

This Ininew star “Pipichew” is Alpha (α) Coronae Borealis in the IAU constellation Corona Borealis (Buck 2016) and is part of their asterism “Tehpakoop Pinesisuk” (see Seven Birds, below).

This Kamilaroi and Euahlayi star “Guniibuu” is 36 Ophiuchi in the IAU constellation Ophiuchus. This is named for the Robin (Petroica boodang). The IAU approved the name Guniibuu for 36 Ophiuchi A in 2018.

Robin’s Egg Nebula:

This **telescopic** asterism is planetary nebula NGC 1360 in the IAU constellation Fornax. It was discovered by American astronomer Lewis Swift (1820 – 1913) in 1857 and recorded in 1868 by the German astronomer Friedrich August Theodor Winnecke. It is GC 5315 in the *General Catalogue* of 1864. This is O’Meara 16 on astronomer Stephen James O’Meara’s *Hidden Treasures Catalogue* (2007). It is also known as the Comet Nebula (see above).

Rocket:

This **telescopic** asterism is French 3 on the asterism list of American astronomer Sue French and is found in the IAU constellation Vulpecula. German astronomer René Merting lists it on the *Faint Fuzzies* website. Merting describes it as "overall impression of a rocket- I can think of something else, but that is not suitable for minors- this pattern points straight in the direction of the star cluster Czernik 40 (King 27). Size 2.2' X 1'.

Rocket Ship:

There are three **telescopic** "rocket ship" asterisms:

- One in the IAU constellation Pisces is Posey 1 on the asterism list of Dan Posey of the Austin Astronomical Society. A triangle of three stars with another in the middle forms the rocket ship, including 6th magnitude star HIP 114864 at the tip, the double star HIP 114914A in the middle and HIP 115012A on one corner. A short equally distanced group of three stars of descending magnitude (8.2 to 9.3) form the "flame". Its size is 50' X 23'.
- One is the open cluster NGC 1807 in the IAU constellation Taurus. It was discovered by English astronomer William Herschel in 1784 who listed it along with NGC 1817 in his catalogue as "VII 4". It is GC 1020 in the *General Catalogue* of 1864. This is the name given to it by American astronomer Wayne Schmidt, who describes it as a fat rocket ship 10 arcminutes long.
- One in the IAU constellation Orion is Elosser 1 (see Semi-Circle, below), halfway between the stars Pi (π) 2 and 3 Orionis. It consists of thirteen stars hooked around a golden 9th magnitude star. It is part of a list by American amateur astronomer David Elosser from North Carolina. René Merting lists it on Robert Zebahl's *Faint Fuzzies* website and notes that it looks like an "old fashioned rocket ship". Merting's "rocket ship" has the aforementioned "golden star" as the flame at the base of the rocket, with a triangle of 8th-9th magnitude stars as the "nose" of the rocket. The "golden star" forms a slightly larger triangle with a couple of 10th magnitude stars resembling the "fins" of the rocket, and the curve of stars that forms the rest of Elosser 1 is the smoke trail behind it.

Rocket's Red Glare:

This **telescopic** asterism is the proto-planetary nebula AFGL 915 (PN G218.9-11.7, IRAS 06176-1036) in the IAU constellation Monoceros. This was posted on the *Deep Sky Forum* by Dutch astronomer Victor van Wulfen in March 2023.

Rocking Horse:

There are two **telescopic** "rocking horse" asterisms:

- One is the open cluster NGC 6910 in the IAU constellation Cygnus. It was discovered by William Herschel in 1786 who listed it as "VIII 56". His son John Herschel listed it as h 2077 in 1828. It is GC 4575 in the *General Catalogue* of 1864. It is also known as the Inchworm Cluster. It is located a half degree east-northeast of Sadr (Gamma (γ) Cygni) and may be related to the nebula IC 1318 (the Gamma Cygni Nebula). American astronomy author Alan M. MacRobert described it as looking "for all the world like a stick-figure horse in profile pulling against a rope- perhaps a rocking horse, with the two bright orange stars for feet. It is facing northwest." Size 8' X 8'. NOTE: IC 1318 was first recorded by American astronomer Edward Emerson Barnard (1857 – 1923) and Dreyer's *Index Catalogue of Nebulae* (1888 – 1894) describes it as "γ Cygni, surrounded by L patches of F neby".

- One is in the IAU constellation Cancer and is listed by American astronomer John A. Chiravalle. Jeffrey Corder lists it as Corder 1735. Size 60'. A shallow curve of stars including HIP 44162, 44017A, 43798, 43655, and 43623 forms the "rocker". The "horse" includes HIP 44075, 44478, 44923, 43899, 44083, 43899, and 43920A.

Rod:

This Latin asterism "Virga" ("rod" or "staff") is the IAU constellation Sagitta as listed by R. H. Allen in his *Star Names* in 1899.

Rod of Ursa Major:

This **telescopic** asterism "Scipio Úrsae Majóris" is the edge-on spiral galaxy NGC 2820 in the IAU constellation Ursa Major. It was discovered in 1791 by William Herschel who listed it as "II 869". It became GC 1798 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Rod of Virgo:

This **telescopic** asterism "Régula Vírginis" is the edge-on lenticular galaxy NGC 4762 in the IAU constellation Virgo. It was discovered by English astronomer William Herschel in 1784 who listed it as "II 75". It is GC 3278 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). It is also known as the "Kite" or "Paper Kite" (see above).

Roll of Cetus:

This **telescopic** asterism "Volumen Ceti" is the dwarf irregular galaxy WLM (Wolf-Lundmark-Melotte or UCGA 444) in the IAU constellation Cetus. It was discovered by Max Wolf in 1909. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of its apparent cylindrical shape.

Rolled Tongue:

This Chinese xing guan "Juǎnshé" (卷舌) is a curve of stars in the IAU constellation Perseus: Nu (ν), Epsilon (ε), Xi (ξ), Zeta (ζ), 38, and 40 Persei. This is identical to the Korean asterism "Rolled Tongue" (see below). This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan "Juǎnshé" (卷舌) is a hooked line of stars in the IAU constellation Perseus. Starting at Nu (ν) Persei the line runs through Epsilon (ε) Persei, Xi (ξ) Persei, Zeta (ζ) Persei, and 38 Persei to 40 Persei.

This Korean asterism "Gullin Hyeo" (굴린 혀) is identical to the Chinese xing guan "Rolled Tongue" (see above).

Rolled Up of Antlia:

This **telescopic** asterism "Involútus Ántliae" is the spiral galaxy NGC 3449 in the IAU constellation Antila. It was discovered in 1834 by John Herschel who listed it as h 3302 and later as GC 2249 in his *General*

Catalogue of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Roller Coaster:

There are two **telescopic** "roller coaster" asterisms:

- One is "Eddie's Coaster" or "Eddie's Roller Coaster", which is a wave of stars in the IAU constellation Cassiopeia resembling a roller coaster and is from an asterism list by Eddie Carpenter of the Bristol Astronomical Society and the Cotswold Astronomical Society. The stars run between Kappa (κ) Cassiopeiae and Epsilon (ε) Cassiopeiae. The top of the "track" is around the star HIP 5696 and goes through a curving line of 7th to 8th magnitude stars through HIP 5239, 5106, and 4567, ending at HIP 4449 and 4318.
- One is Hay-Merting 10 in the IAU constellation Cassiopeia. Robert Zebahl lists it on his *Faint Fuzzies* website. Its size is 20' X 8'. This is a winding chain of stars with the planetary nebula IC 1747 in the middle of the chain.

Roller of Hydra:

This **telescopic** asterism "Vólvola Hýdrae" is the intermediate spiral galaxy NGC 2947 in the IAU constellation Hydra. It was discovered by American astronomer Francis Leavenworth in 1886. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Rom Rimwimata:

This Kiribati asterism "Rom Rinwimata" is made up of stars of the IAU constellation Scorpius (Trussel and Groves 1978). They are described as "under Antares".

Roman Empire:

This German asterism "Impery Rom" is the IAU constellation Aquila as listed in the charts of the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

Roman Military Eagle:

This German asterism is the IAU constellation Aquila as described by German poet Philipp von Zesen (1619 – 1689).

Romulan War Bird:

This **telescopic** asterism is the open cluster NGC 2301 in the IAU constellation Monoceros. It was discovered by William Herschel in 1786 who listed it as "VI 27" in his catalogue. It is GC 1465 in the *General Catalogue* of 1864. In the 19th century it was known as Copeland's Golden Worm, later named the Great Bird Cluster (see above) by Phil Harrington and as the "Sparrow" by South African astronomer Carol Botha. More recently astronomers who are fans of J. K. Rowling's *Harry Potter* series named it Hagrid's Dragon. This is O'Meara 36 in astronomer Stephen James O'Meara's *Hidden Treasures Catalogue* (2007), which lists the names "Hagrid's Dragon", "Romulan War Bird", and "Klingon Battle Cruiser".

Roni Kama:

This Kiribati asterism “Roni Kama” or “Tauri ni Kama” is the stars Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus (Trussel and Groves 1978). NOTE: They also list “Ronikaáma” as the name of an unidentified star without specifying the constellation.

Roni Kameang:

This Kiribati star is a star in the IAU constellation Auriga (Trussel and Groves 1978).

Roofing:

This Chinese xing guan “Gàiwū” (盖屋) is a line of two stars in the IAU constellation Aquarius: Omicron (o) and 32 Aquarii. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Gàiwū” is a line of two stars in the IAU constellation Aquarius which is part of their xing guan “Rooftop: Alpha (α) Aquarii (Sadalsuud) and Omicron (o) Aquarii.

Rooftop:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is made up of stars of the IAU constellations Aquarius and Pegasus. From the star Theta (θ) Pegasi three lines run out:

- One runs to the star Epsilon (ε) Pegasi,
- One runs to the determinative star Alpha (α) Aquarii (Sadalmelik)
- One runs through 52 Aquarii to Zeta (ζ) 1 Aquarii and the attached xing guan Tomb (Vassal of Rooftop) -see below.

This Chinese xiù (lunar mansion) “Wēixiù” (危宿) is a bending line of stars in the IAU constellations Aquarius and Pegasus: The line starts at Zeta (ζ) Aquarii, runs to a bend at Alpha (α) Aquarii (Sadalmelik), runs to another bend at Theta (θ) Pegasi, and ends at Epsilon (ε) Pegasi. Their xing guan “Tomb, Vassal of Rooftop” (see below) is attached at Zeta (ζ) Aquarii. In the *Han shu*, a history of the early Han dynasty that was finished in 111 C.E. this xiù “Wei” was associated to matters concerning the Qingzhou territory. This appears in the Tang Dynasty as “Wēi” (危) and is compared to the Vedic nakshatra Satabhishak (Kotyk 2017, see Comprising a Hundred Physicians, above).

This Chinese Chenzhuo xing guan “Wēixiù” is three lines of stars radiating out of a central star in the IAU constellations Aquarius and Pegasus: The central star is Theta (θ) Pegasi. From this star three lines run out:

- One to Epsilon (ε) Pegasi,
- One (called “Roofing”) through Alpha (α) Aquarii (Sadalsuud) to Omicron (o) Aquarii, and
- One (called “Tomb (Adjunct to Wei)”) runs through Pi (π) Aquarii to Zeta (ζ) 1 Aquarii, where it splits into two lines:
    - One runs to Eta (η) Aquarii, and
    - The other runs to Gamma (γ) Aquarii.

This Japanese sei shuku or lunar station “Umiyame Boshi” (sometimes translated as “danger” or “steep”) is a triangle of stars in the IAU constellation Aquarius: 34, Epsilon (ε), and Theta (θ) Aquarii.

Room:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of four stars of stars of the IAU constellation Scorpius. Each star has a name:

- Beta (β) 1 Scorpii (Acrab): “Shangxiang” (“Great Premier”),
- Delta (δ) Scorpii: “Cixiang” (“Second General”),
- 6 Scorpii: “Cixiang” (“Second General”), and
- Rho (ρ) Scorpii: “Shangjiang” (“Great General”).

This Chinese Chenzhuo xing guan “Fáng” is a hooked line of six stars in the IAU constellation Scorpius, each star having a particular title:

- “Shangjiang” (“Great General”): Rho (ρ) Scorpii,
- “Cijiang” (“Second General”): Pi (π) Scorpii,
- “Cixiang” (Second General”): Delta (δ) Scorpii,
- “Shangxiang” (“Great Premier”): Beta (β) Scorpii (Acrab), and
- “Lock (Adjunct of Room)”: Omega (ω) 1 & 2 Scorpii.

This Chinese xiù (lunar mansion) “Fángxiù” (房宿) is a line of four stars in the IAU constellation Scorpius: Beta (β) Scorpii (Acrab), Delta (δ), Eta (η), and Rho (ρ) Scorpii. In the *Han shu*, a history of the early Han dynasty that was finished in 111 C.E. this xiù was associated to matters concerning the Yuzhou territory. It appears in the Tang Dynasty (618 – 907 C.E.) as ““Fáng” (房) and was compared to the Vedic nakshatra Anuradha (Kotyk 2017, see Following Radha, above).

This Chinese star “Fang” (房) is the star Pi (π) Scorpii in the IAU constellation Scorpius. The IAU approved the name Fang for Pi (π) Scorpii Aa.

Rooster:

This asterism from the Babylonian MUL.APIN tablets “Tarlugallu” (“the cock” or “the rooster”) is made up of stars of the IAU constellation Lepus and also appears in later Seleucid star lore:

- The “body” is a quadrilateral of stars: Alpha (α) Leporis (Arneb), Beta (β) Leporis, Epsilon (ε) Leporis, and Mu (μ) Leporis.
- The “head” is the triangle of stars Mu (μ) Leporis, Kappa (κ) Leporis, and Lambda (λ) Leporis, with three lines running out:
    - One from Kappa (κ) Leporis to 3 Leporis, and
    - Two from Lambda (λ) Leporis to 8 and Nu (ν) Leporis.
- From the other three corners of the quadrilateral two lines run out:
    - From Epsilon (ε) Leporis to HIP 23430 and HIP 25045A
    - From Beta (β) Leporis to Gamma (γ) and Delta (δ) Leporis, and
- From Arneb:
    - One line runs to 17 Leporis
    - One line runs through Zeta (ζ) and Eta (η) Leporis to Theta (θ) Leporis.

This asterism from the MUL.APIN “DAR.LUGAL” (Anthony 1996) is tentatively identified as the IAU constellation Canis Minor.

This star “Dar-lugal” or from the Babylonian star catalogue BM 78161 (5^{th} – 7^{th} century B.C.E.) is Mu (μ) Leporis in the IAU constellation Lepus (Liechty et al 1988).

This Egyptian Dendera asterism (Hoffman 2017) is basically identical to the Babylonian asterism Tarlugallu (see Rooster).

This Macedonian star “Petal” or “Petel” (“Rooster” or “Cock”) is Beta (β) Tauri (Elnath) in the IAU constellation Taurus (Cenev 2004 & 2014). It is near to their asterisms “Jastreb” (see Hawk above) and “Kvachka” (see Mother Hen above).

This asterism “Gallus” was created by the Flemish astronomer Petrus Plancius in 1612 from the stars of what are now the IAU constellation Canis Majoris: Tau (τ) and Eta (η) Canis Majoris and HIP 35083. A celestial globe (1613) of Plancius published in Amsterdam by Pieter van der Keere depicts “Gallus” as a rooster facing to our left, positioned between the rear of Canis Minor and the sail of Argo. NOTE: The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts an object in this position which is not labelled which could be an early version of Gallus.

- German uranographer Johannes Stöffler’s Constance Celestial Globe (1493) depicts Cygnus as a bird in flight labelled “Olor Avt Gallus”
- “Gallus” is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and depicted as a rooster.
- “Gallus” is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a rooster.
- Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts “Gallus” as a rooster facing to our left.
- Gallus is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 which depicts a rooster.
- This asterism was listed in Edward Sherburne’s *Sphere of Marcus Manilius* in 1675.
- “Gallus” appears in the *Theatrum Cometicum* of Stanislaus Lubienietski in 1681.
- Gallus is listed in John Hill’s *Urania* in 1754.

Rooster Tail Feather Headdress:

This Rapanui star “Te Hau Vaero” is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius (Edwards and Edwards 2010, Edwards and Edwards 2016, Edwards et al 2018). The Edwards note that this may have been the Rapanui zenithal star.

Root:

This Vedic nakshatra (lunar mansion) “Mula”, “Mūla”, or **“**Mūlat" (Devanagari मूल/मूळ, Tamil: மூலம்) is in the IAU constellation Scorpius and is the stars Epsilon (ε), Xi (ξ), Eta (η), Theta (θ), Iota (ι), Kappa (κ), Lambda (λ), Mu (μ), and Nu (ν) Scorpii. Ivanković (2021) lists the variation “Mūlabárhanī” (from the *Taittirīya Brāhmana*) or “Mūlavárhanī” (“uprooting”) and relates this to the Pitrs (spirits of the departed ancestors) and to the Goddess Nirrti, Nirruti, or Nirriti (“calamity” or “decay”), who personifies death, decay, and sorrows. Ivanković also lists the variation “vicrtau” (see Untying, below) as an alternate name. Leitz (2019) relates it to Nirriti and Alakshimi, an aspect of the Goddess Kali. It is listed as “Mūla”, in the *Atharveda* (Leitz 2019, Ivanković 2021). Leitz lists it as “Mulam” on the nakshatra list of the scholar Varahamihir. However, Leitz oddly identifies this as “the star Scorpionis”: Of course, the suffix Scorpionis could refer to any star in this constellation. Leitz goes on to write that the maharshi Parasara listed two stars for this asterism, the *Atharvavveda Parisista* lists sevem, and the *Brhat Samhita* lists eleven. W. Brennand lists this as “Mula” in his *Hindu Astronomy* in 1896 and translates this as “the tail of a fierce lion”. Bhagwath (2019) lists its symbols as a bunch of roots tied together or an elephant goad.

This Vedic star “Mula” is Kappa (κ) Scorpii in the IAU constellation Scorpius.

This Myanmar nekkhat (lunar mansion) “Mula” (မူလာ) is in the IAU constellation Scorpius and is the stars Epsilon (ε), Xi (ξ), Eta (η), Theta (θ), Iota (ι), Kappa (κ), Lambda (λ), Mu (μ), and Nu (ν) Scorpii.

This Tibetan gyukar (lunar house) “Snrub" or “Nup” is in the IAU constellation Scorpius and is the star Lambda (λ) Scorpii (Johnson-Groh 2013).

This Chinese xiù (lunar mansion) “Dīxiù” (氐宿) is a quadrilateral of stars in the IAU constellation Libra: the double star Alpha (α) Librae (Zubenelgenubi), Beta (β) Librae (Zubeneschamali), Iota (ι) Librae and Gamma (γ) Librae. In the *Han shu*, a history of the early Han dynasty that was finished in 111 C.E. this xiù was associated to matters concerning the Yanzhou territory. It appears in the Tang Dynasty (Kotyk 2017) as “Dī” (氐) and was compared to the Vedic asterism Visakha (see Forked, above).

This Chinese Chenzhuo xing guan “Dīxiù” is a square of four stars in the IAU constellation Libra: Alpha (α) Librae (Zubenelgenubi), Beta (β) Librae (Zubeneschamali), Gamma (γ) Librae and Iota (ι) Librae.

This Japanese sei shuku or lunar mansion “Tomo Boshi”, sometimes translated as “shoulder” or “base”, is a quadrilateral of stars in the IAU constellation Libra: the double star Alpha (α) Librae (Zubenelgenubi), Beta (β) Librae (Zubeneschamali), Gamma (γ) Librae, and Iota (ι) Librae. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

Rope Dancer of Virgo:

This **telescopic** asterism “Schoenóbates Vírginis” is the pair of interacting galaxies NGC 5331 in the IAU constellation Virgo. It was discovered in 1793 by William Herschel who listed it as “III 929”. It became GC 3678 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of “the remarkable balancing act of this pair of galaxies, perpendicular to each other, and to the northwestern tidal extension”. It is also known as the “Fox Eyes”.

Rope-like Objects Extended in a Line:

This Dena’ina asterism “Ninla’I” or “Ninalyi” is the Pleiades cluster in the IAU constellation Taurus (Cannon 2021).

Rope of the Great Boat of Tama Rereti:

This Māori asterism “Te Taura-O-Te-Waka-O-Tamarereti” connects their asterism “Great Boat of Tama Rereti” (see above) to the anchor, “Taki-O-Autahi” (see Anchor above). This is the Pointer Stars Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar)- see Pointers, above.

Rope Star:

This Dravidian star is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Leitz 2019).

Rosalíadecastro:

This **telescopic** Spanish star is HIP 81022 (HD 149143) in the IAU constellation Ophiuchus (magnitude 7.89). It was given this name in the IAU NameExoWorlds campaign. It is named for the writer Rosalia de Castro. It has an exoplanet named Riosar: Rio Sar is a river that appears in many of de Castro’s works.

Rose:

This asterism “Rosa” is the IAU constellation Coma Berenices as listed in the *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552). It is also listed as “Rosa” by German astronomer Johann Bayer (1572-1625).

This asterism “Rosa” is the Coma Star Cluster (Melotte 111) in the IAU constellation Coma Berenices. It was given this name by German astronomer Petrus Apianus in 1536 in his *Imagines Syderum Coelestium*.

Rose Cluster:

This **telescopic** asterism is the globular cluster Messier 5 (NGC 5904) in the IAU constellation Serpens. It was discovered by German astronomer Gottfried Kirch in 1702. It is listed in the 1864 General Catalogue as GC 4083 and in John Herschel’s catalogue as h 1916.

Rose Cockatoo:

This Boorong asterism “Gellarlec” or “Galla” is the Hyades cluster in the IAU constellation Taurus as listed by Stanbridge (1857), Morieson (1999), and Hamacher and Frew (2010). this is the Rose Cockatoo (Eolophus Roseicapilla) and is the name of an old man chanting and keeping time to Kulkunbulla and Larnankurrk dancing. Compare this to the Wardaman asterism “Mulyan” (see White Cockatoo, below).

This Wotjobaluk asterism “Gallerlec” is the Hyades cluster in the IAU constellation Taurus (Hamacher 2011).

Rose Garden:

This Hungarian asterism “Rózsás kert” is the IAU constellation Corona Borealis. The celestial map of Hungarian uranographer Sandor Nagy (1915) depicts this asterism as the semi circle of stars of this constellation amongst trellises of roses.

Rose-Like of Cetus:

This **telescopic** asterism “Rhódeus Céti” is the spiral galaxy NGC 1042 in the IAU constellation Cetus. It was discovered by American astronomer Lewis Swift in 1885. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Rose of Cetus:

This **telescopic** asterism “Rósa Céti” is the barred spiral galaxy NGC 521 in the IAU constellation Cetus. It was discovered in 1785 by English astronomer William Herschel who listed it as “II 461”. It became GC 304 in the General Catalogue of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010).

Rose of Hydra:

This **telescopic** asterism “Rosácea Hýdrae” is the barred spiral galaxy NGC 3124 in the IAU constellation Hydra. It was discovered in 1835 by John Herschel who listed it as h 3226 and later as GC 2012 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Rose of Phoenix:

This **telescopic** asterism "Rhodoídes Phoenícis" is the spiral galaxy IC 5325 in the IAU constellation Phoenix. This was first recorded by American astronomer Lewis Swift (1820 – 1913). This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Rosemund:

This German star "Os Rosae" is Alpha (α) Cygni (Deneb) in the IAU constellation Cygnus as listed by German poet Philipp von Zesen (1619 – 1689).

Rosette Nebula:

This **telescopic** asterism is the open cluster NGC 2244 (Caldwell 50, NGC 2239) and HII region NGC 2238 in the IAU constellation Monoceros and includes the nebulae NGC 2237 (Caldwell 49, LBN 948, Ced 76a), and NGC 2246. Size 80' X 60'. English astronomer John Flamsteed discovered NGC 2244 in 1690. William Herschel observed NGC 2244 in 1784 and listed it as "VII 2" in his catalogue, and it is listed as GC 1424 in the *General Catalogue* of 1864. American astronomer Lewis Swift (1820 – 1913), who discovered NGC 2237 and 2246, first called attention to its large size. American astronomer Edward Emerson Barnard (1857 – 1923) came across it in 1883 while searching for comets, and his observations motivated Swift to publish a note about it in 1884. *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this as the "Rosette Nebula". It is also known as the Skull Nebula (see below). NOTE: In April 2019 the Oklahoma Legislature passed HB1292 making the Rosette Nebula the official state astronomical object. NGC 2244 is also known as the Pearl Cluster.

Rosse's Galaxy:

This **telescopic** asterism is Messier 51 (NGC 5194), a pair of interacting galaxies in the IAU constellation Canes Venatici. It was discovered by French astronomer Charles Messier in October 1773. Irish astronomer Lord Rosse first recorded its spiral structure in 1845, which is how it got this name: Dreyer describes it in the 1888 New General Catalogue as the "Great Spiral Nebula". It is listed in the 1864 General Catalogue as GC 3572 and in John Herschel's catalogue as h 1623. English astronomer Thomas William Webb described it as "Rosse's wonderful spiral" in his *Webb's Celestial Objects for Common Telescopes* in 1893. It is also known as the Question Mark Galaxy (see above), Herschel's Ring, and the Whirlpool (see below).

Rosse's of Coma Berenices:

This **telescopic** asterism "Róssius Cómae Bereníces" is the grand design spiral galaxy NGC 4254 (Messier 99) in the IAU constellation Coma Berenices. French astronomer Pierre Méchain discovered it in March 1781. It is listed in the General Catalogue of 1864 as GC 2838 and in John Herschel's catalogue as h 1173. Dreyer lists it in the New General Catalogue of 1888 as "3 branched spiral". This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name to honor William Parsons, the 3rd Earl of Rosse, who observed it in 1850 and noted its spiral structure for the first time. It is also known as St. Catherine's Wheel (see below), the Virgo Cluster Pinwheel (see below), and the Coma Pinwheel (see above).

Rosy One of Dorado:

This **telescopic** asterism "Rhodópis Dorádus" is the barred lenticular galaxy NGC 1533 in the IAU constellation Dorado. It was discovered in 1834 by John Herschel who listed it as 2622 in his catalogue and later as GC 824 in the General Catalogue of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Rotanev:

This Italian star is Beta (β) Delphini in the IAU constellation Delphinus. It first appeared in Giuseppe Piazzi's *Palermo Star Catalogue*. When it was first published in 1814, this was the name associated with this star. British astronomer Rev. Thomas Webb (1807 – 1885) later figured out that Piazzi's assistant was Niccolò Cacciatore (the surname translating as "Nicolas Hunter" in English and "Nicolaus Venator" in Latin): Webb notes this in the third edition of his *Celestial Objects for Common Telescopes* in 1873. This Latin version of the surname, reversed, is Rotanev:

- American uranographer Elijah Burritt (1794 – 1838) listed it as "Rotanen".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Rotanev".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) lists the name "Rotanev" for this star.
- The IAU approved the name Rotanev for the star Beta (β) Delphini A.

Rotating of Sculptor:

This **telescopic** asterism "Volútans Sculptóris" is the barred spiral galaxy NGC 418 in the IAU constellation Sculptor. It was discovered by English astronomer John Herschel in 1834 who listed it in his catalogue as 2385. It is GC 227 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to its resemblance to a whirlpool.

Rotating of Ursa Major:

This **telescopic** asterism "Cyclophóricus Úrsae Majóris" is the spiral galaxy NGC 4100 in the IAU constellation Ursa Major. It was discovered in 1788 by William Herschel who listed it as "III 717". It became GC 2715 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Rotator of Hydra:

This **telescopic** asterism "Rotátor Hýdrae" is the barred spiral galaxy NGC 3450 in the IAU constellation Hydra. It was discovered in 1835 by English astronomer John Herschel who listed it as h 3303 and later as GC 2250 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Rotten Egg Nebula:

This is an alternate name for the Calabash Nebula (see above). It was given this name partly because of its appearance and partly because it contains a relatively large amount of sulfur.

Rotten Fish Nebula:

This **telescopic** asterism is dark nebula LDN 1251 in the IAU constellation Cepheus. This is in the catalogues of American astronomer Beverly Turner Lynds (1929 – 2024)

Rotten Gourd:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty “Bàiguā” (败瓜) is a diamond of stars in the IAU constellation Delphinus: Epsilon (ε) Delphini (the determinative star), Eta (η) Delphini, Theta (θ) Delphini, and Iota (ι) Delphini. The “stem” is the star Zeta (ζ) Delphini. Their xing guan Good Gourd (see above) is alongside.

This Chinese xing guan “Bàiguā” (败瓜) is a diamond of stars in the IAU constellation Delphinus: Epsilon (ε), Eta (η), Theta (θ), and Iota (ι) Delphini. The “stem” is the star Kappa (κ) Delphini. Their xing guan Good Gourd (see above) is alongside.

This Chinese Chenzhuo xing guan “Bàiguā” is a diamond shape of four stars with a “stem” at one end in the IAU constellation Delphinus: The “diamond” is the four stars Eta (η) Delphini, Epsilon (ε) Delphini, Kappa (κ) Delphini, and Iota (ι) Delphini. From Eta (η) Delphini a line runs out to Theta (θ) Delphini to form the “stem”.

Rotunda of Hydra:

This **telescopic** asterism “Stróngyle Hýdrae” is the elliptical galaxy NGC 5061 in the IAU constellation Hydra. It was discovered in 1786 by William Herschel who listed it as “I 138”. It became GC 3477 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). Strongule is the Greek version of “rotunda”.

Rotunda of Virgo:

This **telescopic** asterism “Rotúnda Vírginis” is the elliptical galaxy NGC 5044 in the IAU constellation Virgo. It was discovered in 1785 by William Herschel who listed it as “II 511”. It became GC 3465 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of “the large, sharp-edged empty region at the western side of this galaxy”.

Rough of Corvus:

This **telescopic** asterism “Fragósus Córvi” is the intermediate spiral galaxy NGC 4094 in the IAU constellation Corvus. It was discovered in 1836 by John Herschel who listed it as h 3376 and as GC 2710 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it is “rather rough and fragmented”.

Round Body of Leo:

This **telescopic** asterism “Glóbus Leónis” is the lenticular galaxy NGC 3607 in the IAU constellation Leo. It was discovered in 1784 by William Herschel who listed it as “II 50”. It became GC 2358 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Round Shield of Ursa Major:

This **telescopic** asterism “Párma Úrsae Majóris” is the barred lenticular galaxy NGC 3941 in the IAU constellation Ursa Major. It was discovered in 1787 by William Herschel who listed it as “I 173”. It

became GC 2600 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Roundish is Illuminated:

This Tanacross name, “Nesdzeek”, is an alternate name for their asterism “Neek’e’elteen” (see That Which Moves Following Us, below (Cannon 2021)).

Row:

This Estonian asterism “Ridamus” is made up of a long line of smaller asterisms starting at the Twins (see below), Christmas Stars (see above), and ending at the Square (see Square, below) spanning the IAU constellations Andromeda, Auriga, Gemini, and Pegasus and appears in the *Sky of Ests (Chudes)* by Aleksander Heintalu (Sass of Vigala) (Kuperjanov 2006).

Rowboat:

This Malay asterism “Biduk” is made up of stars of the IAU constellations Ursa Major and Ursa Minor. The stars that form the handle of the Big Dipper asterism (see Big Dipper, above), Eta (η) Ursae Majoris (Alkaid), Zeta (ζ) Ursae Majoris (Mizar), Epsilon (ε) Ursae Majoris (Alioth) and Delta (δ) Ursae Majoris (Megrez), are linked up to the stars of the handle of the Little Dipper asterism (see Little Dipper, above), Alpha (α) Ursae Minoris (Polaris), Delta (δ) Ursae Minoris, Epsilon (ε) Ursae Minoris, Zeta (ζ) Ursae Minoris, and Beta (β) Ursae Minoris (Kochab) to form the shape of this boat, with Polaris being the prow (Jaafar and Khairuddin 2019). Compare this to the Orang Asli asterism Jong (see Sailing Vessel, below).

This Palawan asterism “Gubang ni Asak” (“Rowboat Belonging to Asak”) is made up of stars of the IAU constellations Ursa Major and Ursa Minor. The stars that form the handle of the Big Dipper asterism (see Big Dipper, above), Eta (η) Ursae Majoris (Alkaid), Zeta (ζ) Ursae Majoris (Mizar), Epsilon (ε) Ursae Majoris (Alioth) and Delta (δ) Ursae Majoris (Megrez), are linked up to the stars of the handle of the Little Dipper asterism (see Little Dipper, above), Alpha (α) Ursae Minoris (Polaris), Delta (δ) Ursae Minoris, Epsilon (ε) Ursae Minoris, Zeta (ζ) Ursae Minoris, and Beta (β) Ursae Minoris (Kochab) to form the shape of this boat, with Polaris being the prow (Jaafar and Khairuddin 2019)

This Maguindanao asterism “Biduk” is the Big Dipper asterism in the IAU constellation Ursa Major (Jaafar and Khairuddin 2019).

Royal:

This Korean lunar mansion “Baang” is a line of two stars attached to the corner of their asterism “Chariot of Emperor” (see above) in the IAU constellation Corvus: Delta (δ) and Eta (η) Corvi.

This Latin star “Regia” is Alpha (α) Leonis (Regulus) in the IAU constellation Leo as listed as listed by Pliny the Elder (23 – 79 C.E.) in his *Naturalis Historia* and in R. H. Allen’s *Star Names* in 1899.

Royal Arch:

This **telescopic** asterism is an arc of stars in the IAU constellation Cetus. It is described as a “royal arch of suns” in *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns. Barns only describes these stars as “North eastward” of Gamma (γ) Ceti.

Royal Council of Stars:

This **telescopic** asterism is the open cluster Melotte 20/Collinder 39, the Alpha Perseus Cluster in the IAU constellation Perseus, a cluster of 50 bright stars to one side of the star Alpha (α) Persei (Mirfak). It is also known as the Saxophone, the Secret Garden Cluster and the Little Cloud of Pirates.

Royal Family:

This Korean asterism "Wangsil" (왕실) is a line of two stars in the IAU constellation Ophiuchus: 71 and 72 Ophiuchi.

This asterism is the constellations Andromeda, Cassiopeia, Cepheus, and Perseus. *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), gives this name for this group of constellations, but does not identify a source.

Royal Guards:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a "W" of stars in the IAU constellation Ursa Major: Starting at the determinative star HIP 59856, it runs through HIP 58369, 58460, 58512, 58654, 57670, 61 Ursae Majoris, and HIP 56410.

This Chinese xing guan "Chángchén" (常陈) is a jagged line of stars in the IAU constellation Canes Venatici: It starts at 67 Canum Venaticorum and runs through 2, 6, Beta (β) Canum Venaticorum (Chara), 9, and 10 Canum Venaticorum, ending at the double star Alpha (α) Canum Venaticorum (Cor Caroli).

This Chinese Chenzhuo xing guan "Chángchén" is a "Y" shaped asterism in the IAU constellations Canes Venatici and Ursa Major: Beta (β) Canum Venaticorum (Chara), 6 Canum Venaticorum, HIP 59856, HIP 59923, HIP 58654, HIP 57670, and 61 Ursae Majoris.

Royal Hall:

This Korean asterism "Wangsil" (왕실) is a line of four stars in the IAU constellation Scorpius: Rho (ρ), Eta (η), Delta (δ), and Beta (β) 1 Scorpii (Acrab). Their asterism "Door Lock and Key" (see above) is attached at Acrab.

Royal House:

This Chinese xing guan "Yingshi" (營室） from the *Zhuanxu Calendar* of the Xia Dynasty (2180 – 1600 B.C.E.) is the Great Square of Pegasus (see Great Square, above). It translates as "Royal House/Encampment" (Didier 2009). It is also known to them as the Palace of Darkness, the Ancestral Temple, and as the Four Supports of Heaven.

Royal Man:

This Greek asterism "Ἀνήρ βασιλήϊος" or "Anír vasilíïos" is the IAU constellation as listed by the 5th century Greek poet Nonnus.

This Latin asterism "Vir Regis" is the IAU constellation Cepheus.

Royal of Antlia:

This **telescopic** asterism "Regillus Ántliae" is the spiral galaxy NGC 3271 in the IAU constellation Antlia. It was discovered in 1835 by John Herschel who listed it as h 3265 and later as GC 2130 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by

astronomers Gerard Bodifee and Michel Berger (2010): They call it this as it is “the principal galaxy of the Antlia cluster”.

Royal Secretary:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is an oval of stars in the IAU constellation Draco: Starting at the determinative star 15 Draconis it runs through HIP 80161, 78893, 79414, and 80682.

This Chinese star from the Three Kingdoms to the Ming Dynasty “Shangshu” is 29 Ursae Majoris in the IAU constellation Ursa Major and is part of their asterism “Wénchāng” (文昌) - see Administrative Centre, above.

This Chinese xing guan “Shàngshū” (尚书) is made up of stars in the IAU constellation Draco. This is two triangles, one nested inside the other and sharing an apex at the star 27 Draconis:

- The inner triangle includes the stars 15 and 18 Draconis, and
- The outer triangle includes the stars HIP 80161 and 19 Draconis.

There are two Chinese Chenzhuo xing guans called “Shangshu”:

- One is the star 23 Ursae Majoris in the IAU constellation Ursa Major. It is part of their xing guan “Administrative Centre”.
- One is four lines of stars radiating out of a central star in the IAU constellation Draco. The central star is HIP 77277 from which four lines run out:
  - One to HIP 75696,
  - One to HIP 75256,
  - One to HIP 75260, and
  - One to HIP 75974

Royal Star:

This English star is Alpha (α) Leonis (Regulus) in the IAU constellation Leo:

- Wyllyam Salysbury in 1552 who wrote: “The Lyon’s herte is called of some men, the Royall Starre”.
- Johann Bayer’s *Uranometria* (1603) lists “Rex” and “Regia Stella” for this star.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 attributes this name to Wyllyam Salysbury and also lists the Latin name “Stella regia”.
- R. H. Allen’s *Star Names* in 1899 “Royal Star“ for this star.

This Arabic star “Malakiun” (ملكي) which means “royal” or “my king” is Alpha (α) Leonis (Regulus) in the IAU constellation Leo as listed by Dorn in his *Description of the Celestial Globe Belonging to Major-General Sir John Malcolm, G.C.B., K.L.S., &c. &c., Deposited in the Museum of the Royal Asiatic Society of Great Britain and Ireland* in 1829. Dorn attributes this to the astronomer Ulugh Beg Mirza (1394 – 1449). The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists “qalb al-asad malakī” (“heart of the lion, the Royal One”).

Royal Stars:

This Romanian asterism is four stars that supposedly support the heavens (Ottescu 2009). Compare this to the Archangel Stars (see above) and the Persian Four Guardians of Heaven (see above). The stars are:

- Alpha (α) Piscis Austrini (Fomalhaut) in the IAU constellation Piscis Austrinus,
- Alpha (α) Leonis (Regulus) in the IAU constellation Leo,
- Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus, and
- Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius.

Royal Throne:

This Latin asterism "Sedes Regalis", "Sedes Regia" is the IAU constellation Cassiopeia, sometimes " is the IAU constellation Cassiopeia. It is sometimes shortened to "Sedes" ("throne" or "seat"). It is listed as "Sedes Regia" by John Hill in his *Urania* in 1754. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Sedes Regia".

Royals:

This Chinese xing guan "Tàizūn" (太尊) is the star Psi (ψ) Ursae Minoris in the IAU constellation Ursa Minor. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan "Taizun" is the star HIP 50546 in the IAU constellation Ursa Major.

Ruawahia:

This Māori star is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes.

Rubber Stamp Nebula:

This is an alternate name for the Thirteenth Pearl Nebula (see below).

Rubeola:

This star is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes. The Gallo-Roman historian and Bishop Gregory of Tours (538 – 594) created this to help monks use certain stars in the sky to determine the time for prayers. It is a reference to its red colour.

Rubin of Cetus:

This **telescopic** asterism "Rubíneus Céti" is the spiral galaxy NGC 450 in the IAU constellation Cetus. It was discovered in 1785 by English astronomer William Herschel who listed it as III 440. It became GC 254 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to its having been studied by the American astronomer Vera Rubin in the 1980s and due to its color.

Rubin's Galaxy:

This telescopic asterism is the galaxy UGC 2885 in the IAU constellation Perseus. It was named for astronomer Vera Rubin. This name is posted on the *Deep Sky Forum* in January 2020 by American astronomer Jimi Lowrey.

Ruby Bearer of Libra:

This **telescopic** asterism "Rubínifer Líbrae" is the barred spiral galaxy NGC 5792 in the IAU constellation Libra. It was discovered in 1787 by William Herschel who listed it as "II 683". It became GC 4013 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of the "very red 9.6 magnitude star at 1.1' NW of the nucleus".

Ruby Ring:

See Ring, above.

Ruby Star:

This English star "Ruby Star" or "Herschel's Ruby Star" is RT Capricorni (HIP 99990) in the IAU constellation Capricorn, discovered by John Herschel (1792 – 1871), and given this name due to its colour.

Another "Ruby Star" is the red giant 119 Tauri in the IAU constellation Taurus.

Ruchbah:

See Knee, above.

Rudder:

This Greek asterism "Πηδάλιον" or "Pidálion" is the star Alpha (α) Carinae (Canopus) in the IAU constellation Carina. It has this name as it is part of Ptolemy's asterism Argo's Ship (see above). Aratus (315 – 240 B.C.E), Eudoxus (400 – 350 B.C.E.), and Hipparchus (190 – 120 B.C.E.) all used this name.

Rudra:

There are Three Vedic asterisms by this name:

- In one story Rudra is an aspect of the creator Brahma, a sort of good twin of Prajapati (see above) who is trying to keep his evil twin in check, hunting him with his bow and arrow as Prajapati pursues his daughter Usha (Vahia 2014, Bhagwath 2019). In this version of the story, Rudra is the IAU constellation Orion.
- There is another version of the story where Prajapati becomes a male deer "Mriga" (see Deer, above) to pursue Usha in the form of a female deer. In this version of the story Rudra the hunter is the stars Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus and Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Vahia 2014).

Rukbat:

See Knee of the Archer, above.

Ruler of the Spheres of Pisces:

This **telescopic** asterism "Sphaerárches Píscium" is the elliptical galaxy NGC 474 (Arp 227) in the IAU constellation Pisces. It was discovered in 1784 by William Herschel who listed it as "III 251". It became GC 269 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010).

Ruler Stars:

This Japanese asterism “Shakugo Boshi” is the belt of Orion in the IAU constellation Orion.

Ruling Star:

This Latin star “Stella Dominatrix” is is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus. English Admiral Henry William Smyth lists this name in his *Bedford Catalogue* in 1844.

Runner:

This Sami star “Cuoigahægjek” is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra (Lundmark 1982).. He is a hunter chasing the reindeer Sarva (see Reindeer, above) with Favdna (see above), Galla (see above), and the Ski Runners (see below).

Runner of Boötes:

This **telescopic** asterism “Cúrsor Boótis” is the barred spiral galaxy NGC 5859 in the IAU constellation Boötes. It was discovered in 1788 by William Herchel who listed it as “II 752”. It became GC 4052 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of “NGC 5859 and its neighbour NGC 5857 [II 751, GC 4051] seem to be involved in a race”.

Runners:

This Inuit asterism “Ullaktut” (“the runners”) is the three stars of the belt of Orion in the IAU constellation Orion (MacDonald 1998). It is also known as “Steps in a Snowbank” (see below).

Running Bull:

This Romanian asterism “Gonitorul” is the IAU constellation Taurus (Ottescu 2009).

Running Cloud:

This Anutan asterism “Te Aro Rere” is the Large Magellanic Cloud.

Running Chicken Nebula:

This **telescopic** asterism is the open cluster IC 2944 (Caldwell 100) in the HII region IC 2948 in the IAU constellation Centaurus. These were discovered in the early 1900s by American astronomer Royal H. Frost at the Arequipa Station of Harvard University in Peru. NOTE: This is also known as the Lambda Centauri Nebula as this star is contained within.

Running Dog Nebula:

This **telescopic** asterism is the open cluster and nebula IC 1805 (SH 2-190, LBN 654, Mel 15, Ced 7) in the IAU constellation Cassiopeia. It was first recorded by American astronomer Edward Emerson Barnard (1857 – 1923).

Running Man Nebula:

This **telescopic** asterism is the nebula NGC 1977 and open cluster IC 1805 (SH 2-190, LBN 654, Mel 15, Ced 7) in the IAU constellation Cassiopeia. NGC 1977 was discovered by English astronomer William Herschel in 1787 and listed as V 30. It is GC 1180 in the *General Catalogue* of 1864. IC 1805 was first recorded by American astronomer Edward Emerson Barnard (1857 – 1923). This is also known as the Heart Nebula (see above), the Mermaid Nebula (see above) and the Valentine Nebula (see below).

Russia:

This asterism “Curania” was created from stars of the IAU constellation Draco by German astronomer Erhard Weigel (1625 – 99) who produced his *Astrocopium Orbi Europaeo Sacrum* chart in 1661, 1681 and 1688 in which he tried to replace existing constellations a new system based upon the heraldry of the nation states and principalities of seventeenth century Europe, as well as of its principal hierarchies and social classes. This represents Russia and is represented by the serpent Draco as a dragon with a red and gold shield next to it.

Rutilicus:

See Armpit, above.

RV:

This American asterism “RV” (“the recreational vehicle”) is made up of the stars of the IAU constellation Pegasus and was created by Brad and Kathryn Templeton for *The Vault of Heaven* star map for the 2004 Burning Man event held in Black Rock Desert in Nevada (Kuperjanov 2006). The square of Pegasus asterism is the back end of this “RV” and the stars normally viewed as the horse’s head and front legs are the front end of the “RV”.

Ryeong:

This Korean star is Gamma (γ) Ursae Majoris (Phecda) in the IAU constellation Ursa Major.

S:

There are eleven **telescopic** letter “S” asterisms:

- One is the open cluster NGC 663, also known as the Lawnmower (see above), located in the IAU constellation Cassiopeia. It was discovered by English astronomer William Herschel in 1787, who listed it as “VI 31”. It is GC 392 in the *General Catalogue* of 1864.
- One is Renou 18 in the asterism list of French astronomer and author Alexandre Renou, located in the IAU constellation Pisces. It looks like Superman’s S and is located 37 arcminutes west of the star Tau (τ) Piscium. This is listed as Simonic 4 on the list of Hungarian astronomer Ilona Simon Mogyorósi.
- One is in the IAU constellation Orion between Epsilon (ε) and Delta (δ) Orionis. It starts at HIP 25976 and winds through HIP 26149, 26188, 26210, 26213, 26174, 26106, VV Orionis, HIP 25980, and 26020 and ends at 26117. Jeffrey Corder lists this as Corder 884 and describes it as an “omega shape” or a “fancy dress hat”. Size 180’ X 120’.
- One is in the IAU constellation Hercules and consists of twelve stars making a backwards “S”: One end is HIP 81312, the other is a magnitude 8.75 star, and the stars winding between are magnitude 10.
- One is Cseh 15 listed by Hungarian astronomer Viktor Cseh, which is a line of eight stars in the IAU constellation Indus forming a backwards “S”. Cseh describes them as forming “a beautiful letter ‘S’, of which the brightest star is 8.4 magnitude star TYC 8799-814”.
- One is an “S” shaped row of 10th to 12th magnitude stars in the IAU constellation Scutum known as the Essertoo String. This is one of American astronomer Tom Lorenzin's asterisms (Lorenzin 5) and is listed in the 1987 *1000+ Field Guide to Deep Sky Observing* by Tom Lorenzin and Tim Sechler. Its size is 6’ X 2’.
- One is in the IAU constellation Cygnus and is Corder 4432 on the observing list of American astronomer Jeffrey Corder. Size 100’ X 35’. This is eight 6^{th} – 8^{th} magnitude stars including HIP 105891, 106171, 106256, 106518, and the double stars HIP 106132 and 106267.

- One is NGC 2442 and NGC 2443, a single intermediate spiral galaxy in the IAU constellation Volans. It is also known as the Meathook Galaxy (see above), an "Cobra" (see below), or the Cobra and Mouse (see above). NGC 2442 and 2443 are two parts of the same galaxy: John Louis Emil Dreyer (1852 – 1926) assumed it was two separate objects from William Herschel's earlier observations that this was a "double nebula". It is entered in the General Catalogue of 1864 as GC 1568 and 1569. English astronomer John Herschel, William's son, confirmed that it was a single "nebula" in December 1834. This appears as "Sigmoídes Volántis" ("S-shaped of Volans") in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010):
- One is the galaxies NGC 4656 and 4657 in the IAU constellation Canes Venatici. This was discovered in 1787 by English astronomer William Herschel: He listed them as "I 176" and "I 177". The became GC 3189 and GC 3190 in the *General Catalogue* of 1864. It is also known as the Hockey Stick Galaxies (see below), the Hook (see below), the Fishhook (see below), the "Crowbar Galaxy" (see above), and the Hummingbird (see below). Herschel described it this way: "Both join and form the letter S".
- One is open cluster NGC 6025 (Caldwell 95) in the IAU constellation Triangulum Australe. This was discovered by French astronomer Abbé Nicolas Louis de Lacaille in 1755. South African astronomer Magda Streicher (2009) described it as having an "'S' shape". It is also described as a Japanese Fan (see Fan, above).
- One is the dark "S nebula", Barnard 72 in the IAU constellation Ophiuchus. It is part of the larger Dark Horse Nebula (see above). It is also known as the "Snake Nebula".

Sa Ga:

This Tibetan gyukar (lunar house) "Sa Ga" or "Saga" is identical to the older Vedic nakshatra (lunar mansion) Vishākhā (see below), which is the double star Alpha (α) Librae (Zubenelgenubi) in the IAU constellation Libra (Johnson-Groh 2013).

Sa-mas-a-ti:

This Babylonian and Sumerian asterism from the BM 78161 tablet is Beta (β) Herculis (Kornephoros) and Gamma (γ) Herculis in the IAU constellation Hercules (Liechty 1988, Leitz 2019) and is the 4th ziqpu on this list.

Sabamia:

This asterism "Sabamia" was male up of the stars of the IAU constellation Libra by German astronomer Erhard Weigel (1625 – 99) who produced his *Astrocopium Orbi Europaeo Sacrum* chart in 1661, 1681 and 1688 in which he tried to replace existing constellations a new system based upon the heraldry of the nation states and principalities of seventeenth century Europe, as well as of its principal hierarchies and social classes. It is depicted as a lion's head with wings. I am uncertain as to what part of the world this refers.

Sabik:

See Preceding, above.

Sachung Telheiba:

This Meitei star "Sachung Telheiba" is Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion.

Sacks of Coals:

This English asterism is the Magellanic Clouds as listed by American astronomer Maria Mitchell (1818 – 1889), but R. H. Allen wrote in his *Star Names* in 1899 that this is actually a reference to the Coal Sack Nebula (see above).

Saclateni:

See Second Arm of the Charioteer, below.

Sacred:

This Latin asterism "Sacris" is the IAU constellation Ara.

Sacred Fire:

This Hawaiian star "Kapuahi", also known as "Hoku'ula (see Red Star, above) is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus.

This Euahlayi star "Whi" is Alpha (α) Centauri (Rigil Kentaurus) in the IAU constellation Centaurus.

Sacred Fires:

This Murrawarri asterism is the Southern Cross in the IAU constellation Crux (Fuller et al 2014). Their hero Baiame lifted these people and their fires into the sky to keep the neighbouring tribes from stealing them. Their two guards are "Giduba:mbi" and "Dhadeba:mbi" (see Guards, above).

Sacred Fish:

This Greek asterism "Ἱερος Ἰχθύς" ("Íeros Ichthýs") is the IAU constellation Delphinus.

This Latin asterism "Piscis Sacer" is the IAU constellation Delphinus as listed in John Hill's *Urania* in 1754.

Sacred Hoop:

This Dakota/Lakota/Nakota asterism, "Can Gleshka Wakan" is a huge asterism of stars in the IAU constellations Auriga, Gemini, Canis Major, Canis Minor, Orion, and Taurus. It is a circle around the stars Alpha (α) Aurigae (Capella), Alpha (α) Geminorum (Castor), Beta (β) Geminorum (Pollux), Alpha (α) Canis Minoris (Procyon), Alpha (α) Canis Majoris (Sirius), Beta (β) Orionis (Rigel), and the Pleiades cluster. The stars involved were called "Hoop Markers".

Sacred Mushroom:

This **telescopic** asterism is PGC 60379 (ESO 138-029 and ESO 138-30, AM 1724-622), a ring galaxy in the IAU constellation Ara that has a "stem" created by an interaction. This name was assigned by Arp and Madore in 1986. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010) as "Panaéolus Árae" ("Sacred Mushroom of Ara").

Sacred One:

This Hawaiian star "La'amaikahiki" is Beta (β) Arietis (Sheratan) in the IAU constellation Aries. La'a is a famous Hawaiian ancestor.

Sacred Wheel Yoke:

"Uecoretas Uedon" is a proposed early Celtic name for the IAU constellation Gemini from the *Book of Ballymote* through an etymological reconstitution (Boutet 2014).

Sacrificial Lamb:

This German asterism is the IAU constellation Aries as described by German poet Philipp von Zesen (1619 – 1689), who saw it as a lamb sacrificed on Calvary for sinful humanity.

Sadachbia:

See Auspice of the Wooden Tents, above.

Sadalbari:

See Auspice of the Exalted One, above.

Sadalmelik:

See Auspice of the King, above.

Sadalsuud:

See Auspice of Auspices, above.

Saddle of the Camel:

This Bedouin (Western Saudi Arabia) "al-Šdād" (الشداد) is the "W" asterism in the IAU constellation Cassiopeia (see W below).

Saddle of the Horse:

There are three Arabic stars with the name "Markab (ul-Faras)" (مركب الفرس):

- One is the star Alpha (α) Pegasi in the IAU constellation Pegasus:
  - This was later latinized to "Markab", "Merkeb".
  - The rete of the 14th century Spanish astrolabe NMM AST0570 in the National Maritime Museum lists "HVMER EQ" which is an abbreviation of "humerus equi" (Dekker 2000).
  - Austrian astronomer John of Gmunden (d. 1442) lists this as "Markab Alferaz id est humerous equi" ("Markab Alferaz that is the humerus of the horse" -Kunitzsch 1986).
  - The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists "Markab" for this star.
  - "Markab" and "Markabon" are listed for this star in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
  - English astronomer John Flamsteed (1646 – 1719) listed it as "Marchab".
  - American astronomer Robert Burnham lists both "Markab" and "Marchab" in his *Burnham's Celestial Handbook* in 1978.
  - Johann Bayer's *Uranometria* (1603) lists "Markab" for this star.
  - The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Markab" for this star.
  - The *Atlas Coelestis* of German astronomer Johann Gabriel Doppelmayr (1742) lists "Marcab" for this star.

- The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) and the 1778 edition lists "Markab" for this star.
- William Herschel lists "Markab" in his *Catalogue of 500 new Nebulae* in 1802.
- American uranographer William Croswell (1760 – 1834) lists this star as "Markab" on his *Mercator Map of the Starry Heavens* in 1810.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists the star "Markab" in his *Celestial Atlas* in 1822.
- English Admiral Henry William Smyth's *Prolegomena* of 1844 lists "Markab" and his *Bedford Catalogue* in 1844 lists "Markab, a thing ridden upon, a vehicle, a ship, perhaps a saddle".
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich list this star as "Markab".
- *An Improved Moveable Planisphere* (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, lists this star as "Markab".
- This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 lists "Markab": The author is unknown, but it is based on Jamieson's *Celestial Atlas*.
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as "Markab".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Markab".
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as "Markab".
- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Markab" and describes it as the "Saddle".
- *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Markab" for this star.
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and the 14th edition (1959) list "Markab" for this star.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists "Markab" for this star.
- The IAU approved the name Markab for Alpha (α) Pegasi in 2016.

- One is the star Kappa (κ) Velorum in the IAU constellation Vela, later latinized to "Markeb":
  - It was listed as "Markeb" in the *Alfonsine Tables* of 1521 (Kunitzsch 1986).
  - Johann Bayer's *Uranometria* (1603) lists "Markeb" for this star.
  - The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Markab".
  - Robert Hues lists it as "Merkeb" in his *A Learned Treatise of Globes* in 1659.
  - Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Markeb".
  - Scottish uranographer Alexander Jamieson (1782 – 1850) lists it as "Markab" in his *Celestial Atlas* in 1822.
  - R. H. Allen writes in his *Star Names* in 1899 that this name was given to the asterism Argo's Ship by the Arabs.
  - The name Markeb was approved for the star Kappa (κ) Velorum A by the IAU in 2016.
  - NOTE: The Sloane astrolabe BM SL 54 in the British Museum (1290 – 1300) lists "MARkEB" as the name for Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor though it could also refer to Rho (ρ) Puppis (Dekker 2000).

- One is the star Rho (ρ) Puppis in the IAU constellation Puppis:
    - The celestial globe (1480) of German mechanic Hans Dorn (c 1430 – 1506) lists "Markeb" for this star.
    - The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists "Markeb" for this star.

Sadhayam:

This Tamil star "Sadhayam" is Gamma (γ) Aquarii (Sadachbia) in the IAU constellation Aquarius. Compare this to the Vedic asterism Satabhishak (below).

Sadr:

See Breast, above.

Sagarmatha:

This **telescopic** Nepalese star is HIP 56572 (HD 100777) in the IAU constellation Leo (magnitude 8.42). It was given this name in the IAU NameExoWorlds campaign. This is their name for Mount Everest. It has an exoplanet named Laligurans, which is their national flower, a variety of rhododendron.

Sage:

This Chaldean asterism "mul nun.me" is listed in the *Great Star List* (Koch-Westenholz 1995) but the stars have not been identified.

Sage's Star:

This ancient Egyptian star "Sebeshen" is Alpha (α) Centauri (Rigil Kentaurus) in the IAU constellation Centaurus.

Sagitta:

The brightest stars of this constellation are 3rd magnitude, and the stars of this constellation show up in 64 asterisms in this handbook.

This IAU constellation (IAU abbreviation Sge) became one of Ptolemy's 48 original constellations in the 2nd century, which Ptolemy called "Oistos" (Ὀιστός – "arrow") in his *Almagest*: This was also the name that Hipparchus (190 – 120 B.C.E.) gave it. Aratus (315 – 240 B.C.E) called it "ἄλλος ὀϊστός" ("állos oïstós" or "another arrow") to differentiate it from Sagittarius. Sagitta ("arrow") is the Latin translation. Eratosthenes (d.194 B.C.E.) called it "Τόξον" ("Tóxon" or "bow"). Cicero (106 – 43 B.C.E.) used the adjectives "clara" ("bright") and "fulgens" ("shining") to describe it. To the Italians it is "Saetta".

The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) depicts this constellation as a simple arrow without fletching. It is depicted with its mid section crossed by the solstitial colure, when it should be east of this location.

Sagitta appears in the Leiden *Aratea* (816) as an arrow facing to our right on which Aquila the eagle is standing (Katzenstein & Savage-Smith, 1988).

The 11th century *De signis caeli ("of the signs of heaven"*) does not list it. It appears in some of the 15th to 16th century *Alfonsine Tables* as "Istusc" ("this one") and in the 1515 edition of the *Almagest* as "Istiusc".

An Islamic celestial globe dated 1275-76 in the British Museum depicts Sagitta as an arrow beneath the feet of Aquila, who appears to be landing on it.

Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) depicts Sagitta as an arrow.

The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.168v-169r depicts "Sagitta" as a fletched arrow in flight.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.71v-72r depicts Sagitta as a fletched arrow in flight. It is not labelled.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Sagitta as a fletched arrow being held by the diving eagle Aquila. It is not labelled.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Sagitta as a fletched arrow.

De Astronomica ("the astronomy"), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This depicts "Sagicta" as a fletched arrow and a bow parallel to each other.

The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts "Sagicta (sic)" as a fletched arrow.

The early 16th century Real Academia de Historia, manuscript D-97, f.101v depicts Sagitta as an arrow on which Aquila is standing. It is not labelled. The Real Academia de Historia, manuscript D-97, f.104v – 105r depicts it in the same fashion.

The "Nuremburg Maps" *(Die Karte des Nördlichen Sternenhimmels* inv.-Nr. Hz 5576), a pair of celestial hemispheres made in 1503 by Conrad Heinfogel, depicts "Sagitta" as a fletched arrow.

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts "Sagitta" as a fletched arrow.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) lists this constellation as "TELVM" and depicts it as an arrow flying to our right.

Dele Stelle Fisse ("Of the Fixed Stars") by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as "de la Saetta". The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as the "Arrow".

The Northern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Sagitta as a long, fletched arrow with a double point.

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists this constellation as “Sagitta, sive Telum” in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts Sagitta as an arrow beside Aquila, and the label appears to read “Fessus” (Latin “tired”).

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicted “Sagitta seu Telum” (“Sagitta or Telum”) as a fletched arrow.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts Sagitta as a fletched arrow flying to our right above Aquila. It is not labelled.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts “Sagitta” as a fletched arrow flying to our right.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) depicts “Sagitta” as an arrow being carried by Aquila the eagle. NOTE: Antinous is not depicted.

Danish astronomer Tycho Brahe’s *Astronomiae Instauratae Progymnasmata* (1602) lists “Sagitta sive Telum” (“an arrow or a weapon”) for this constellation.spea

German astronomer Johann Bayer (1572-1625) depicts Sagitta in his Uranometria in 1603 as an arrow with some sort of rectangular attachment in the middle. Bayer lists these names for Sagitta: “Sagitta, Telum, Iaculum, Arundo, Canna, Missore Ciceroni, Musator, Vectis vel Fossorium, Daemon, Temo Meridianus, Orfercalim, Obelus, Virgula iacens, Istusc, Alahance, Alhance, Feluco”.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts “Sagitta” as a fletched arrow flying to our right overlapping one wing of Aquila.

“Sagitta” is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as an arrow in flight overlapping one wing of Aquila.

Giovanni Paolo Gallucci’s *Theatrum Mundi, et Temporis* (1614) labels this constellation “Telo o Saeta” (“cloth or arrow”) and depicts it as a fletched arrow.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the names “Sagitta sive Telum” for this constellation.

“Sagitta” is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a fletched arrow in flight to our left, overlapping the wing of Aquila.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts “Sagitta” as a fletched arrow flying to our right behind the raised wing of Aquila.

Sagitta is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 and depicted as an arrow.

Robert Hues lists “Istusc” in his *A Learned Treatise of Globes* in 1659. For the original version in Ptolemy’s *Almagest* see “Arrow”, above.

The huge *Gottorf Globe* (c1650) made for the Duke of Holstein, Frederick III, one of the world’s first planetariums, depicts Sagitta as a fletched arrow in flight above one wing of Aquila.

Dutch cartographer Frederik de Wit’s *Planisphaerium Coeleste* (1670) depicts Sagitta as an arrow through the wing of Aquila but does not label it.

The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678 by English uranographer James Clerk depicts “Sagitta” as an arrow overlapping the right wing of Aquila.

English uranographer John Seller’s *A coelestiall planisphere* (1678) depicts “Sagitta” as an arrow overlapping the left wing of Aquila.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts “Sagitta” as a fletched arrow flying to the left alongside the left wing of Aquila.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts “Sagitta” as an arrow flying to our left.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Sagitta as a fletched arrow flying to our left.

French uranographer Gabriel Phillipe de la Hire’s *Planisphere Celeste* (1760) depicts “La Fléche” as an arrow overlapping one wing of Aquila.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts “Sagitta” as an arrow facing right.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts “La Fleche” (“the arrow”) as an arrow flying to our left.

Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists this constellation as ”der Pfeil“ and depicts it as an arrow in flight to our left.

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts Sagitta as an arrow piercing one wing of Aquila but does not label it.

American uranographer William Croswell (1760 – 1834) depicts “Sagitta the Arrow” on his *Mercator Map of the Starry Heavens* in 1810 as an arrow.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Sagitta in his *Celestial Atlas* in 1822. It is depicted as a fletched arrow. Jameison’s *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822) has the label “Sagitta” but does not depict anything.

“Sagitta” is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) as an arrow flying to our left.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts "Sagitta" as an arrow.

Sagitta is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on Jamieson's *Celestial Atlas*.

"Sagitta" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It is depicted as an arrow in flight to our left.

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Sagitta, The Arrow" as an official constellation "recognized in the catalogue of the British Association".

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as "Sagitta, the Arrow".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Sagitta" in his *Star Atlas* (1893) and describes it as "The Arrow".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Sagitta" and describes it as an "Arrow".

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Sagitta".

A standard IAU chart shows Sagitta like this:

- The "shaft" of the arrow is a line of the three stars Eta (η) Sagittae, Gamma (γ) Sagittae, and Delta (δ) Sagittae, and
- The "fletching" of the arrow is two lines running out of Delta (δ) Sagittae:
    - One going to Beta (β) Sagittae, and
    - One going to Alpha (α) Sagittae (Sham).

Sagittarius:

The stars of Sagittarius show up in 396 of the asterisms of the world's sky cultures.

The IAU constellation Sagittarius (IAU abbreviation Sgr) became one of Ptolemy's 48 original constellations in the 2nd century. In his *Almagest* he listed it as "Τοξότης" ("Toxótis"- see Archer, below). It originated in the Babylonian asterism PA.BIL.SAG (see Pabilsag, below). The Greeks usually depicted Sagittarius as a centaur and associated him with Chiron. 1st Century Roman poet Marcus Manilus listed it as "Sagittifer" ("carrying arrows"), 4th century Latin writer Postumius Rufius Festus Avienus listed it as "Sagittiger", Roman statesman Marcus Tullius Cicero (106 – 43 B.C.E.) listed "Sagittipotens" ("the archer").

The Temple of Khnum at Esna has a Latopolitan zodiac on the ceiling of the pronaos dating to the age of Ptolemy II Euergetes (246 – 221 B.C.E.) depicts Sagittarius as a galloping centaur (Bullinger 1882, Seiss 1882).

The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) depicts this constellation as a centaur galloping to the left drawing a bow and arrow, as does the Mainz Globe from the eastern end of the Roman empire (c. 150 – 220 C.E.).

The globe of the 2nd century Farnese Atlas depicts “Sagittarii” as a centaur riding to our left (Stevenson 1921).

This constellation appears in the 8th century *Revised Aratus Latinus*:

- In several editions (Dresden DC 183, Paris BN 12957, Prague IX. C. 6) Sagittarius is depicted as a horned centaur galloping to the left,
- In the Cologne 83 II edition he is a centaur facing right,
- In the Vat Reg lat 1324 edition he is shown as a hybrid centaur/satyr,
- In the Paris BN 12597 edition Sagittarius has Sagitta beneath his feet,
- In the Munich 560 edition he is shown as a satyr with Sagitta flying in front of him.

Sagittarius is depicted in the Leiden *Aratea* (816) as a bearded Centaur riding to our right drawing a bow and arrow: He has a leopard skin as a cape (Katzenstein & Savage-Smith, 1988).

The 9th century Berlin 130, Madrid 3307, Monza F.9/176, Los Angeles Getty Ludwig XII 5, Paris BN lat 8663, and Vat lat 645 manuscripts of the *De ordine ac positione stellarum in signis* depict Sagittarius as a satyr.

The 9th century Paris BN, n.a. 1614 manuscript of the *De ordine ac positione stellarum in signis* depicts Sagittarius with a long cape and horns, but the horns and cape are omitted in the Austin, TX, Ransom Ms 29 and St. Petersburg, Q.V. IX, no.2 manuscripts.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi’s son depicts Sagittarius as a centaur wearing a turban with a long band flying in the wind. He is wearing a jacket and drawing a recurve bow and arrow. One page shows him galloping to the right and the other shows him galloping to the left.

The Oxford Laud 644, Padua 27 and Venice VIII 22 manuscripts of the 11th century *De signis caeli (“of the signs of heaven*”) depict Sagittarius as a centaur running to the left, but the Oxford manuscript also shows him with tufts of hair resembling horns on his head. The Klosterneuberg 685, Paris BN 5239, Paris BN 5543, Vat lat 643, and Zwettl 296 manuscripts of *De signis caeli* depict Sagittarius as a running man in an animal skin cape with an arrow under his feet (except Paris BN 5239, which omits the arrow). The Durham Hunter 100 manuscript of *De signis caeli* depicts him wearing a hat and gesturing to his head with his right hand.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Sagittarius as a centaur galloping to our left drawing a bow and arrow. He has a scarf tied around his head which is streaming back in the wind.

Shams al-Dīn Muhammad B. Mu’ayyad al-‘Urdī’s inlaid celestial globe (1288) depicts Sagittarius as a centaur wearing a turban.

A Hebrew translation of the Almagest from Catalonia (c1361), Philadelphia (USA), University of Pennsylvania Libraries, Lawrence Schoenberg Collection, ms. ljs057 (old Ms.Sassoon 823), ff.56v, 57r, depicts Sagittarius as a centaur wearing a red tunic and drawing a bow and arrow. He is wearing a hat with a red and green feather.

A quadrans novus found at the House of Agnes site in Canterbury in 2005 in soil dated to c 1375-1425 lists the abbreviated form “SAGI” (Dekker 2007).

English author Geoffrey Chaucer (c.1340s – 1400) in his treatise on astrolabes lists it as “Saagittare” and “Sagittarie”: In his *Star Names* in 1899, R. H. Allen writes that Chaucer got these names from the Anglo-Norman poet Philip de Thaun.

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Sagittarius as a centaur galloping to our right. He has a fluttering scarf tied around his head and is wearing a tunic. He is drawing a bow and arrow.

The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.168v-169r depicts “Sagittarius” as a centaur galloping to our left drawing a bow and arrow. He has a scarf tied around his head which leaves the ends streaming in the breeze as he gallops.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.70v-71r depicts “Sagittarius” as a centaur galloping to our left drawing a bow and arrow. He has a scarf tied around his head which leaves the ends streaming in the breeze as he gallops.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Sagittarius as a centaur riding to our left drawing a bow and arrow.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Sagittarius as a centaur galloping to our left drawing a recurve bow and arrow.

A translation of The *Liber de signis* of Scottish polyglot Michael Scot (1175 – c.1232) in the second half of the 15th century, Darmstadt, Hessische Hochschulebibliothek, Ms 266, depicts Sagittarius as a winged male centaur riding to our left, drawing a bow and arrow.

The *Germanicus Aratea* (Siciliensis, c. 1469) labels Sagittarius “Belligerum” (“warrior“) and depicts him as a centaur riding to our left with an animal skin cape and drawing a bow and arrow. An arrow is laying on the ground beneath the centaur’s feet.

The *Germanicus Aratea* with scholia Strozziana (c. 1475) depicts Sagittarius as a centaur galloping to our right with a drawn bow and arrow.

De Astronomica (“the astronomy”), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This depicts “Sagictarius” as a horned bearded centaur drawing a bow and arrow with a double ended spear parallel to the constellation below it.

Sagittarius appears on the *Imagines constellationum Australium* chart of Romanian theologian Johannes Honter (1498 – 1549) as a centaur drawing a bow and arrow and labelled with the astrological sign for Sagittarius.

The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts “SAGICTAI(VS)” as a long-haired centaur wearing a hat, drawing a bow and arrow.

The early 16th century Real Academia de Historia, manuscript D-97, f.102v – 103r depicts Sagittarius as a centaur galloping to our right drawing a bow and arrow. He has a red scarf tied around his head which is blowing behind him in the breeze. It is not labelled.

The “Nuremburg Maps” *(Die Karte des Nördlichen Sternenhimmels* inv.-Nr. Hz 5576), a pair of celestial hemispheres made in 1503 by Conrad Heinfogel, depicts “Sagittarius” as a bearded centaur galloping to our left. He has a head band with ends streaming back. He is drawing a bow and arrow.

The *imagines coeli septentrionales cum duodecint imaginibus zodiaci* (“images of the northern sky with twelve images of the zodiac”), commonly known as the *Northern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius (Dekker & Lippincott, 1999) depicts “Sagittarius” as a bearded centaur galloping to our left. He has a head band with ends streaming back. He is drawing a bow and arrow.

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts “Sagittarius” as a centaur with a flowing scarf tied around his head drawing a bow and arrow as he gallops to our left.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts “Sagittarius” as a centaur galloping to our left drawing a bow and arrow.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts Sagittarius in the same manner as Dürer et al.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts “Sagittarius” as a centaur galloping to our left drawing a bow and arrow.

Dele Stelle Fisse (“Of the Fixed Stars”) by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as “Del Sagittario”. The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as the “Archer”.

The Northern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Sagittarius as a male centaur galloping to our left. He has a headband with ends fluttering in the wind. He is drawing a bow and arrow.

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists Sagittarius in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts Sagittarius as a centaur drawing a bow and arrow, riding to our left, and labels it with the astrological symbol for Sagittarius. NOTE: This centaur appears to have breasts and may be female.

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicts “Sagittarius” as a centaur drawing a bow and arrow riding to our left.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts this constellation as a centaur armed with a bow and arrow galloping to our right. He has a cap with ribbons fluttering.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts “Sagittarius” as a centaur galloping to our left, drawing a bow and arrow. His head is

concealed by a ring around this chart: It is hard to tell if there is a head scarf flapping behind him or a cape. The centaurs limbs are concealed by the edge of the chart.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) depicts “Sagittarius” as a centaur riding to our right drawing a bow and arrow.

“Sagittarius” is listed on the *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) as a centaur riding to our left drawing a bow and arrow.

“Sagittarius” is listed in Danish astronomer Tycho Brahe’s *Astronomiae Instauratae Progymnasmata* (1602).

German uranographer Johann Bayer (1572 – 1625) depicts it in his *Uranometria* (1603) as a winged, bearded centaur carrying a bow and arrow: Bayer lists these names for this constellation: “Sagittarius, Sagittipotens, Arcitenens, Centaurus, Croton vel ut alij Crotus, Chiron, Eumenes, Semiuir, Philirides, Arcus, Telum, Thessalicae Sagittae, Elkufu, Elkaufu, Schütz, Pharetra”.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts “Sagittarius” as a bearded centaur riding to our left drawing a bow and arrow.

“Sagittarius” and “Sagittary” are listed as names of this constellation in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and depicted as a centaur drawing a bow and arrow, walking to our right. Bartsch also lists the local name “der Schüz”.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the name “Sagittarius” for this constellation.

This constellation is listed on *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) with the abbreviated title “Sagitari” and depicted as a centaur drawing a bow and arrow.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts “Sagittarius” as a bearded centaur riding to our left drawing a bow and arrow. He has a cloth wrapped around his midsection.

Sagittarius is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661: He is depicted as a centaur drawing a bow and arrow.

Dutch cartographer Frederik de Wit’s *Planisphaerium Coeleste* (1670) as a centaur drawing a bow and arrow.

English uranographer John Seller’s *A coelestiall planisphere* (1678) depicts “Sagittarius” as a centaur drawing a bow and arrow.

Sagittarius is listed by English astronomer Edmond Halley in his *Catalogus Stellarum Australium* in 1679 and depicted as a centaur brandishing a bow and arrow in his southern star chart of 1678.

The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678 by English uranographer James Clerk depicts “Sagittarius” as a centaur drawing a bow and arrow.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts "Sagittarius" as a centaur drawing a bow and arrow, riding to our left.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this "le Sagittaire", "Sagittarius", and "Τοξότης" ("archer") and depicts it as a centaur with a flowing cape who is about to draw a bow and arrow. He is galloping to our left.

Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) depicts "Sagittarius" as a centaur drawing a bow and arrow.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, depicts Sagittarius as a centaur with a red cape drawing a bow and arrow.

This is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729 as "Sagittarius": He is depicted as a centaur drawing a bow and arrow.

A wooden precession globe (1730) by German uranographer Johann Georg Puschner (Dekker 2003) lists this constellation as "Sagittarius".

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts "Sagittarius" as a centaur riding to our right drawing a bow and arrow.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts "Sagittarius" as a centaur riding to our right drawing a bow and arrow.

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) depicts Sagittarius as a centaur drawing a bow and arrow.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Sagittarius as a bearded centaur galloping to our right. He has a ragged cape flapping in the wind. He is carrying a bow and arrow.

French astronomer Abbé Nicolas Louis de Lacaille's Planisphère des Étoiles Ausralea (1756) depicts "le Sagittaire" as a centaur brandishing a bow and arrow.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) depicts "Le Sagittaire" as a centaur drawing a bow and arrow.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "le Sagitaire" as a centaur galloping to our right drawing a bow and arrow, as does the 1778 edition.

Many early catalogues including English astronomer John Flamsteed's *Atlas* of 1781 list "Sagittary", with variations including "Sagitary".

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as "Schütze" and depicts it as a centaur with a cape drawing a bow and arrow. The various editions of Bode's *Jahrbuch* also list this name. Johann Elert

Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Der Schūtze" in the text and "Schutze" on the charts, depicting him as a centaur trotting to our right, drawing a bow and arrow.

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts "Sagittarius" as a centaur drawing a bow and arrow.

Sagittarius is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801) as "Sagittarius of Boogschutter" ("Sagittarius or Archer"): He is depicted as a bearded centaur drawing a bow and arrow, riding to our right.

American uranographer William Croswell (1760 – 1834) depicts "Sagittarius the Archer" on his *Mercator Map of the Starry Heavens* in 1810 as a bearded centaur drawing a bow and arrow.

"Sagittarius" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as a winged, bearded centaur armed with a bow and arrow: He is trotting to our right.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Sagittarius in his *Celestial Atlas* in 1822: He is depicted as a Centaur with a quiver on his back drawing a bow and arrow.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts "Sagittarius" as a centaur wearing a cape and drawing a bow and arrow as he rides to our left.

Sagittarius is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822. This is depicted as a centaur with a flowing cape drawing a bow and arrow.

"Sagittarius" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): He is depicted as a bearded centaur riding to our right drawing a bow and arrow.

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Sagittarius, The Archer" as an official constellation "recognized in the catalogue of the British Association".

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as "Sagittarius, the Archer".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Sagittarius" in his *Star Atlas* (1893) and describes it as "The Archer".

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) describes this constellation as "Sagittarius, the archer,… represented as a centaur with his bow bent as if about to let fly an arrow at Scorpio".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Sagittarius" and describes it as an "Archer".

W. Brennand uses "Sagittary" in his *Hindu Astronomy* in 1899 and attributes it to the 5th century Roman Macrobius Ambrosius Theodosius.

NOTE: R. H. Allen in his *Star Names* in 1899 notes that “cuneiform inscriptions” give the names “Strong One”, “Giant King of War”, and “Illuminator of the Great City” but doesn’t identify specific star lists from that era and I can’t find any references to these in modern listings from cuneiform tablets.

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children’s book *Curious George* (1941) redesigned the in his book *The Stars - A New Way to See Them* (1952). The standard star chart shows this constellation with the Teapot asterism (see Teapot, below) in the middle with star lines coming out of the “spout”, “lid”, and “handle”. Rey transforms it from a centaur into just a human archer like this:

- The “bow” is the loop of stars Delta (δ), Lambda (λ), Mu (μ), 1, Gamma (γ), Eta (η), and Epsilon (ε) Sagittarii,
- His “head” is the triangle of stars Pi (π),Xi (ξ) 1, and Sigma (σ) Sagittarii,
- His “body” is a quadrilateral of Sigma (σ), Phi (ϕ), Zeta (ζ), and Tau (τ) Sagittarii,
- He is wearing a “skirt” which is the quadrilateral of stars Tau (τ) Sagittarii, Zeta (ζ) Sagittarii, Alpha (α) Sagittarii (Rukbat), and Theta (θ) 1 Sagittarii,
- One “leg” runs from Theta (θ) 1 Sagittarii to Iota (ι) Sagittarii,
- One “leg” runs from Rukbat to Beta (β) 1 and 2 Sagittarii (Arkab),
- His “arm” holding the bow runs from Phi () Sagittarii to Delta () Sagittarii,
- His other “arm” runs from Pi () Sagittarii through d Sagittarii and Rho () 1 Sagittarii to Upsilon () Sagittarii.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Sagittarius in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik*, in this manner:

- His “head” and “neck” is a line from Mu (μ) Sagittarii to Lambda (λ) Sagittarii,
- His “body” is a line from Lambda (λ) Sagittarii through Phi (ϕ) Sagittarii and Sigma (σ) Sagittarii to Tau (τ) Sagittarii,
- One “arm” runs from Sigma (σ) Sagittarii, through Xi (ξ) 2, Omicron (ο), Pi (π) d, and Rho (ρ) 1 Sagittarii to Upsilon (υ) Sagittarii,
- One “arm” runs from Lambda (λ) Sagittarii to Delta (δ) Sagittarii,
- His “bow” is the curve of stars Gamma (γ), Delta (δ), Epsilon (ε), and Eta (η) Sagittarii,
- Two lines of stars run out from Tau (τ) Sagittarii to form “legs”:
    - One runs through Zeta (ζ) Sagittarii and Alpha (α) Sagittarii (Rukbat) to Beta (β) 1 and 2 Sagittarii, and
    - One runs through Psi (ψ), Chi (χ), and h 1 and 2 Sagittarii to Omega (ω) Sagittarii.

Sky and Telescope Magazine, founded in 1941, depicts Sagittarius in their magazine and publications as simply the Teapot asterism (see below) with two additional lines:

- One from Epsilon (ε) to Eta (η) Sagittarii, and
- One from Lambda (λ) to Mu (μ) Sagittarii.

The French call this constellation “Sagittaire” and the Italians “Sagittario”

Sagittarius Dwarf Irregular Galaxy:

This telescopic **asterism** is the dwarf galaxy PGC 63287 (ESO 594-4) in the IAU constellation Sagittarius. It was discovered by Cesarsky et al in 1977 and by Longmore et al in 1978. It is also known as the Little Swarm of Sagittarius.

Sagittarius Dwarf Spheroidal Galaxy:

This telescopic asterism is the elliptical loop-shaped satellite galaxy of the Milky Way. It is also known as SagDEG, and was discovered in 1994 by Ibata, Gilmore, and Irwin. It is also known as "Torn in Pieces of Sagittarius" (see below).

Sagittarius Holding a Bowl:

This Latin asterism "Sagittarius tenens pateram seu crateram" is the IAU constellation Centaurus as listed in the 15th century *Alfonsine Tables*.

Sah:

This ancient Egyptian asterism "sꜣḥ" resembles an Egyptian king and is made up of the stars of the IAU constellations Orion, Eridanus, Monoceros, Lepus, and Columba:

- Alpha (α) Orionis (Betelgeuse) is the tip of a "Pharaoh's crown" with Orion's belt being a row of "jewels" around its rim,
- Kappa (κ) Orionis and Beta (β) Orionis (Rigel) are the figure's "shoulders",
- Sah is wearing an "Egyptian kilt" with the four stars Alpha (α) Leporis (Arneb), Beta (β), Epsilon (ε), and Mu (μ) Leporis at the corners, and
- His "feet" are the stars Epsilon (ε) Columbae and 52 Eridani.

Sah is a form of the Egyptian God Osiris and was known to the ancient Egyptians as the "father of the gods" and his consort was Sopdet (see Sopdet, below). This asterism appeared from the Middle Kingdom (2030 — 1650 B.C.E.) onward. R. H. Allen lists this in *Star Names* in 1899 as "Sahu" and writes that it appears in the step temple of Sakkara, the Ramesseum of Thebes (c. 3285 B.C.E.), and twice in the *Book of the Dead*, which is one of the places that the reference to Osiris is made.

Sail:

This Western asterism is in the IAU constellation Corvus. The stars Gamma (γ) Corvi (Gienah), Epsilon (ε) Corvi (Minkar) and Alpha (α) Corvi (Alchiba) are the mast, with the stars Delta (δ) Corvi (Algorab) and Beta (β) Corvi (Kraz) the corners of the sail. Size 420' X 300'. American astronomer Jeffrey Corder lists this as Corder 2338. It is also known as "Spica's Spanker".

This **telescopic** asterism is part of the Orion Nebula (Messier 42) in the IAU constellation Orion.

This German asterism "Segel" is the IAU constellation Vela.

The Uppsala Archaeoastronomical Project proposed the Great Square of Pegasus asterism in the IAU constellations Pegasus and Andromeda for this Minoan asterism. This represents the square sails used during the Bronze Age.

Sail of Tainui:

This Māori "Te Ra I Tainui" asterism is the Hyades cluster in the IAU constellation Taurus. This triangular star cluster is the sail of Tainui's boat, which stretches from "Tai Toro" (Orion's belt) to "Makariti" (the Pleiades cluster).

This Tahitian asterism “Ra’o Tainui” is the Hyades cluster in the IAU constellation Taurus (Edwards 2015). This triangular star cluster is the sail of Tainui’s boat, which stretches from the belt of Orion to the Pleiades Cluster in Taurus.

Sailboat:

There are seven **telescopic** “sailboat” asterisms:

- One is the open cluster NGC 225 in the IAU constellation Cassiopeia. This was discovered by English astronomer William Herschel in 1788. This is listed as GC 120 in the *General Catalogue* of 1864. Size 12’ X 12’. Astronomer Stephen James O’Meara’s Hidden Treasures Catalogue (2007) lists this as O’Meara 2 and states that “I can actually see the bright star outline of the hull of a boat here, and the nebulosity roughly corresponds to the sail”. O’Meara includes the adjacent dark nebulae vdB 4 and LDN 1302. This is also known as the Broken Heart Cluster (see above), “W” (see below), and the Igloo (see above).
- One is found in the IAU constellation Leo Minor: The mast contains three 9th magnitude stars, the middle star being HIP 50150. The “deck” is a line of four stars: 22 Leonis Minoris, HIP 50143, and 50059, ending in a magnitude 8.45 star. Two stars form the “keel”: HIP 50136 and a magnitude 8.9 star. Size 35’ X 35’. This is Harrington 6 on American astronomer and author Phil Harrington’s list. This is listed in *Asterisms: Small Star Patterns for Telescopes and Binoculars* by Dutch astronomer Demelza Ramakers in 2011 and by René Merting on the *Faint Fuzzies* website. John Raymond calls it “22” as it contains 22 Leo Minoris. Jeffrey Corder lists it as Corder 1976.
- One, also known as the Yacht, is in the IAU constellation Cepheus 2 degrees north of 4 Cassiopeiae. The “keel” is the stars HIP 115788 and 115569. The “top deck” is a line of stars from HIP 116022 through 115710 to a group of four stars including HIP 114898 creating the prow. A line of four 8th – 9th magnitude stars parallel to the “top deck” including HIP 115362 form the top of a “cabin” or the bottom edge of the “sail”. The curving front edge of the “sail” is the stars HIP 115304, 115203, 115503, 115772 and 116161.
- One, Do Dz 7, is found in the IAU constellation Hercules near the star Alpha (α) Herculis (Rasalgethi) with a six-star hull, one star as the mast, and a three-star sail.
- One is in the IAU constellation Cancer and is Ennis 49 on the observing list of Canadian astronomer Charles Ennis. Size 160’ X 210’. The “sail” is a triangle of stars: Tau (τ) Cancri and the double stars 67 and 61 Cancri. The “bowsprit” is 57 Cancri and HIP 43732. The “hull” is a line of 5th – 8th magnitude stars including HIP 43616, 43549, HIP 43551, the double stars Rho (ρ) 1 Cancri and 53 Cancri, and Rho (ρ) 2 Cancri.
- One is made up of stars of the IAU constellation Leo Minor. It was posted by American astronomer “Illinois” in February 2022 on *Cloudy Nights*. The “boat” is the stars 27, 28, and 30 Leo Minoris, the top of the “sail” is the two stars HIP 50951 and HIP 50929.
- One is the star cluster Collinder 15 (Trumpler 1) in the IAU constellation Cassiopeia. It is also known as the Zipper (see below). The “boat” is a row of four stars including TYC 4031-1133-1, Gaia DR3 509978545521639296, and OCI 328. The “Sail” is a group of stars alongside this line of stars. This was posted on *Cloudy Nights* by Spanish astronomer “Takuan” in November 2023.

Sailing:

This Kiribati star “Boborau” or “Bobórau” is currently unidentified (Trussel and Groves 1978).

Sailing Vessel:

This Orang Asli asterism “Jong” is made up of stars of the IAU constellations Ursa Major and Ursa Minor. The stars that make the handle of the Big Dipper asterism (see Big Dipper, above), Eta (η) Ursae Majoris (Alkaid), Zeta (ζ) Ursae Majoris (Mizar), Epsilon (ε) Ursae Majoris (Alioth) and Delta (δ) Ursae Majoris (Megrez), are linked up to the stars of the handle of the Little Dipper asterism (see Little Dipper, above), Alpha (α) Ursae Minoris (Polaris), Delta (δ), Epsilon (ε), Zeta (ζ) and Beta (β) Ursae Minoris (Kochab) to form the shape of this boat, with Alpha (α) Ursae Minoris (Polaris) being the prow (Jaafar and Khairuddin 2019). Compare this to the Malay asterism Biduk (see Rowboat, above).

This Bugis asterism “Kappala’e” or “Bintoéng Kappaka’é” is made up of stars of the IAU constellations Ursa Major and Ursa Minor. The stars that make the handle of the Big Dipper asterism (see Big Dipper, above), Eta (η) Ursae Majoris (Alkaid), Zeta (ζ) Ursae Majoris (Mizar), Epsilon (ε) Ursae Majoris (Alioth) and Delta (δ) Ursae Majoris (Megrez), are linked up to the stars of the handle of the Little Dipper asterism (see Little Dipper, above), Alpha (α) Ursae Minoris (Polaris), Delta (δ), Epsilon (ε), Zeta (ζ) and Beta (β) Ursae Minoris (Kochab) to form the shape of this boat, with Alpha (α) Ursae Minoris (Polaris) being the prow (Jaafar and Khairuddin 2019).

Sailing Vessel Star:

This Orang Asli (Batek Dè) star “Bintang Jong” is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Jaafar and Khairuddin 2014). Compare to the Semelai asterism “Bintang Jong” (see Foot Star, above).

This Malay star “Bintang Jong” is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Jaafar and Khairuddin 2014).

Sailors:

The Uppsala Archaeoastronomical Project proposed the Pleiades cluster in the IAU constellation Taurus for this Minoan asterism. This asterism was passed on to me by Dana Corby of Ariadne’s Tribe in Tacoma, Washington in November 2023. The heliacal rising and setting of the Pleiades marks the opening and closing of the sailing season (The Blessing of the Ships and Harbor Home).

Sailor’s Stars:

This German asterism “Schiffahrts Gestirn” is the Pleiades cluster in the IAU constellation Taurus as listed by German astronomer Christian Ludwig Ideler (1776 – 1846) and R. H. Allen in his *Star Names* in 1899. It earlier appeared in the *Tables of Some Obscure Words of King James I* (1611) as “Seamans stares – the seven starres.”

Saint Andrew’s Cross:

This asterism the IAU constellation Serpens as listed by R. H. Allen in his *Star Names* in 1899. He only identifies the source as “the Biblical school”. Allen describes it as the “stars in the head”, which would be Beta (β) Serpentis, Delta (δ) Serpentis, Kappa (κ) Serpentis, and Gamma (γ) Serpentis.

Saint Catherine’s Wheel:

This **telescopic** asterism is Messier 99 (NGC 4254), a grand design spiral galaxy in the IAU constellation Coma Berenices. French astronomer Pierre Méchain discovered it in March 1781. It is listed in the General Catalogue of 1864 as GC 2838 and in John Herschel’s catalogue as h 1173. Dreyer lists it in the

New General Catalogue of 1888 as “3 branched spiral”. It is also known as the Virgo Cluster Pinwheel (see below) and the Coma Pinwheel (see above).

Saint Friday:

This Belarussian asterism “Paraskeva Piatnitsa” is one of the stars in the belt of Orion asterism in the IAU constellation Orion (Avilin 2009). Saint Paraskeva (d. 11th century) was a female saint whose cult spread through Wallachia and Moldavia in the 14th century. There was confusion over her name as “Paraskeva” means “Friday”, so when this name was later translated into Serbian and Romanian it came out as “Sveta Petka” or “Sfanta Vineri” which means “Saint Friday”.

Saint John’s Cross:

This Lithuanian asterism “Šv. Jono kryžius” is the IAU constellation Cygnus.

Saint George:

This English asterism is the IAU constellation Perseus, first mentioned by Sir Thomas Browne in 1646. Robert Burnham lists this in his *Burnham’s Celestial Handbook* in 1978.

Saint Marguerite:

This star is Alpha (α) Coronae Borealis (Alphecca) in the IAU constellation Corona Borealis and the name is probably a corruption of the earlier name “Margarita Coronae” (see Pearl of the Crown, above).

Saint Mary’s Crown:

This Lithuanian asterism “Šv. Marijos karūna” is the IAU constellation Corona Borealis.

Saint Patrick’s Cross:

This asterism is made up of stars in the IAU constellation Serpens as listed by R. H. Allen in his *Star Names* in 1899. He only identifies the source as “the Biblical school”. Allen describes it as the “stars in the head”, which would be Beta (β) Serpentis, Delta (δ) Serpentis, Kappa (κ) Serpentis, and Gamma (γ) Serpentis.

Saint Paul:

This asterism is the IAU constellation Perseus. *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), describes “about a thousand years ago theologians… transmogrified [Perseus] into St. Paul”. Serviss doesn’t identify his source.

Saint Peter:

This asterism is the IAU constellation Aries. *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), claims that this was a name given to Aries, “with the Triangles [Triangulum] as his mitre.” Serviss claims that this name is about a thousand years old but doesn’t give a specific source.

Saint Peter’s Cross:

This Lithuanian asterism “Šv. Petro kryžius” is the IAU constellation Cygnus.

This **telescopic** asterism is open cluster NGC 2547 in the IAU constellation Vela. It was discovered by French astronomer Abbé Nicolas Louis de Lacaille in 1751 who listed it as Lac III 2 in his catalogue. It is GC 1636 in the *General Catalogue* of 1864. It is also known as the Golden Earring (see above), "T" (see below), the "Heart" (see above), and the Malus Cluster (see above). American astronomer Phil Harrington describes this as "a crooked cross lying on its side". Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) lists this as O'Meara 40.

Saint Peter's Fish:

This German asterism is the IAU constellation Piscis Austrinus as listed by German astronomer German astronomer Wilhelm Schickard (1592 – 1635). Edward Sherburne lists this as "the Fish taken by St. Peter with a Piece of Mony [sic] in his Mouth" in his *Sphere of Marcus Manilius* in 1675.

Saint Peter's Keys:

This Lithuanian asterism "Šv. Petro raktai" is the Hyades open cluster in the IAU constellation Taurus.

Saiph:

See Sword of the Giant, below.

Sajik:

This Meitei asterism "Sajik" is the IAU constellation Aries.

Sakurai's Object:

This telescopic star is the red giant V4334 Sagittarii in the IAU constellation Sagittarius (magnitude 10.90). It is believed to have been a white dwarf that swelled in a late thermal pulse. It was discovered in 1996 by Japanese astronomer Yukio Sakurai.

Sal:

This Korean star is Epsilon (ε) Ursae Majoris (Alioth) in the IAU constellation Ursa Major.

Salamander:

This Dakota/Lakota/Nakota asterism "Ahdeska" or "Agleska" is the IAU constellation Cygnus.

Salibobo:

This Ibaloi asterism "Salibobo" is the Hyades cluster in the IAU constellation Taurus (Santos et al 2019).

Salibubo:

This Kankanaey asterism "Salibubo" is the Big Dipper asterism in the IAU constellation Ursa Major (Santos et al 2019).

Salibubu:

This Kankanaey asterism "Salibubu" is the Pleiades cluster in the IAU constellation Taurus (Santos et al 2019).

Salkeim:

This Turkish asterism is the IAU constellation Virgo as listed in John Hill's *Urania* in 1754.

Salm:

See Leather Bucket, above.

Salmon Weir:

This Finnish asterism "Otava" or "Otavainen" ("salmon weir" or "salmon net") is the Big Dipper asterism in the IAU constellation Ursa Major (Kuperjanov 2006) and is mentioned in Carl Axel Gottlund's classic *The Kalevala* and in the *Kantelettare*. R. H. Allen lists it as "Otawa" and "Otawainen" in his *Star Names* in 1899 and it appears elsewhere as "Ottawa". The Estonians call it "Odamus" but the meaning of this ancient name is unclear. In Finnish mythology Ilmarinen hung this and the smaller net "Pikku Otava" (see Little Salmon Weir, above) on the firmament to dry when the world was just being created. Ilmarinen used these fishnets to drag the shards of eggs from the initial waters so that he could forge the world from a bird's eggs.

Salt and Pepper:

There are three **telescopic** "salt and pepper" asterisms:

- One, also known as the Scutum Salt and Pepper Cluster or the July Salt & Pepper Cluster, is the open cluster Messier 11 in the IAU constellation Scutum. It was discovered by German astronomer Gottfried Kirch in 1681. It is listed in John Herschel's General Catalogue of 1864 as GC 4437. It is also known as the Wild Duck Cluster (see below).
- One is the open cluster Messier 52 (NGC 7654) in the IAU constellation Cassiopeia. It was discovered by French astronomer Charles Messier in 1774. It is listed in John Herschel's *General Catalogue* of 1864 as GC 4957. It is also known as the Cassiopeia Salt and Pepper Cluster or October Salt and Pepper Cluster, the Flying Bird (see above), the Scorpion (see below).
- One is the January Salt and Pepper Cluster or Auriga Salt and Pepper Cluster and is the open cluster Messier 37, discovered by Italian astronomer Giovanni Battista Hodierna before 1654 in the IAU constellation Auriga. The 1864 General Catalogue lists it as GC 1295. John Herschel listed it as h 369.

Saluki Dog:

This Bedouin asterism from the Negev desert is the IAU constellation Canis Major (Steiner 2017). They see it as a dog chasing Orion for 40 days. This forty-day period represents the cold weather of December and January when Orion is in the sky and the dog represents their desire to see Orion gone and the return of better weather. The Saluki is also known as the Persian greyhound.

Saluted One of Lynx:

This **telescopic** asterism "Salutáta Lýncis" is the barred spiral galaxy NGC 2798 (Arp 283) in the IAU constellation Lynx. It was discovered by Ralph Copeland in 1874. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as "NGC 2799 is inclined to its neighbour NGC 2798 as if it bows to greet him politely".

Sāmaya:

See Peace, above.

Samdar:

This Gond asterism is the IAU constellation Auriga (Vahia 2014).

Same:

This Coptic star "Piautos" is Lambda (λ) Cancri in the IAU constellation Cancer. It is a star in the Coptic lunar station "πιαυτος" or "piautos" which comes from a Greek root meaning "the same" or "the very one". The IAU approved the name Piautos for Lambda (λ) Cancri.

Sammara Squirrelfish:

This Anutan asterism "Te Paka Poi Ika Tapu" is found in the IAU constellation Sagittarius. The "head" is a quadrilateral formed by the stars Epsilon (ε) Sagittarii, Gamma (γ) Sagittarii, Lambda (λ) Sagittarii, and Sigma (σ) Sagittarii. The "tail" is formed by the star Eta (η) Sagittarii.

Sampilos:

This Coptic star "Σάμπιλος" or "Sámpilos" is Alpha (α) Carinae (Canopus) in the IAU constellation Carina as listed in R. H. Allen's *Star Names* in 1899. Allen attributes this to "Hyde as from Kircher" (English orientalist Thomas Hyde (1636 – 1703) and German astronomer Athanasius Kircher (1602 – 1680)) and describes the meaning as "unintelligible".

Samson:

This asterism is the IAU constellation Hercules. "Samson" is an alternate name for this constellation listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch. Edward Sherburne lists it in his Sphere of Marcus Manilius in 1675 and attributes it to German astronomer Wilhelm Schickard (1592 – 1635). It appears on the 1710 globe of Italian monk and uranographer Amantius Moroncelli (Stevenson 1921). "Samson" is listed by R. H. Allen in his *Star Names* in 1899.

Samson's Hair:

This German asterism is the IAU constellation Hercules as listed by German astronomer Wilhelm Schickard (1592 – 1635). Edward Sherburne lists this in his *Sphere of Marcus Manilius* in 1675 and John Hill lists this asterism in his *Urania* in 1754.

Sanctuary:

This Latin asterism "Sacrarium" is the IAU constellation Ara:

- This appears in editions of the 8th century *Revised Aratus Latinus* as "Sacrarium".
- The Maass 1898 manuscript of the 11th century *De signis caeli ("of the signs of heaven*") lists "Sacrarius" and "Sacrarium".
- This appears in the 15th century *Alfonsine Tables* as "Sacrarius".
- Johann Bayer's *Uranometria* (1603) lists "Sacrarium".
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Phares vel Sacrarium" ("Lighthouse or Shrine") as a name for Ara.
- Robert Hues lists "Sacrarium" in his *A Learned Treatise of Globes* in 1659.
- Kauffmann's translation of the *De ordine ac positione stellarum in signis* ("*On the order and position of the stars in the signs*") in 1888 lists "Sacrarium".

- The Paris BN 5239, Paris BN 5543, and Vat lat 643 manuscripts of *De signis caeli* depict this tapering towards the top. The Paris BN 5239 and Vat lat 643 manuscript illustrators replace the flame at the top with a trefoil. The Klosterneuberg 685 and Zwettl 296 manuscripts depict a multi-story church, with three towers. The Durham Hunter 100 manuscript of *De signis caeli* depicts a multi-story structure with a domed top from which flames erupt.

Sancus:

This Latin asterism is the IAU constellation Hercules as listed in R. H. Allen's *Star Names* in 1899. Sancus was the Roman God of trust, honesty, and oaths.

Sand for Life:

This Korean asterism "Salm-eul Wihan Molae" (삶을 위한 모래) is a line of two stars attached to the corner of their asterism "Chariot of Emperor" (see above) in the IAU constellation Corvus: Epsilon (ε) and Zeta (ζ) Crv.

Sand of the Moon:

This is an Ibibio name for all the stars in the sky (Slotegraaf 2013).

Sand Shovel:

This **telescopic** asterism from *Pattern Asterisms* by American astronomer John A. Chiravalle is found beside the globular cluster Messier 53 in the IAU constellation Coma Berenices. The handle is a line of stars including HIP 64449, 64496, and 64654. The "shovel" is a circle of stars including HIP 64751, 64781, 64855, and 64849. Size 90' X 30'.

Sandal:

This Mixe, Totonac, and Nahua asterism is the Pleiades cluster in the IAU constellation Taurus.

This Tzotzil, Ch'ol and Tzeltal asterism "Sonom" is the Pleiades cluster in the IAU constellation Taurus. Compare this to the Tzotzil asterism "Chak Shonob" (see High Backed Ceremonial Sandal, above).

Sandals:

This KhoiKhoi asterism "//haron" is the stars Epsilon (ε) and Delta (δ) Orionis and belong to the husband of Khunuseti (see Stars of Spring, below), who is the star Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus (Alcock 2014).

Sandgrouses:

This Arabic asterism is two lines of stars forming a "V" in the IAU constellation Grus, Microscopium, and Piscis Austrinus: Both lines radiate out from Gamma (γ) Microscopii:

- One runs through Gamma (γ) Gruis to Delta (δ) 1 and 2 Gruis, and
- One runs through Epsilon (ε) Microscopii, Iota (ι) Piscis Austrini, Mu (μ) Piscis Austrini, Beta (β) Piscis Austrini and Delta (δ) Piscis Austrini.

Sanduleak's Star

This possible symbiotic star (binary system with a white dwarf and a red giant) is located in the Large Magellanic Cloud in the IAU constellation Dorado. It was named for American astronomer Nicholas Sanduleak.

Sansuna:

This **telescopic** Maltese star "Sansuna" is HAT-P-34 in the IAU constellation Sagitta (magnitude 10.2). It received this name in the IAU NameExoWorlds Campaign. Sansuna is a mythological giant that carried the stones of the Gozo megalithic temples on her head. It has an exoplanet named Ġgantija ("giantess").

Santa Claus:

There are two **telescopic** "Santa Claus" asterisms:

- One is Sánta 50 is listed on the webpage of Hungarian astronomer Gabor Sánta. It is a triangular group of 6 – 11th magnitude stars in the IAU constellation Corvus which includes HIP 59728, 59791, 59336, and 59465.
- One, Ennis 17 from the observing list of Canadian astronomer Charles Ennis, is made up of stars in the IAU constellations Equuleus and Delphinus.
    - Santa's "face" is a curve of stars starting at Epsilon (ε) Equulei and running around through HIP 103472, 103301A through three 7th – 8th magnitude stars to HIP 102680, 102631, 102653, 102832, and 103262, to 103391.
    - Santa's "nose" is a group of 7th – 8th magnitude stars inside this curve including HIP 103217
    - Santa's "hat" is a curve of stars starting at HIP 103863 and running through HIP 104041, 104048, 103892A, 103742, and 103722 to the tip of the hat at HIP 103414.
    - Santa's "beard" is a wedge of stars including HIP 102833, 13 Delphini, HIP 102297, 102166, and 102299.

Santa's Sleigh:

This **telescopic** asterism is the open cluster NGC 6664 in the IAU constellation Scutum. It was discovered by English astronomer William Herschel in 1785 who listed it as "VIII 12". It is GC 4426 in the *General Catalogue* of 1864. It is also known as the Teacup (see below) and the Figure Outline (see above).

Sant's Wain:

This Estonian asterism "Sandivanker" is the Big Dipper asterism in the IAU constellation Ursa Major (Kuperjanov 2006). "Sant" is a modern Estonian word referring to a physically or mentally defective person.

Sapt-khennu:

This Egyptian decan "Sapt-khennu" was in the IAU constellation Scorpius. In later Hellenistic texts it was named "ϹΠΤΧΝЄ" ("Si-sesme"). In the Testament of Solomon, it became "Akton", Aristobulus of Paneas called it "Alleinac", in Greek Hermeticism it became "Aphebis", in Latin Hermeticism "Psermes", Roman astrologer Julius Firmicus Maternus called it "Sentineu" or "Aterceni (-cem)", Cosmas of Maiuma (d. 760) called it "Kairos" (a name he also used for the decan "Ṭepā-khentet", see below), French scholar Joseph Justus Scaliger (1540 - 1609) called it "Senicer" and German Jesuit astronomer Athanasius Kircher (1602 – 1680) called it "ⲡⲁⲛⲟⲧⲣⲁⲅⲟⲥ" ("Panotragus"). It has been depicted as a man with a goat's head covered in wrappings and holding reins.

Sar en:

This Santal asterism is the Pleiades cluster in the IAU constellation Taurus as listed in R. H. Allen's *Star Names* in 1899. Allen does not supply a translation.

Sarah's Butterfly on a Knife Edge:

This **telescopic** asterism is Gebauer 3 (SG 3) in the IAU constellation Aquila. German amateur astronomer Sarah Gebauer discovered this in September 2023. Robert Zebahl describes it on the *Faint Fuzzies* website as "In the same field of view Leiter 5 (the glowing sword) is located. Two fine chains of stars bent to each other in the northwest, which immediately remind of a butterfly. With a little imagination a feeler can also be guessed".

Sarah's Galaxy:

This **telescopic** asterism is NGC 3628, a spiral galaxy with a prominent dust lane in the IAU constellation Leo. This was discovered by English astronomer William Herschel in 1784 who listed it as "V 8" in his catalogue. It is GC 2378 in the *General Catalogue* of 1864. It is also known as King Hamlet's Ghost (see below), the Hamburger Galaxy (see above), and the Vanishing Galaxy (see below). It was named for the author Sarah Williams, who shortly before she died of cancer wrote: "I have loved the stars too fond to be fearful of the night." Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) lists this as O'Meara 58 and lists the names "Hamburger Galaxy" and "Sarah's Galaxy".

Sarah's Golden Leaf:

This **telescopic** asterism is Gebauer 1 (SG 1) in the IAU constellation Cepheus. German amateur astronomer Sarah Gebauer discovered this in May 2023. Robert Zebahl describes it on the *Faint Fuzzies* website as "Starting from the orange, 4.9 mag bright star VV Cep, seven other stars with magnitudes between 5 and 8 mag form a flat, 1.6° long ellipse to the southeast, which looks quite like a leaf." The stars are VV Cep (HIP 108317), HIP 108083, HIP 107862, SAO 19678, Gaia DR3 2216816072411241856, Gaia D3 2216805111654844416, Gaia DR3 2216801022846026112, and Gaia DR3 2216596994721852032.

Sargas:

See Stinger, below.

Sargasso Sea:

This **telescopic** asterism is the spiral galaxy Messier 88 (NGC 4501) in the IAU constellation Coma Berenices and part of the Virgo Cluster. It was discovered by French astronomer Charles Messier in 1781. It is listed in the 1864 General Catalogue as GC 3049 and in John Herschel's catalogue as h 1312. *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists this as "a vast Sargasso Sea of star-illuminated cosmic matter". This is of course a reference to the Sargasso Sea in the Atlantic Ocean. It is also known as the "Brightly Whirling of Coma Berenices" (see above).

Sarin:

This star is Delta (δ) Herculis in the IAU constellation Hercules. The IAU approved the name Sarin for the star Delta (δ) Herculis Aa in 2016.

Sariru:

This Babylonian asterism "MUL.AN.TA.SUR.RA" (Hunger 1992) from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) is part of the IAU constellation Sagittarius. Sariru is believed to be an alloy of gold and copper. Hope Anthony (1996) listed it as "AN.TA.SUR.RA" and "sariru" and described it as "probably a meteor" and translated it as "flashing".

This Sumerian asterism "mulan-ta-sur-ra" from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is part of the IAU constellation Sagittarius.

This Akkadian asterism "sa-ri-ri" from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) and "Sariru" (Hunger 1992) from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) is part of the IAU constellation Sagittarius.

Sarutapiko-no-kami:

Sarutapiko-no-kami (猿田毘古神) is a Japanese God whose face is like a monkey with a long nose and is the Hyades cluster in the IAU constellation Taurus.

Sasa-sert:

This Egyptian decan "Sasa-sert" was in the IAU constellation Aquarius. In later Hellenistic texts it was named "ϲιϲρω" ("Tpa-χu"). In the Testament of Solomon, it became "Aleureth" or "Hephesimireth", Aristobulus of Paneas (2nd century B.C.E.) called it "Tonghel", in Greek Hermeticism it became "Isi", in Latin Hermeticism "Ularis", 4th century Roman astrologer Julius Firmicus Maternus called it "Oro" or "Asoer", Cosmas of Maiuma (d. 760) called it "Dike", French scholar Joseph Justus Scaliger (1540 - 1609) called it "Oroasoer" and German Jesuit astronomer Athanasius Kircher (1602 – 1680) called it "ϐρονδεογϲ" ("Brondeus").

Sasaqet:

This Egyptian decan "Sasaqet" was in the IAU constellation Aries. In later Hellenistic texts it was named "ϲικετ" ("Xont-χre"). In the Testament of Solomon, it became "Artosael" or "Arôtosael", Aristobulus of Paneas called it "Carexon", in Greek Hermeticism it became "Siket", in Latin Hermeticism "Disornafais", 4th century Roman astrologer Julius Firmicus Maternus called it "Sentacher" or "Asentacer", Cosmas of Maiuma (d. 760) called it "Eros", French scholar Joseph Justus Scaliger (1540 - 1609) called it "Acentacer", and German Jesuit astronomer Athanasius Kircher (1602 – 1680) called it "ωροϲ" ("Horus"). It has been depicted as a woman with a drum on her head, with a scepter in her right hand and a flask in her left.

Sash:

This Latin star "Cingulum" ("sash") is Beta (β) Andromedae (Mirach) in the IAU constellation Andromeda. Compare this to Waist Cloth, below.

Satakara:

This Vedic star "Satakara" is Lambda (λ) Aquarii in the IAU constellation Aquarius as listed by W. Brennand in his *Hindu Astronomy* in 1896. Compare to their asterism "Shatabhisha" (see Comprising a Hundred Physicians, above).

Satan:

This German asterism is the IAU constellation Sagitta as listed by German astronomer and Jesuit scholar Athanasius Kircher (1602 – 1680) and later listed in John Hill's *Urania* in 1754.

This is an alternate name for the Egyptian decan "Kenmu" (see above) used by Aristobulus of Paneas.

Satan's Head:

This Hebrew asterism "Rōsh ha Sāṭān" is the asterism Medusa's Head (see above) and is listed in R. H. *Allen's Star Names* in 1899. John Chilmead (1899) listed it as "Rosch Hassatan", which he derived from Robert Hues' *A Learned Treatise of Globes* (1659).

Satellite Cluster:

This **telescopic** asterism is the open cluster NGC 2244 in the Rosette Nebula (Caldwell 49) in the IAU constellation Monoceros. English astronomer William Herschel discovered this open cluster (NGC 2244) in 1784 and listed it as "VII 2" in his catalogue, and it is listed as GC 1424 in the *General Catalogue* of 1864. It is also known as the Pearl Cluster and the Harp Cluster.

Satellite Galaxy:

This American **telescopic** asterism is the interacting dwarf elliptical galaxy NGC 770 in the IAU constellation Aries. Its core is rotating in the opposite direction to its outer parts. It has this name as it is orbiting the Fiddlehead galaxy NGC 772. This name was posted on the *Deep Sky Forum* in November 2014 by Mark Friedman.

Satet:

See Sopdet, below.

Saturn Like of Leo Minor:

This **telescopic** asterism "Saturnína Leónis Minóris" is the barred lenticular galaxy NGC 2859 in the IAU constellation Leo Minor. William Herschel listed this as "I 137", his son John Herschel listed it as h 593, and later as GC 1837 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Saturn Nebula:

This **telescopic** asterism is the planetary nebula NGC 7009 (Caldwell 55) in the IAU constellation Aquarius. It was discovered by English astronomer William Herschel in 1782 who listed it as "IV 1". It is GC 4628 in the *General Catalogue* of 1864. This was the first deep sky object to be discovered using a reflector telescope. English astronomer William Parsons, 3rd Earl of Rosse, gave it this name in the 1840s when telescopes had improved to the extent that they allowed the observer to see the "Saturn" shape: Parsons described it as having "ansae" (i.e. most protruding part of planetary rings as seen from a distance) and as having "a surrounding nebulous ring seen edgeways". German astronomer Hermann Joseph Klein (1844 – 1914) lists the "Saturn Nebula" in his *Star Atlas* (1893). *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), describes it as resembling the planet Saturn, and attributes this to the observations of Lord Rosse. The 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) lists this as the "Saturn Nebula". *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this as the "Saturn Nebula". Size 1' X 0.7'. It is also known as the "Alien Ship" (see above).

Saturn Ring Galaxy:

This **telescopic** asterism is the barred spiral galaxy NGC 7184 in the IAU constellation Aquarius. This was discovered in 1783 by William Herschel who listed it as "II 1". It became GC 4739 in the *General Catalogue* of 1864. This name was posted in October 2022 by Jimi Lowrey in the *Adventures in Deep Space* site (https://adventuresindeepspace.com/dsf_ootw_constellation.html). It is also known as the "Red Ringed of Aquarius".

Saturnus:

This asterism is the IAU constellation Orion as listed by R. H. Allen in his *Star Names* in 1899. The origins of this name are unsure.

Satyr of Virgo:

This **telescopic** asterism "Sátyrus Vírginis" is the barred spiral galaxy NGC 4178 in the IAU constellation Virgo. It was discovered in 1835 by John Herschel who listed it as h 1125 and later as GC 2775 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They call it this because of "its rather rough aspect and the prominent, 'erect' extension at its lower part".

Satyros:

This Egyptian asterism is one of the paranatellonta of the decans of Cancer as listed in *the Sphaera Barbarica* described by Teucros (Mosenkis, date n/k) and may be the IAU constellation Capricornus.

Saucepan:

This Dutch asterism "Steelpanetje" is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above).

This French asterism "Casserole" is the IAU constellation Ursa Major as listed in R. H. Allen's *Star Names* in 1899.

This Kamilaroi asterism, also known as the "old saucepan", is the IAU constellation Orion (Fuller et al 2014). One end of the constellation is the "pot" with the belt of Orion being one end of this and a line of stars from Delta (δ) Orionis (Mintaka) through Gamma (γ) Orionis (Bellatrix) and Lambda (λ) Orionis (Meissa) to Alpha (α) Orionis (Betelgeuse) is the "handle". Their rainy season occurs when this "saucepan" tips (in February).

Saucer of Cetus:

This **telescopic** asterism "Scutélla Céti" is the barred lenticular galaxy NGC 936 in the IAU constellation Cetus. This was discovered by English astronomer William Herschel in 1785, who listed it as IV 23. It is listed as GC 544 in the General Catalogue of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name because "it looks like a dish", although they also say that "the name ironically hints at flying saucers". It is also known as "Darth Vader's Starfighter" (see above).

Saul's Cup:

See Joseph's Cup, above.

Savetis:

This Persian star "Savetis" ("watcher of the west") is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius and is part of their asterism Four Guardians of Heaven (see above). Compare this to Sargaz, above and to the Zoroastrian asterism "Sadwēs" (see General of the South, above).

Savitra:

This Vedic asterism listed by the maharshi Parasara, is Alpha (α) Corvi (Alchiba), Beta (β) Corvi (Kraz), Gamma (γ) Corvi, Delta (δ) Corvi, and Epsilon (ε) Corvi for this asterism, which later became the asterism Hasta (see Hand, above).

Saw Whet Owl:

This Mi'kmaq star "Kupkwe'j" is Eta (η) Boötis (Muphrid) in the IAU constellation Boötes. It is part of their asterism Muin and the Seven Hunters (see above).

Saxen:

This asterism "Saxen" is made up of the stars of the IAU constellation Equuleus and Cygnus by German astronomer Erhard Weigel (1625 – 99) who produced his *Astrocopium Orbi Europaeo Sacrum* chart in 1661, 1681 and 1688 in which he tried to replace existing constellations a new system based upon the heraldry of the nation states and principalities of seventeenth century Europe, as well as of its principal hierarchies and social classes. It is depicted as a laurel wreath with crossed swords in front above which is a red and white striped sphere with a golden crown around it.

Saxophone:

There are four **telescopic** "saxophone" asterisms:

- One, also known as Little Cloud of Pirates, is Melotte 20, the Alpha Perseus Cluster in the IAU constellation Perseus, a cluster of 50 bright stars to one side of the star Alpha (α) Persei (Mirfak). This is O'Meara 14 in astronomer Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) and O'Meara states "some people call this the Saxophone Cluster".
- One is Ennis 1, in the IAU constellation Virgo next to M 104, listed in November 2021 by Canadian astronomer Charles Ennis. The "mouthpiece" is HD 110050, and the body of the instrument runs down through Gaia DR3 3530242119771017472, Gaia DR3 3530205904606774016, Gaia DR3 3530205320491219968, HD 109898, HD 109916, HD 109899, HIP 61654, HIP 61656, to HD 109863.
- One is Corder 3881 in the IAU constellation Sagittarius and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 65' X 25'. This includes the stars HIP 96096, 95965, and 96021.
- One is in the IAU constellation Pisces and is Corder 4922 on the observing list of American astronomer Jeffrey Corder. Size 75' X 35'. This is ten 8^{th} – 11^{th} magnitude stars including HIP 116479, 116344, 116185, and 116223.

Sažáry

This Russian asterism "Sažáry" is the Pleiades cluster in the IAU constellation Taurus (Avilin 2018).

Scabbard:

This Latin asterism “Vagina” is the sword of Orion in the IAU constellation Orion as listed by Roman general Germanicus (15 B.C.E. – 19 C.E.) and in R. H. Allen’s *Star Names* in 1899.

Scale:

This Persian asterism “šāhīn” is made up of stars in the IAU constellation Aquila: Alpha (α) Aquilae (Altair), Beta (β) Aquilae (Alshain), and Gamma (γ) Aquilae.

Scale Beam:

There are four Arabic asterisms with the name “Al Mīzān”:

- One is two stars in the IAU constellation Triangulum: Alpha (α) and Beta (β) Trianguli:
    - This was later latinized to “Al Mizan”, “Mizan”, “Almisan”, “Almizen”, and “Mizin”.
    - A 14th century Christian Spanish astrolabe #4560 lists “al mīzān” (King 2002).
    - German astronomer Wilhelm Schickard (1592 – 1635) listed it as “Midsanon”.
    - “Mizin” and “Midsanon” are listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
    - Robert Hues (1659) and John Chilmead (1899) listed it as “Mizan Aliemin”: Hues translated this as “the Right-hand or Southern Balance”.
- One is the star Beta (β) Trianguli, which has the latinized name “Mizan”.
- One is the stars Delta (δ), Eta (η), and Theta (θ) Aquilae, whose name was latinized to Almizan (I, II, & III) in the IAU constellation Aquila. German astronomer Christian Ludwig Ideler (1776 – 1846) lists these.
- One, “al-Mīzān” is a name for the IAU constellation Libra as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010):
    - Shams al-Dīn Muhammad B. Mu’ayyad al-‘Urdī’s inlaid celestial globe (1288) lists the name “al-Mīzān for Libra.
    - Johann Bayer’s *Uranometria* (1603) lists “Mizan” as an alternate name for Libra.
    - John Hill lists “Misan” or “Al Misan” as “a pair of scales” and identifies this as an Arabic name for the constellation Libra in his *Urania* in 1754.
    - German astronomer Johann Bayer (1572-1625) gave “al Mizan” as a Hebrew name for Libra

This asterism with the Greek name “Σταθμός” (“Stathmós”) is the IAU constellation Libra as listed by German astronomer Johann Bayer (1572-1625).

This Hebrew asterism “Mozenaim” is the IAU constellation Libra as listed in John Hill’s *Urania* in 1754.

Scales:

This Chinese xing guan “Hengshi” from the 3 Kingdoms and Ming Dynasty Period is the belt of Orion in the IAU constellation Orion. e

This Chinese Chenzhuo xing guan “Hengshi” is the Belt of Orion asterism in the IAU constellation Orion: Zeta (ζ) Orionis, Epsilon (ε) Orionis, and Delta (δ) Orionis. This is also known as “Three Stars”.

This Babylonian asterism from the MUL.APIN tablets “ZI.BA.AN.NA” (Anthony 1996), or “GIŠ.ERIN” is made up of the stars of the IAU constellations Libra and Virgo. It is listed in the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) as “MUL.zi-ba-ni-tum” (Hunger 1992), in the

from the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period as “mul zi-ba-ni-tum” (Bartel van der Waerden 1974) and “mul zi.ba.an.na” (Koch-Westenholz 1995), and on the K 8538 planisphere as “mulGI-GI” or “mulzi-ba-an-na” (Koch 1989). The center star is Mu (μ) Virginis. A circle of stars around Mu (μ) Virginis include the double star Alpha (α) Librae (Zubenelgenubi) and the stars Beta (β) Librae (Zubeneschamali) and Iota (ι), Kappa (κ), 109 and 110 Virginis.

This Babylonian and Sumerian asterism “zi-ba-nit” from the BM 78161 catalogue (Leichty 1988) is identical to the Babylonian asterism “ZI.BA.AN.NA” above.

This Akkadian asterism from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) is “Zibānītu”, or “Zibanitu” (Hunger 1992, Parpola 1993, Anthony 1996) and is identical to the Babylonian asterism “ZI.BA.AN.NA” above.

This Seleucid asterism “ZI” or “RIN” (“Scales”) from tablet SBTU II No 43 (W 22646) from the Seleucid (Hellenistic) period (275 B.C.E. – 116 C.E.) is the IAU constellation Libra (Foxvog 1993).

This Sumerian asterism “mulzi-ba-an-na” as listed in the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is identical to the Babylonian asterism “ZI.BA.AN.NA” above.

This Akkadian asterism “zi-ba-ni-tum” as listed in the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is identical to the Babylonian asterism “ZI.BA.AN.NA” above.

This Persian asterism “Zibanitu” from the list of Masu Stars from the K 250 and VAT 9418 lists of the Persian (Achaemenid) Period (539 – 331 B.C.E.) as listed by Franz Boll’s *Ancient Observations of Coloured Stars* in 1918 and Alfred Jeremias in his *Handbuch der Altorientalischen Geisteskultur* in 1929 and “zi.ba-ni-tu” from the list of Zodiacal Signs in VAT 4956 from the same period (Bartel van der Waerden 1974) is identical to the Babylonian asterism ZI.BA.AN.NA above. Ernst Weidner lists it as “zi-ba-an-na” and “ku-an-mku-ki-sikil-la” in his *Fixsterne* in 1971.

This Egyptian Dendera asterism is the IAU constellation Libra (Hoffman 2017). It is depicted as scales with a seated figure above.

This Hebrew asterism “Moznayim” is the IAU constellation Libra as listed in their list of constellations of the zodiac (mazzaroth) in their Talmud and is related to their month Tishrei. Italian astronomer Giovanni Battista Riccioli (1598 – 1671) lists it as “Miznaim”.

This German asterism “Waage” is the IAU constellation Libra as depicted in the *Nördliche Sternhimmel* sky map of O. S. Reuters based on the work of German astronomer Johann Elert Bode (1747 – 1826).

This Syrian asterism “Masaʾthā” is the IAU constellation Libra. Italian astronomer Giovanni Battista Riccioli (1598 – 1671) listed it as “Masathre”.

This Persian asterism “Terāzū” or “Tarāzūk” is the IAU constellation Libra.

This Romanian asterism “Solzi” or “Cântarul” is the IAU constellation Libra (Ottescu 2009, Lite, Lodina, and Ignat 2018). It is also known as the “Balance” (see above).

This Macedonian asterism, “Libra” or “Terezii”, is made up of stars of the IAU constellations Lepus and Orion (Cenev 2014):

- The “balance beam” of the scales is a line between the stars Kappa (κ) Orionis and Beta (β) Orionis (Rigel), and
- The “suspended scale” is three lines running from 29 Orionis down to the line of stars HIP 25353, Nu (ν) Leporis, and Iota (ι) Leporis with a curving line formed by Lambda (λ) and Kappa (κ) Leporis forming the bottom of the scale cup.

Scales Deity:

The Chinese translation of the Sūryagarbha-parivarta from 585 describes the IAU constellation Libra as “Tiānchèng shén” (天秤神) or “scales deity” (Kotyk 2017).

Scales of Astaea:

This asterism is the IAU constellation Libra. *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) describes Libra as representing “the scales of Astraea (Virgo), the goddess of justice”.

Scales of Justice:

One is the open cluster the Theta (θ) Carinae cluster, IC 2602 (Melotte 102, Caldwell 102) in the IAU constellation Carina. It appeard in Abbé Nicholas Louis de Lacaille’s original catalogue of 1755. Later it was recorded by American astronomer Solon Irving Bailey (1854 – 1931). It was given this name by South African astronomer Pierre de Villiers in 2016. It is also known as the Southern Pleiades (see below), and the Bow Tie (see above).

Scâpi:

This Chakavian asterism is the IAU constellation Orion.

Scar Three:

This **telescopic** asterism is a straight line of stars in the IAU constellation Vela. It is Lorenzin 25 on Tom Lorenzin’s list of asterisms. This is the four stars HD 95582, HIP 53836, HIP 53806, and HIP 53771.

Scar Too:

This **telescopic** asterism is a straight line of stars in the IAU constellation Circinus. It is Lorenzin 24 on Tom Lorenzin’s list of asterisms. This starts at HIP 72332 and runs through HIP 72364, HIP 72403, HD 129918, and HD 129936 to HIP 72438.

Scarab:

There are two Egyptian asterisms by this name:

- One, “Scarabeus”, dates to about 2000 B.C.E. and is the IAU constellation Cancer.
- One, “Scarabeus”, is a is one of the paranatellonta of Cancer as listed in the Sphaera Barbarica described by Teucros (Mosenkis, date n/k) and is the IAU constellation Lepus.

NOTE: Scarabs are insects found in desert tombs and related to the Sun God Ra. It is found in the Old Kingdom (3100 B.C.E.) related to the 13th nome (district) of Lower Egypt “ḫḳꜣ-ʿnḏw”.(Berio 2014).

This Greek lunar mansion “Scarabeus” is listed in the *Magical Papyrus 121*, preserved in the British Museum, and dated to the 3rd century C.E. (Mosenkis, date n/k). Mosenkis describes it as being made up

of stars of the IAU constellation Lepus or Ophiuchus. NOTE: Compare this to the Egyptian asterism Scarab. This “scarabeus” also appears next to the Greek asterism Crab (see above) on the Daressy Zodiac of the Roman Imperial Period.

This **telescopic** asterism is the planetary nebula NGC 40 in the IAU constellation Cygnus. It was discovered by English astronomer William Herschel in 1787 and listed in his catalogue as IV 58. It is GC 20 in the 1864 *General Catalogue*.

Scarecrow:

There are two **telescopic** “Scarecrow” asterisms:

- One is the open cluster Messier 25 (IC 4725) in the IAU constellation Sagittarius. It was discovered by Swiss astronomer Philippe Loys de Chéseaux in 1745 and included in French astronomer Charles Messier’s list in 1764. It is American astronomer DeLisle Stewart (1870 – 1941) that got it listed in the *Index Catalogue* as IC 4725. It was given this name by American astronomer Wayne Schmidt, who describes it as a windblown scarecrow.
- One is the irregular dwarf galaxy IC 1613 (Caldwell 51) in the IAU constellation Cetus. It was discovered by Max Wolf in 1906. American astronomer Stephen O’Meara gave it this name in 2002, inspired by the Straw Man in *The Wizard of Oz*.

Scarlet Ibis:

This Carib asterism “Warayuman” or “Wara” represents the scarlet ibis (Eudocinus Ruber). Its present location is unknown (Magaña, and Jara, 1982).

Scarlet Macaw:

This Carib asterism “Knoloyuman” or “Knolo” represents the scarlet macaw (Ara macao). This is known to rise in September, but its present location is unknown (Magaña, and Jara, 1982).

Scattered of Serpens:

This **telescopic** asterism “Dissipátus Serpéntis” is the barred spiral galaxy NGC 5964 in the IAU constellation Serpens. John Herschel listed this as h 1929 and later as GC 4118 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “the spiral arms of this late-type galaxy are irregular and scattered”.

Scattering Auspice:

This Arabic asterism “Saʿad Nāshirah” (سعد ناشرة) “Al Saʿd al Nashirah”, or “sa’d Nashira” is a line of two stars in the IAU constellation Capricornus: Gamma (γ) Capricorni and Delta (δ) Capricorni. This has been translated as “Lucky One”, “Bearer of Good News”, or “Lucky Star of Nashira”, but appears on the Arabic list of Auspicious Asterisms as “Scattering Auspice” (Adams 2016):

- This was later latinized to “Nashira”.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Saʿdubnáshirah, the fortunate star bringing good tidings” and assigned it to Gamma (γ) and Delta (δ) Capricorni.
- Dorn (1829) lists this as “Beneficent Star of the Concealed” and describes it as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya’ al-Qazwini (1203 – 1283).

- Gamma (γ) Capricorni is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Sad naschurah": The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822.
- NOTE: R. H. Allen wrote in his *Star Names* in 1899 that the "Standard Dictionary" gave the name "Saib' Nasch-rú-ah": I believe this to be the *Standard Dictionary of Facts* (1908 – 1924). The Arabs named it the Scattering Auspice as it represents the wind that distributes rain clouds.
- The IAU approved the name Nashira for the star Gamma (γ) Capricorni A.

Sceptre:

This German star "Sceptrum" is 53 Eridani in the IAU constellation Eridanus. It was formerly listed as "Rho (ρ) Sceptri" or "Brandenburgici" in the obsolete asterism "Sceptrum Brandenburicum" (see Brandenburg Sceptre, above). "Sceptrum" appears in Giuseppe Piazzi's *Palermo Catalogue* of 1814. The IAU approved the name Sceptrum for the star 53 Eridani A in 2017.

Sceptre and Hand of Justice:

This French asterism "Sceptum et Manus Iustitiae" is the IAU constellation Lacerta. It was created by French architect and uranographer Augistin Royer to honor Louis XIV in 1679. The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this "Le Sceptre", "Sceptre", and "σκήπτρο".

Sceptrum:

See Sceptre, above.

Schaeberle's Flaming Star:

This runaway star is AE Aurigae, the source of the Flaming Star Nebula, IC 405 (Caldwell 31, SH 2-229, vdB 34, LBN 795, Ced 42), in the IAU constellation Auriga. It is named after American astronomer John Martin Schaeberle (1853 – 1924) who first recorded it.

Scheat:

See Upper Arm, below.

Schedar:

See Breast, above.

Scheiner's Star:

This star is BD +15°2083 (HIP 47211, HD 83225) in the IAU constellation Leo. It is named after German astronomer Julius Scheiner (1858 – 1913).

Scholz's Star:

This **telescopic** binary star system is a late-M dwarf and a T-type brown dwarf in the IAU constellation Monoceros (magnitude 18.3). It discovered in 2013 by Ralf-Dieter Scholz. It has large parallax, but relatively small proper motion, and it is known for its close flyby to the Sun about 70,000 years ago.

Sciapod of Corvus:

This **telescopic** asterism "Scíapus Córvi" is the barred lenticular galaxy NGC 4027 (Arp 22) in the IAU constellation Corvus. William Herschel listed this as "II 296". John Herschel listed this as h 3371 and later as GC 2661 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): The Plinian Sciapods were one-legged people who protected themselves from sunlight by using their big foot as a parasol.

Science Yoke:

"Eulas Uedon" or "Eolas Uedon" is a proposed early Celtic name for the IAU constellation Cancer from the Book of Ballymote through an etymological reconstitution (Boutet 2014).

Scimitar:

This Babylonian asterism "Gamlu" (Hunger 1992, Boutet 2014) is an alternate translation of the name of the Babylonian asterism "Crook" (see above).

This Khorasmian and Sogdian asterism "Khamshish" is the Sickle of Leo asterism as listed in R. H. Allen's *Star Names* in 1899.

Scissor Handles:

This **telescopic** asterism is Vastagh 2, listed in 2009 by Hungarian astronomer László Vastagh, which is in the IAU constellation Gemini. Vastagh describes it as a "scissor handle shape" formed of "two intersecting cascades of bright stars" with an apparent diameter of 18.5'. Vastagh notes that "it is very interesting that the 8 members of the association form 4 opposite mirror image pairs… It's brightest star is HD 257331 of magnitude 8.48".

Scissors:

This **telescopic** asterism is Corder 3762 in the IAU constellation Sagittarius and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 180' X 120'. Corder describes it as "2 star chains that cross and form a 'scissors' shape. There are about 25 stars involved, mostly 8th and 9th magnitudes. The short handles of the scissors are at the south and the long 'blades' are to the north". This includes the stars HIP 93736 and 93767 in the "handles". One "blade" runs out through HIP 93963 to 94045 and the other "blade" runs out to HIP 94491.

Scoop:

This Estonian asterism "Kulp" is the IAU constellation Ursa Minor and appears in the *Sky of Ests (Chudes)* by Aleksander Heintalu (Sass of Vigala) (Kuperjanov 2006).

Scores of Stars:

This Lokono or Arawak asterism "Yôkoro Wiwa" is the Pleiades cluster in the IAU constellation Taurus (Rybka 2018).

Scorpion:

This Greek asterism "Σκορπίος" ("Skorpíos") is the IAU constellation Scorpius as it originally appeared in Ptolemy's *Almagest* (2nd century). This was Latinized to "Scorpios" and "Scorpio", the latter term being the most commonly used, although Roman statesman Marcus Tullius Cicero (106 – 43 B.C.E.), Roman writer Quintus Ennius (239 – 169 B.C.E.), and 1st century Roman poet Marcus Manilius all called it "Nepa" or "Nepas". The difference between today's Scorpius and Ptolemy's is that he included two extra

lines of stars originating in Alpha (α) Scorpii (Antares). One runs out to Rho (ρ) Scorpii and the other to Nu (ν) Scorpii. The name "Nepa" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and in Johann Bayer's *Uranometria* (1603).

This Arabic asterism "Burj Aleaqrab" (برج العقرب) is the IAU constellation Scorpius.

This Bedouin asterism "Al-ʿAqrab" (العقرب) is the IAU constellation Scorpius.

NOTE: This Greek asterism appears on the Daressy Zodiac of the Roman Imperial Period next to a bull or ox.

This Arabic asterism "ʿAqrab" (عَقْرَب) or "Al ʿAḳrab" is the IAU constellation Scorpius:

- "al-'Aqrab" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- This was later latinized to "Acrab", "Akrab", "Alacrab", "Alatrab", "Alatrap", and "Hacrab".
- Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) lists the name "al-'aqrab" for this constellation.
- A 14th century Christian Spanish astrolabe # 4560 lists "al 'aqrab" (King 2002).
- It is depicted on gores of the globe of Petrus Plancius published in 1598 by Jodocus Hondius as a scorpion labelled "Scorpius" and "Alatrab",
- in Johann Bayer's *Uranometria* (1603) lists "Hacrab", "Alatrab", and "Alacrab".
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Arato", "Hacrab", and "Alacrab" as alternate names for Scorpius.
- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) listed it as "Aakrab", "Hacerab" and."Acrobo Chaldaeis" ("Acrobo of the Chaldeans").
- The names "Alacrab", "Alatrab", Arato", and "Alacrabo" are listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
- Robert Hues lists it as "Alatrab" and "Alacrab" in his *A Learned Treatise of Globes* in 1659.
- John Hill lists "Akrab" in his *Urania* in 1754.
- Admiral William Henry Smyth's *Prolegomena* of 1844 lists "Acrab" for Beta (β) 1 Scorpii.
- The first edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists both "Acrab" and "Akrab" for Beta () Scorpii, but his 14th edition (1959) just lists "Acrab".
- The IAU approved the name Acrab for Beta (β) Scorpii Aa.

This Egyptian Dendera asterism is the IAU constellation Scorpius (Hoffman 2017).

This Hebrew asterism "'Akrab" or "ʿAḳrabh" is the IAU constellation Scorpius as listed in their list of constellations of the zodiac (mazzaroth) in their *Talmud* and is related to their month Cheshvan. John Hill lists the Hebrew name as "Akalkrab" in his *Urania* in 1754. R. H. Allen writes in this *Star Names* in 1899 that 12th century Spanish Rabbi Abraham ibn Ezra described the Hebrew name as "Kᵉsīl" ("Kesil"), but elsewhere points out that this is related to Orion (see Fool, above).

This Romanian asterism "Scorpia" ("female scorpion") is the IAU constellation Scorpius (Ottescu 2009, Lite, Lodina, and Ignat 2018).

This Maricopan asterism is the IAU constellation Scorpius.

This Kolam asterism "Tuntor" or "Tootera" is the IAU constellation Scorpius (Vahia 2014).

This Gond asterism “Michu” is the IAU constellation Scorpius (Vahia 2014). It is related to their asterism Corpse (see above).

This Mayan asterism, its name in modern K’iche language (Sokol 2022) being “pa raqan kej” (“under the deer’s leg”) appears in several forms depending on the source:

- To the Tojolabal it is the IAU constellation Ursa Major.
- To The Tzotzil (Zinacantán) asterism “Tsek K’anal” is the IAU constellation Scorpius (Milbrath 1999).
- To the Yucatec (Yucatán and Quintana Roo) it is the IAU constellation Scorpius (Milbrath 1999).
- To the Yucatec southeast of Valladolid, it runs between the IAU constellations Gemini and Canis Major: This is probably a line of stars from Alpha (α) Canis Majoris (Sirius) through Alpha (α) Canis Minoris (Procyon) to the stars Beta (β) Geminorum (Pollux) and Alpha (α) Geminorum (Castor).
- To the Yucatec in Yalcobá it runs between the IAU constellations Orion and Canis Major: This is probably a line of stars from Alpha (α) Canis Majoris (Sirius) through the belt of Orion to Gamma (γ) Orionis (Bellatrix).
- Colonial period sources list the Mayan asterism “Sina’an” as made up of stars of the IAU constellations Scorpius and Lupus. This doesn’t follow the pattern of the IAU constellation Scorpius. It is made up of the stars Alpha (α) Scorpii (Antares), Rho (ρ), Zeta (ζ), and N Scorpii, and h Lupi. The Paris Codex associates it with Scorpius (Milbrath 1999, Milbrath 2014).

NOTE: The modern K’iche name suggests that the nearby constellation Sagittarius was considered a deer (see Deer, above).

This Kogi asterism “Seiku” is the stars around Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius.

This Q’eqchi’ and Tojolabal asterism “Tzec” or “Xok” is the Big Dipper asterism in the IAU constellation Ursa Major (Milbrath 1999).

This Barasana asterism “Kotibaha” is the stars of the IAU constellations Centaurus and Lupus (Hugh-Jones 2006).

This Ikoots asterism “Napïp” is the IAU constellation Scorpius.

This Babylonian asterism from the MUL.APIN tablets “GIR.TAB”, “MUL.GIR.TAB” (Parpola 1993), or “MUL.GABA-GIR.TAB” (Hunger 1992) is the IAU constellation Scorpius (Boutet 2014). Anthony Hope lists it as “GÍR.TAB” or “zuqaqipu” in his *A Guide to Ancient Near Eastern Astronomy* in 1996. It is listed in the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) as “MUL.GIR.TAB” (Bartel van der Waerden 1974) or “MUL.GABA-GIR.TAB” and in the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period as “mul gir.tab” (Koch-Westenholz 1995), and in the BM 78161 tablets (Liechty 1988) as “gir-tab”. Oddly, “Lisi” or “Lisin” (“Lion’s heart”) is the name that the Babylonians gave to the star Alpha (α) Scorpii (Antares).

This Seleucid asterism “GIR” or “GIR.TAB” from tablet SBTU II No 43 (W 22646) from the Seleucid (Hellenistic) period (275 B.C.E. – 116 C.E.) is the IAU constellation Scorpius (Foxvog 1993). These names also appear in Assyrian sky lore.

This Sumerian asterism “mulĝír-tab” listed in the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) and as “gir-tab” in the BM 78161 tablets (Liechty 1988) is the IAU constellation Scorpius.

This Assyrian asterism “Irat Zuqaqipi” (Hunger 1992) listed in the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) is the IAU constellation Scorpius.

This Akkadian asterism “zu-qa-qi-pi” listed in the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is the IAU constellation Scorpius.

This Persian asterism “GIR.TAB” from the list of Tikpi Stars from the K 250 and VAT 4918 lists of the Persian (Achaemenid) Period (539 – 331 B.C.E.) is the IAU constellation Scorpius (Jeremias 1929, Bartel van der Waerden 1974). Ernst Weidner lists it as “gir-tab” in his *Fixsterne* in 1971.

NOTE: The name Girtab is under consideration by the IAU for the star Kappa (κ) Scorpii in the IAU constellation Scorpius.

This Tibetan khyim (zodiac constellation) “sThig” or “Dikpa” is the IAU constellation Scorpius (Johnson-Groh 2013).

This Syrian asterism “Akrevā” is the IAU constellation Scorpius as listed in R. H. Allen’s *Star Names* in 1899.

This Persian asterism “Ghezdhum” or “Kazhdūm” is the IAU constellation Scorpius as listed in R. H. Allen’s *Star Names* in 1899 and in John Hill’s *Urania* in 1754.

This Vedic asterism “Kaurpya” is the IAU constellation Scorpius as listed by Indian astrologer Varāhamihira (c. 505 – c. 587) and in R. H. Allen’s *Star Names* in 1899. Allen notes that Iranian astronomer Abu Rayhan Muhammad ibn Ahmad al-Biruni (973 – c. 1050) listed the Vedic name as “Kaurba”.

This Tamil asterism “Vrishaman” is the IAU constellation Scorpius.

This Hindu asterism “Āli”, “Viçrika”, or “Vrouchicam” is the IAU constellation Scorpius as listed in R. H. Allen’s *Star Names* in 1899. Allen describes this as names from “Early India”.

This Sinhalese asterism “Ussika” is the IAU constellation Scorpius as listed in R. H. Allen’s *Star Names* in 1899.

This English asterism “Scorpioun” is the IAU constellation Scorpius as listed by Geoffrey Chaucer (c.1340s – 1400) in his *Hous of Fame*.

This Norman asterism “Escorpiun” is the IAU constellation Scorpius.

This Saxon asterism “Throwend” is the IAU constellation Scorpius.

This Carib asterism “Sibirisiyuman”, Sibirisi”, or “Scorpiones” is the IAU constellation Scorpius (Magaña, and Jara, 1982).

There are seven **telescopic** “scorpion” asterisms:

- One, called the “Baby Scorpion”, “Mini Scorpion”, or “Mini Scorpius,” is in the IAU constellation Hydra near the star Sigma (σ) Librae. One end is a “Y” of stars including HIP 71770, 72056, 71943 and 53 Hydrae. A line of stars runs from 53 Hydrae through 54, 55, 56, 57, and 58 Hydrae before curving through a tail of the stars HIP 72930 and 59 Hydrae. Size 300’.

- One is the open cluster NGC 1342 in the IAU constellation Perseus. It was discovered by William Herschel in 1799 and listed in his catalogue as “VIII 88”. It is GC 717 in the *General Catalogue* of 1864. It is located almost halfway between Beta (β) Persei (Algol) and Zeta (ζ) Persei. It is also known as the Little Scorpion, the Stingray, or the Sea Robin
- One is the open cluster NGC 5281 in the IAU constellation Centaurus. It was discovered by French astronomer Nicolas Louis de Lacaille in 1751-2 and listed as “I 7”. It is GC 3640 in the *General Catalogue* of 1864. It is also known as the Little Scorpion.
- One, also known as Mini Scorpius, is Do Dz 6, in the IAU constellation Hercules in the corner of the Keystone (see Keystone of Hercules, above) near Eta (η) Herculis. This asterism has a “tail” of four stars and a “head” of five stars including the star HIP 81967.
- One is the open cluster Messier 52 (NGC 7654) in the IAU constellation Cassiopeia. It was discovered by French astronomer Charles Messier in 1774. It is listed in John Herschel’s *General Catalogue* of 1864 as GC 4957. It is also known as the Cassiopeia Salt and Pepper Cluster, the October Salt and Pepper Cluster, the Scorpion, and a Crab (Jumping off a Rock).
- One is the Stinging Scorpion Cluster, open cluster NGC 2451 in the IAU constellation Puppis. It was discovered by Italian astronomer Giovanni Battista Hodierna before 1654 and recorded by English astronomer John Herschel in 1835 as h 3099. It is GC 1573 in the *General Catalogue* of 1864. This is a sparse cluster of stars that has a cluster for a body and a tight curve of stars for the tail. It is also known as the Welcome Mat (see below).
- One “Baby Scorpion” is open cluster NGC 6231 (Caldwell 76) in the IAU constellation Scorpius discovered by Italian astronomer Giovanni Battista Hodierna before 1654. It is listed in the *General Catalogue* of 1864 as GC 4245 and in John Herschel’s catalogue as h 3652. American astronomer Tom Lorenzin describes it as “the ‘Baby Scorpion’ that clings to the back of its mother’s tail” in the e-version of *1000+ The Amateur Astronomers’ Field Guide to Deep Sky Observing*.

Scorpion Deity:

The Chinese translation of the Sūryagarbha-parivarta from 585 describes the IAU constellation Scorpius as “Xiē shén” (蝎神) or “scorpion deity” (Kotyk 2017).

Scorpion Face:

This Aztec asterism “Colotlixayac” is made up of stars in the IAU constellation Scorpius. According to the *Florentino Codex*, Sahagun's informants identified a star known as “Citlalcolotl” (“scorpion star”) as Alpha (α) Scorpii (Antares). In turn, Tezozomoc also mentions the scorpion star and he called it “Colotlixayac” (“face of a scorpion”).

Scorpion of Sculptor:

This **telescopic** asterism “Scórpio Sculptóris” is the barred spiral galaxy NGC 613 in the IAU constellation Sculptor. This was discovered in 1785 by William Herschel who listed it as “I 281”. It became GC 361 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name “by apparent likeness to a scorpion, the curved eastern arm of the galaxy being the scorpion’s tail”.

Scorpion Star:

This Aztec star “Citlalcolotl” is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius and is part of their asterism “Colotlixayac” (see Scorpion Face, above).

This Yucatec asterism “Sina’an éek” is made up of stars of the IAU constellations Scorpius to Orion.

This Tojolabal (of Chaneabal) and Q’eqchi’ asterism is the IAU constellation Ursa Major.

Scorpions:

This Batak asterism is the IAU constellations Orion and Scorpius, which they see as two scorpions facing one another and use them as stellar markers in their calendar. This spans the sky and seasons as Orion and Scorpius are at opposite ends of the sky. In 2400 B.C.E. Betelgeuse and Antares would have both been visible just before the vernal equinox, which fits into their use of this asterism.

Scorpion’s Claws:

This Arabic asterism is the IAU constellation Libra. It is described as two stars (Northern Claw and Southern Claw) but sometimes includes a third:

- Northern Claw of the Scorpion: “az-Zubān ush-Shamāliy” (الزبان الشمالي) is the star Beta (β) Librae in the IAU constellation Libra:
    - This was later latinized to “Zubeneschamali”, “Zuben Eschamali”, “Zuben Elschemali”, or “Zubenelschamali”.
    - The IAU approved the name Zubeneschamali for Beta (β) Librae.
- Southern Claw of the Scorpion: “az-Zubān ul-Janūbiy” (الزبان الجنوبي) is the double star Alpha (α) Librae in the IAU constellation Libra, later latinized to “Zubenelgenubi”. The IAU approved the name Zubenelgenubi for Alpha (α) 2 Librae Aa.
- Claws of the Scorpion: This Arabic star “Zuban al-ʿAqrab” (زبانى العقرب) is the star Gamma (γ) Librae in the IAU constellation Libra, later latinized to “Zubenelhakrabi”, “Zuben Elakrab”, or “Zuben Elakribi”.

This Latin asterism “Scorpionis Forceps” is the stars Alpha (α) Librae (Zubenelgenubi) and Beta (β) Librae (Zubeneschamali) in the IAU constellation Libra.

Scorpion’s Dart:

This Netwar asterism also known as the “Kahaur Rul” (“rat”), is made up of four stars of the IAU constellation Scorpius: Lambda (λ), Upsilon (υ), Kappa (κ), and Iota (ι) Scorpii.

Scorpion’s Heart:

This Babylonian star “MUL.LI.SI”, “Lisi” or “li-si” (Parpola 1993) or “Lisin” is Alpha (α) Scorpii (Antares). Anthony Hope lists it in his *A Guide to Ancient Near Eastern Astronomy* in 1996 as “LI.SI”.

This Egyptian Dendera star is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius (Hoffman 2017) and was part of their asterism Scorpion (see above). This star shows up in Seleucid sky lore.

Scorpius:

The stars of this constellation show up in 582 asterisms of the world’s sky cultures.

The IAU constellation Scorpius, “the Scorpion” (IAU abbreviation Sco) became one of Ptolemy’s 48 original constellations in the 2nd century, which Ptolemy listed as “Σκορπίος” (“Skorpíos”) in his *Almagest* (see Scorpion, below). This originated in the Babylonian asterism “GIR.TAB” (see Scorpion above). The original constellation included what we now consider the IAU constellation Libra as the “claws”, this occasionally being described by Latin authors as “Scorpius cum Chelis” (“Scorpius with claws”).

The Temple of Khnum at Esna has a Latopolitan zodiac on the ceiling of the pronaos dating to the age of Ptolemy II Euergetes (246 – 221 B.C.E.) depicts Scorpius as a scorpion facing to our left (Bullinger 1882, Seiss 1882).

The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) depicts this constellation as a scorpion with claws as does the Mainz Globe from the eastern end of the Roman empire (c. 150 – 220 C.E.).

The globe of the 2nd century Farnese Atlas depicts the claws of Scorpius holding the Scales. Robert Hues, in his *A Learned Treatise on Globes* in 1659, notes that Roman author Julius Hyginus (1st century B.C.E.) "doth not number Libra among the signs, but divideth Scorpio into two signs". Kauffmann's translation of the *De ordine ac positione stellarum in signis* ("*On the order and position of the stars in the signs*") in 1888 also describes it as "id est in spatium duorum signorum" ("that is, in the space of two signs"). In the Leiden *Aratea* (816) Scorpius includes the stars of Libra.

This constellation appears in the 8th century *Revised Aratus Latinus*:

- In several editions (Dresden DC 183, Paris BN 12957, Prague IX. C. 6) "Scorpio" is following Ophiuchus with Ophiuchus standing on another scorpion,
- In some editions (Paris BN n.a. 1614, Cologne 83 II) Scorpius is facing right.

The Munich 210 and Vienna ÖNB 387 manuscripts of the *De ordine ac positione stellarum in signis* depict Scorpius with claws but no legs. The Paris BN, 12117 and Vat Reg lat 309 manuscripts of the *De ordine ac positione stellarum in signis* orient Scorpius so that its head is facing upwards. The Paris BN lat 8663 manuscript of the *De ordine ac positione stellarum in signis* depicts Scorpius with human hands.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi's son depicts Scorpius as a scorpion. There are two views, one page showing the tail curving to our left, and the other showing it curving to our right.

The 11th century *De signis caeli ("of the signs of heaven*") lists "Scorpio" and "Scorphius" and in most lists it twice: Once with Serpentarius standing on it, and again without Serpentarius. The Klosterneuberg manuscript only shows Serpentarius standing on Scorpius. The Klosterneuberg 685, and Zwettl 296 manuscripts of *De signis caeli* depict Scorpius with a humanoid face with a moustache.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Scorpius as a scorpion facing to our left.

Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) depicts Scorpius as a scorpion.

A Hebrew translation of the Almagest from Catalonia (c1361), Philadelphia (USA), University of Pennsylvania Libraries, Lawrence Schoenberg Collection, ms. ljs057 (old Ms.Sassoon 823), ff.56v, 57r, depicts Scorpius as a scorpion facing Libra, with one of its claws overlapping Libra.

A quadrans novus found at the House of Agnes site in Canterbury in 2005 in soil dated to c 1375-1425 lists "SCORPIVS" (Dekker 2007).

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Scorpius as a scorpion.

The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.168v-169r depicts “Scorpio” as a scorpion facing to our left.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.70v-71r depicts “Scorpio” as a scorpion facing to our left with its claws overlapping Libra.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Scorpius as a scorpion facing to our left. It is unlabelled and only the front half of the constellation is visible at the circular edge of the astrolabe.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Scorpius as a scorpion facing to our left.

A translation of The *Liber de signis* of Scottish polyglot Michael Scot (1175 – c.1232) in the second half of the 15th century, Darmstadt, Hessische Hochschulebibliothek, Ms 266, depicts Scorpius as a scorpion turned to our left.

The *Germanicus Aratea* with scholia Strozziana (c. 1475) depicts “Ophiochus” standing on a scorpion facing to our left.

De Astronomica (“the astronomy”), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This depicts “Scorpius” as a scorpion holding a set of scales (which would be Libra) in one claw.

Scorpius appears on the *Imagines constellationum Australium* chart of Romanian theologian Johannes Honter (1498 – 1549) as a scorpion facing to our right and labelled with the astrological sign for Scorpius.

The Constance Celestial Globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts “Scorpio” as a scorpion.

The early 16th century Real Academia de Historia, manuscript D-97, f.102v – 103r depicts Scorpius as a scorpion below Ophiuchus, facing to our right. It is not labelled.

The “Nuremburg Maps” *(Die Karte des Nördlichen Sternenhimmels* inv.-Nr. Hz 5576), a pair of celestial hemispheres made in 1503 by Conrad Heinfogel, depicts “Scorpio” as a scorpion with its claws bracketing Libra.

The *imagines coeli septentrionales cum duodecint imaginibus zodiaci* (“images of the northern sky with twelve images of the zodiac”), commonly known as the *Northern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius (Dekker & Lippincott, 1999) lists “Scorpio” and depicts this as a scorpion.

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts “Scorpius” as a scorpion facing to our left.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts “SCORPIVS” as a scorpion facing to our left.

The Horoscopion generale (1533) of Petrus Apianus (1495 – 1552) depicts Scorpius as a scorpion facing to our right.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al lists this as “Scorpio” and depicts it in the same manner as Dürer et al.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts “Scorpius” as a scorpion facing to the left.

Dele Stelle Fisse (“Of the Fixed Stars”) by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as “De lo Scorpione”. The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as the “Scorpion”: Copernicus lists what is now Libra as the “Claws”.

The Northern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Scorpius as a scorpion facing to our left.

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists Scorpius in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts Scorpius as a scorpion and only labels it with the astrological symbol for this constellation.

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicts “Scorpio” as a scorpion facing to our right.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts “le scorpion” from above, moving to our right.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts “Scorpius” as a scorpion whose claws bracket Libra.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts “Scorpio” as a scorpion facing to our left with its claws overlapping Libra.

“Scorpio” is listed on the *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) and depicted as a scorpion. It is depicted on gores of the globe of Petrus Plancius published in 1598 by Jodocus Hondius as a scorpion labeled “Scorpius” with the subtitle “Alatrab”.

Scorpius is listed in Danish astronomer Tycho Brahe’s *Astronomiae Instauratae Progymnasmata* (1602).

Dutch navigator Frederick de Houtman’s catalogue of fixed stars (1603) lists this constellation as “De steert van Scorpio” (“Scorpio’s star”).

German uranographer Johann Bayer (1572 – 1603) depicts this as a scorpion separate from Libra in his *Uranometria* (1603). Bayer lists these names for this constellation: “Scorpio, Scorpius, Ciceroni Nepa, Scorpion, Hacrab, Alatrab, [and] Alacrab”.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts “Scorpius” as a scorpion.

Johannes Kepler's *Stella Nova in Pede Serpentarii* (1606) lists this constellation as "Scorpionis". The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the name "Scorpius".

Scorpius is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as "Scorpio", "Scorpi", "Scorpius", "der Scorpion" and depicted as a scorpion.

"Scorpio" is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a scorpion.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts "Scorpio" as a scorpion whose claws bracket Libra.

This constellation is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "Scorpio".

Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) depicts Scorpius as a scorpion.

The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678 by English uranographer James Clerk depicts "Scorpius" as a scorpion.

English uranographer John Seller's *A coelestiall planisphere* (1678) depicts "Scorpio" as a scorpion.

Scorpius is depicted by English astronomer Edmond Halley in his *Catalogus Stellarum Australium* in 1679 as a scorpion.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts "Scorpius" as a scorpion facing towards our left.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this "Le Scorpion", "Scorpius", and "Σκορπίος" and depicts it as a scorpion whose claws encircle Libra.

Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) labels this "Scorpio" with the subtitle "Orionem se invictum a quacunque fera jac tantem inter fecit" ("Orion made himself invincible by any beast among them") and depicts it as a scorpion.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, labels this constellation "Scorpio" and depicts it as a scorpion.

This constellation is listed as "Scorpio" in English astronomer John Flamsteed's *Atlas Coelestis* in 1729: It is depicted as a scorpion.

A wooden precession globe (1730) by German uranographer Johann Georg Puschner (Dekker 2003) lists this constellation as "Scorpio".

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts "Scorpio" as a scorpion.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts "Scorpius" as a scorpion.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Scorpius as a scorpion facing to our right.

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) depicts Scorpius as a scorpion.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) depicts "Le Scorpion" as a scorpion.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts "Scorpio" as a scorpion facing to our left.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "le Scorpion" as a scorpion, as does the 1778 edition.

Scorpius is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801) as "Scorpioen": It is depicted as a scorpion with his claws grasping the scales of Libra.

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Der Scorpion" in the text and "Scorpion" on the charts, depicting this as a scorpion facing to our right.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as "Scorpione" in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts "Scorpius" as a scorpion.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as "Scorpion" as do the various editions of his *Jahrbuch*.

American uranographer William Croswell (1760 – 1834) depicts "Scorpio the Scorpion" on his *Mercator Map of the Starry Heavens* in 1810.

This constellation is listed as "Scorpio" in Scottish uranographer Alexander Jamieson's Celestial Atlas in 1822: It is depicted as a scorpion.

"Scorpius" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as a scorpion.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depict "Scorpio" as a scorpion facing to our left.

This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Scorpio": The author is unknown, but it is based on Jamieson's *Celestial Atlas*.

"Scorpius" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It is depicted as a scorpion whose claws are clutching at Libra.

This constellation is listed as "Scorpio" in the third edition of Rev. Thomas William Webb's *Celestial Objects for Common Telescopes* in 1873.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this constellation on its charts and in its text as "Scorpio".

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Scorpio, The Scorpion" as an official constellation "recognized in the catalogue of the British Association".

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as "Scorpio, the Scorpion".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Scorpio" in his *Star Atlas* (1893) and describes it as "The Scorpion".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Scorpius" and describes it as a "Scorpion".

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Scorpio… the zodiacal Scorpion".

Part of this constellation, which involves seven of the brightest stars in the sky, is the "fishhook" asterism. This is a large "J" shaped figure which starts with the bright star Alpha (α) Scorpii (Antares- 15th brightest star). From here the line of stars runs through Tau (τ) Scorpii, Epsilon (ε) Scorpii (Larawag- 78th brightest star), Mu (μ) Scorpii, Zeta (ζ) Scorpii, Eta (η) Scorpii, Theta (θ) Scorpii (Sargas- 37th brightest star), Iota (ι) Scorpii, Kappa (κ) Scorpii (Girtab- 82nd brightest star) and Lambda (λ) Scorpii (Shaula - 23rd brightest star). Delta (δ) Scorpii (Dschubba- 77th brightest star) and Beta (β) Scorpii (Acrab- 92nd brightest star) are two of the three stars fanning out to the other side of Antares alongside 6 Scorpii (Fang or Nur).

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) redesigned the lines of this constellation in his book *The Stars - A New Way to See Them* (1952): The part from Alpha (α) Scorpii (Antares) down to the "tail" is basically the same as the standard IAU charts, but the front end which on standard charts is three lines of stars emerging from Antares and running to Beta (β) 1 Scorpii (Acrab), Delta (δ) Scorpii, and Pi (π) Scorpii was redrawn by Rey. Rey transforms this into two pincers emerging from a line starting at Antares and running to Sigma (σ) Scorpii:

- One "pincer" runs through Nu (ν) Scorpii and Beta (β) 1 Scorpii to Delta (δ) Scorpii. And
- One "pincer" runs through 13 Scorpii and Rho (ρ) Scorpii to Pi (π) Scorpii.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Scorpius in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik*, in the same manner as the IAU charts in the "J" shaped "tail" section but have modified the part on the other side of Antares: From Alpha (α) Scorpii (Antares) a line runs through Sigma (σ) Scorpii to Delta (δ) Scorpii. From Delta (δ) Scorpii two lines run out:

- One runs through Pi (π) Scorpii to Rho (ρ) Scorpii, and
- One runs through Beta (β) 1 and 2 Scorpii to Nu (ν) Scorpii.

Sky and Telescope Magazine, founded in 1941, depicts Scorpius in their magazine and publications in the same manner as Hlad et al.

Scourge of Christ:

This German asterism “Flagellum Christi” is the IAU constellation Coma Berenices and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the “pagan” names of constellations with Biblical and early Christian figures. This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as “Flagellum XPI Al Coma Berenices”. It later appears in Edward Sherburne’s sphere of Marcus Manilius in 1675 and in John Hill’s *Urania* in 1754.

Scout of Three Troops:

This Korean asterism “Se Gundaeui Jeongchalbyeong” (세 군대의 정찰병) is a line of two stars in the IAU constellations Canis Major and Columba: Delta (δ) Columbae and Zeta (ζ) Canis Majoris.

Screaming Skull Cluster:

This **telescopic** asterism is the open cluster NGC 7789 in the IAU constellation Cassiopeia. It was discovered in 1783 by English astronomer Caroline Herschel. John Herschel listed it as “”VI 30”. John Herschel listed it as h 2284 and later as GC 5031 in his *General Catalogue* of 1864. It is also known as Caroline’s Rose, the White Rose, the Star Mist Cluster, Herschel’s Spiral Cluster, and the Ghost Cluster.

Screen:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of two stars in the IAU constellation Lepus: Epsilon (ε) Leporis (the determinative star) and HIP 24927A.

This Chinese xing guan “Píng” (屏) is a line of two stars in the IAU constellation Lepus: Mu (μ) and Epsilon (ε) Leporis.

This Chinese Chenzhuo xing guan is two stars in the IAU constellation Lepus: Epsilon (ε) and Mu (μ) Leporis.

Scroll:

This Arabic asterism “Rabesco” is the IAU constellation as it appears on the Borgian globe of 1225 and listed by translator Giuseppe Simone Assemani (1687 – 1768).

Sculptor:

The brightest star of Sculptor is 4th magnitude, and the stars of this constellation only show up in 49 of the asterisms in this handbook.

This IAU constellation (IAU abbreviation Scl) created in 1751 by French astronomer Abbé Nicolas Louis de Lacaille. He originally called it “l’Atelier du Sculpteur” (“the sculptor’s studio”) but later shortened the name. Lacaille’s *Planisphère des Étoiles Ausralea* (1756) depicts “l’Atelier du Sculpteur” as a rectangular workbench with sculptor’s tools on top with a tripod stand at one end with a bust displayed on top.

German astronomer Johann Bayer (1572-1625) listed it as “Bildhauer Werkstadt” and German astronomer Johann Elert Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists it as “Bildhauer Werkstadt” and depicts it as a mallet and chisel next to a three-legged stand on which stands a bust of a male wearing a laurel wreath.

Other Germans listed it as “Bildhauerwerkstätte” and the Italians called it “Scultore”.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "Atelier de Sculpteur" as a tripod stand with a bust and a bench with sculptors tools on it.

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Die Bildhauer Werkstadt".

American uranographer Elijah Burritt (1794 – 1838) listed it as "Officinia Sculptoria" ("sculptor shop") and "Apparatus Sculptoris" ("Sculpture Apparatus").

Scottish uranographer Alexander Jamieson (1782 – 1850) listed it in his *Celestial Atlas* in 1822 as "Apparatus Sculptoris": This is depicted as a two-level table with a bust and tools on top.

Sculptor is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) with the abbreviated title "Apparat Sculptor": He indicates the borders of this constellation on the chart but offers no illustration of it.

English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Apparatus Sculptoris".

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich labels "Apparatus Sculptor" but does not illustrate it.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts "Officinia Sculptoris" as a tall table with a bust on top.

This constellation is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Apparatus Sculptoris": It is depicted as a two-level wooden table with a bust and tools on top.

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Sculptor, The Sculptor's Workshop" as an official constellation "recognized in the catalogue of the British Association".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Sculptor" and "Apparatus Sculptoris" and describes it as a "Sculptor's Apparatus".

The 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) lists "Sculptor" and gives the "original form" as Apparatus Sculptoris, the Sculptor's Workshop".

Standard IAU charts show Sculptor as the triangle of the stars Alpha (α) Sculptoris, Eta (η) Sculptoris, Beta (β) Sculptoris, and Gamma (γ) Sculptoris.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Sculptor in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* as a "J" shaped figure starting at the star Alpha (α) Sculptoris and running through Eta (η), Beta (β), and Gamma (γ) Sculptoris to Delta (δ) Sculptoris.

Sky and Telescope Magazine, founded in 1941, depicts Sculptor as a "J" shaped figure in their magazine and publications: Starting at Beta (β) Sculptoris, the line runs through Gamma (γ), Delta (δ), and Iota (ι) Sculptoris, ending at Alpha (α) Sculptoris.

Sculptor Dwarf Galaxy:

This dwarf spheroidal galaxy, a satellite of our galaxy, PGC 3589 (ESO 351-30) in the IAU constellation Sculptor. It was discovered by American astronomer Harlow Shapley in 1937. It is also known as the Sculptor Dwarf Elliptical Galaxy, the Sculptor Dwarf Spheroidal Galaxy, or "Shapley's of Sculptor".

Sculptor Pinwheel:

This **telescopic** asterism is NGC 300 (Caldwell 70), a spiral galaxy in the IAU constellation Sculptor. Scottish astronomer James Dunlop discovered this in 1827. It is GC 169 in the 1864 *General Catalogue*. John Dreyer describes it in the New General Catalogue of 1888 as "a complex object with several nuclei". It is also known as the Southern Pinwheel.

Sculptor's Knot:

This **telescopic** asterism "Nódus Sculptóris" is the barred spiral galaxy NGC 150 in the IAU constellation Sculptor. It was discovered by American astronomer Lewis A. Swift in 1886. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010): They called it this as it "looks like a knot in a rope".

Scutum:

None of the stars of Scutum are brighter than 4th magnitude and the stars of this constellation only show up in 35 asterisms in this handbook.

This IAU constellation "the Shield" (IAU abbreviation Sct) was created by Polish astronomer Johannes Hevelius (1611 – 1687) in 1684. Hevelius named it "Scutum Sobiescianum" ("Sobieski's Shield") to honor the coat of arms of John Sobieski, King of Poland. In his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, Hevelius depicts it as a curved kite shaped shield decorated with a cross with "INRI" on a banner at the top of the cross.

German mathematician George Christopher Eimmart (1638 – 1705) included "Scutum Subiescianum" on his celestial globe of 1705 (Stevenson 1921).

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, labels this constellation "Scutum Sobieski" and depicts it as a shield decorated with a shining cross.

English astronomer John Flamsteed (1646 – 1719) shortened the name of this constellation to "Scutum".

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts "Scutum Sobiecianum" as a curved shield decorated with a cross.

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) labels this constellation "Scutum Sobiese" and depicts it as a shield decorated with a cross.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Scutum as a shield decorated with a cross.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts Scutum as a triangular shield with a cross on it.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts a shield decorated with a crucifix and labels it "L'Ecu de Sobieski" ("Sobieski's Shield") as does the 1778 edition. A variation is "Bouclier de Sobieski".

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "das Sobieskische Schild" and depicts it as a roughly triangular shield decorated with a crucifix.

Scutum is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801) as "Schild van Sobieski": It is depicted as a shield decorated with a cross.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists "Scutum Sobieski" in his *Celestial Atlas* in 1822: This depicts a shield with a cross on it.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this asterism as "Sobiekische Schild".

This constellation is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as Scutum: The author is unknown, but it is based on Jamieson's *Celestial Atlas*.

English Admiral Henry William Smyth's *Prolegomena* and his *Bedford Catalogue* in 1844 lists "Clypei Sobieskii".

"Scutum" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as a shield decorated with a cross.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts "Scutum Sobieski" as a shield decorated with a crucifix.

Scutum is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877) as "Scutum Sobiesii": It is depicted as a shield decorated with a cross.

It is listed as "Clypeus Sobieskii" ("shield of Sobieskii") and the "Shield of Sobieski" (note the two different spellings of Sobieski) in the third edition of Rev. Thomas William Webb's *Celestial Objects for Common Telescopes* in 1873.

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as "Sobieski's Shield".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Scutum Sobieski" in his *Star Atlas* (1893) and describes it as "The Shield of Sobieski".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Scutum (Sobiesii)" and describes it as the "Shield of Sobieski".

The 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) lists "Scutum" and gives the "original form" as "Scutum Sobieskii, Sobieski's Shield".

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) redesigned the lines of Scutum in his book *The Stars - A New Way to See Them* (1952). Standard IAU star charts show Scutum as a roughly triangular "shield" formed by the stars Alpha (α) Scuti, Gamma (γ) Scuti, HIP 92814, and Beta (β) Scuti. Rey turns this into a diamond shaped shield of the four stars Beta (β) Scuti, Alpha (α) Scuti, Gamma (γ) Scuti, and Delta (δ) Scuti. *Sky and Telescope Magazine*, founded in 1941, depicts Scutum in their magazine and publications in the same manner as Reyersbach.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Scutum in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* as a bent line of the three stars Beta (β), Alpha (α), and Gamma (γ) Scuti.

The Italians call this constellation “Scudo di Sobieski”, and the Germans “Sobieskischer Schild”.Variations include “Scutum Sobieskii”, “Scutum Sobiesii”, and “Clypeus Sobieskii” or “Clipeus Sobieskii” (“shield of Sobieski”).

Scutum Salt and Pepper Cluster:

See Salt and Pepper, above.

Scythe:

This Romanian asterism “Coasă” is the IAU constellation Cepheus (Ottescu 2009, Lite, Lodina, and Ignat 2018). The stars Alpha (α) Cephei (Alderamin) and Gamma (γ) Cephei are called the “Coporâia”, “Coporâșca, or “Coada Coasei” (the “Scythe’s Tail”). The star Beta (β) Cephei is “Mânerul Coporâii” (“Tail Handle”). The stars Mu (μ), Zeta (ζ), and Delta (δ) Cephei are the “Fierul Coasei” (“Scythe’s Iron Blade”).

This Finnish asterism “Viikate” is the Belt of Orion asterism in the IAU constellation Orion.

This Lithuanian asterism “Pjautuvas” is made up of stars of the IAU constellation Leo. This is a line of stars from Epsilon (ε) Leonis through Mu (μ) Leonis, Zeta (ζ) Leonis, Gamma (γ) Leonis and Eta (η) Leonis to the star Alpha (α) Leonis (Regulus).

This **telescopic** asterism is in the IAU constellation Sagittarius and is Corder 4018 on the observing list of American astronomer Jeffrey Corder. Size 70’ X 20’ This is six 7^{th} – 9^{th} magnitude stars including HIP 98310 and 98319.

Scythes:

This Belarussian asterism “Kosy” is the constellation Orion (Avilin 2009). It is also known as “Matawila” (see Wheel, below), “Traiko” (see Three Times, below), “Karomyselko” (see Small Yoke, above), “Grabli” (see Rake, above), “Kastsy” (see Mowers, above), “Try Karali” (see Three Kings, below), “Kasar” (see Mower, above), “Kreselca Pana Jezusa” (see Lord Jesus’ Chair, above), “Tri Siostry” (see Three Sisters, below), “Prahi” or “Prapradki” (see Yarn Spinners, below), “Asilki” (see above), “Kigachi ragachy” (see Shaft of a Plough, above), “Kryzhe” (see Cross, above), “Lisa” (see Fox, above), and “Trohkutnaia” (see With Three Corners, below).

This Polish asterism “Kosary” is the constellation Orion (Avilin 2009).

Sdaikwasa’:

This Xerénte asterism “Sdaikwasa’” is the belt of Orion in the IAU constellation Orion (Dechend 1975). This asterism and their asterism Asare’ (see above) are followers of the Sun.

Sea:

This asterism is the part of the sky which includes Aquarius, Capricornus, Cetus, Delphinus, Eridanus, Hydra, Pisces, and Piscis Austrinus and was described by R. H. Allen in his *Star Names* in 1899 as common to “Euphratian astronomy.”

Sea and Mountain:

This Chinese xing guan “Hăishān” (海山) is a bent line of stars in the IAU constellation Carina: q, p, Theta (θ), Omega (ω) and Beta (β) Carinae (Miaplacidus).

Sea and Mountain II:

This Chinese xing guan “Hăishān II” (海山二) is the HII region NGC 3372 (the Homunculus Nebula).

Sea Bear:

This Latin asterism "Ursus Marinus" is the IAU constellation Cetus. This is a name listed in Edward Sherburne's *Sphere of Marcus Manilius* in 1675.

Sea Chariot:

This Greek asterism "Arma Thalases" is the asterism Argo's Ship (see above) as listed in John Hill's *Urania* in 1754.

Sea Cow of Lynx:

This **telescopic** asterism "Sirénium Lýncis" is the barred spiral galaxy UGC 4881 (Arp 55) in the IAU constellation Lynx. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the general form of this merging pair of galaxies… brings to mind a sea cow." It is also known as the Shrimp Galaxy (see below) and the "Grasshopper" or "Grasshopper Galaxy" (see above).

Sea From Which Rain Comes:

There are two versions of this Kolam asterism "Samdur" as described by Vahia (2014):

- One is the Great Square of Pegasus asterism in the IAU constellation Pegasus.
- The other is made up of stars of the IAU constellation Centaurus and is surrounded by a group of animal asterisms: Peacock, Buffalo, Frog, Deer, Horse, and Pig.

Sea Goat:

This English asterism is the IAU constellation Capricornus as listed by John Hill in his *Urania* in 1754. Compare this to Kid of the Sea, above.

Sea Horse:

This Ikoots asterism "Pilmiïk" is made up of stars of the IAU constellations Ursa Major and Lynx.

This English asterism "Hippocampus" was created in 1754 by British botanist and natural philosopher John Hill and published in his *Urania: Or a Complete View of the Heavens***.** It represents a pipefish, which is in the sea horse family. This asterism is made up of the stars of the IAU constellations Cetus, Eridanus, and Taurus:

- One side of the "body" runs from a "tail" at 45 Eridani through 35, 32, and 24 Eridani to 10 Tauri,
- The other side of the "body" runs from 10 Tauri through 17 and 30 Eridani to the "tail" at 45 Eridani, and
- The "head" is the triangle of stars: 10 Tauri, 94 Ceti, and Kappa (κ) 1 Ceti.

Compare this to the asterism "Psalterium Georgii" or "Psalterium Georgianum" (see George's Psaltery, above).

There are three **telescopic** Sea Horse asterisms:

- One from *Pattern Asterisms* by American astronomer John A. Chiravalle is in the IAU constellation Hydra. This includes stars of Corder 2449 and 2457 on Jeffrey Corder's list. Size 15':

  - The "head" has the star Psi (ψ) Hydrae forming the "eye" and the star HIP 64133 the "nose",
  - The "body" is a line of stars including the star HIP 64271 and the "tail" includes the star HIP 64303A and 64396, and
  - A "wing" is a bent line of three stars roughly parallel to the "body" line: HIP 64135, 64124 and 64095.
- One, the "Sea Horse", the "Dark Sea Horse", or the "Sea Horse in the Red Sea" is Barnard 150 in the IAU constellation Cepheus. It is also known as the "Hippocampus Nebula" or the "Hippocampi Dark Nebula".
  - One is made up of stars of the IAU constellation Hydra. The "head" is the stars Psi (ψ) Hydrae, HD 114205, and HIP 64133. The "body" starts at HD 114180 and runs through HIP 64095, HIP 64124, HIP 64135, HIP 64271, and HD 114312. The "tail" is a line of stars from HD 114346 through HD 114383, HD 114384, and HIP 64303 to HD 114420. American amateur astronomer "Surveyor 1" listed this in November 2020 on *Cloudy Nights*.

Sea Horse in the Red Sea:

See Sea Horse, above.

Sea Horse of Eridanus:

This **telescopic** asterism "Hippocámpus Erídani" is the irregular galaxy NGC 1487 in the IAU constellation Eridanus. It was discovered in 1826 by James Dunlop who listed it as 2597 in his catalogue and later as GC 790 in his *General Catalogue* of 1864. NOTE: American astronomer Lewis Swift observed this galaxy in 1896 and classified it as IC 1983. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Sea Lion:

This Latin asterism "Leo Marinus" is the IAU constellation Cetus as listed in John Hill's *Urania* in 1754

Sea Monster:

This Greek asterism "Κῆτος" ("Kitos") which translates as "sea monster" or "whale" is the IAU constellation Cetus as mentioned in Aratus' poem *Phaenomena* (270 B.C.E.) and as originally described in Ptolemy's *Almagest* (2nd century). Another common Greek name also interpreted as "sea monster" for this constellation is "Πρῆστις", ("Prístis") and "Πρίστις" ("Pristis"), from "πρῆθειν" ("príthein", "to blow or spout"). This was later latinized to "Pristis", "Pristix", and "Pistrix". These Latin names were often accompanied by the adjectives "Auster" ("south wind"), "Nereia" ("Nereus"), "Fera" ("Wild Animal"), "Neptunia", "Aequorea" ("marine"), or "Squammigera" ("scaly"). The only difference between the modern constellation and Ptolemy's original is that the star lines do not go through Tau (τ) Ceti, but through Upsilon (υ) Ceti. A common name used in the 17th century way was "Cete".

De Astronomica ("the astronomy"), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This labels this constellation "Pistrix" and "Cetus" and depicts it as a sea monster resembling a whale with long tusks.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists the alternate name “Pistrix” for Cetus.

This constellation is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch with the alternate name “Pistrix”.

German astronomer Johann Bayer (1572-1625) lists the name “Monstrum Marinum”.

“Monstrum Marinum” is listed in the *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638).

English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists the names Cetus and Pistrix, attributing the latter to Hydinus.

This Arabic asterism “ul-Qaytus” is the IAU constellation Cetus:

- This was later latinized to Kaitos.
- Robert Hues lists “Elkaitos” in his *A Learned Treatise of Globes* in 1659.
- In 1754 in his *Urania*, John Hill listed it as “Alketus”.

The stars of this Kiribati asterism “Teawanei” or “Ten Teawanei” are unidentified at present (Trussel and Groves 1978).

This Samoan asterism “Tanifā” is made up of stars of the IAU constellation Cetus and Pisces (Fitisemanu 2022):

- The “head” of is a circle of the stars Alpha (α) Ceti (Menkar), Lambda (λ) Ceti, Mu (μ) Ceti, Xi (ξ) 2 Ceti, and Gamma (λ) Ceti,
- The “body” runs from Gamma (γ) Ceti through Omicron (ο) Ceti to Zeta (ζ) Ceti
- An “arm” runs from Omicron (ο) Ceti to Alpha (α) Piscium (Alrescha)
- From Zeta (ζ) Ceti two lines run out to form legs:
    - One runs through a “knee” at Tau (τ) Ceti to a “foot” at Upsilon (υ) Ceti,
    - One runs through a “knee” at Theta (θ) Ceti to a “foot” at Eta (η) Ceti, this latter star part of a triangle including Beta (β) Ceti (Diphda) and Iota (ι) Ceti.

Tanifā is pursuing their asterism Matāli‘i (see Chief’s Eyes, above).

Sea Robin:

This **telescopic** asterism is the open cluster NGC 1342 in the IAU constellation Perseus. It was discovered by William Herschel in 1799 and listed in his catalogue as “VIII 88”. It is GC 717 in the *General Catalogue* of 1864. It is located almost halfway between Beta (β) Persei (Algol) and Zeta (ζ) Persei. It is also known as the Scorpion, or the Stingray.

Sea Rock:

This Chinese xing guan “Hǎishí” (海石) is a bent line of stars in the IAU constellation Carina: At one end is Epsilon (ε) Carinae, and the line runs down through Iota (ι) Carinae to a bend at h Carinae and then through I Carinae, ending at Upsilon (υ) Carinae.

Sea Serpent:

This Arabic star "'ash-Shujaāʿ", "Ash-Shujaaʿ", "'ash-Shujāʿ", or "Ash-Shujaaʿe" (الشجاع) is Beta (β) Draconis (Rastaban) in the IAU constellation Draco:

- This was later latinized to "Asuja", "Asvia", or "Asuia".
- German astronomer Wilhelm Schickard (1592 – 1635) listed "Attanino Al Shujāʿ".
- John Hill lists it as "Alsugia" or "Alshugia" in his *Urania* in 1754.
- NOTE: "Asugia" and "Sugia" are both names listed for Orion in Johann Bayer's *Uranometria* (1603). "Asugia" and "Asschagio" are names is listed for Orion in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch. Robert Hues lists "Asugia" as a name for both Orion and Hydra in his *A Learned Treatise of Globes* in 1659.

Sea Star:

This Italian star "Este`la Marina" is Alpha (α) Ursae Minoris (Polaris).

This Lithuanian star "Tavorčka Sietyno" or "Marių žvaigždė" is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus.

Sea Swallow:

This Latin asterism "Hirundo Marina" is the IAU constellation Volans. Gores for a celestial globe Bibliothèque Nationale de France, Département Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts this as a flying fish and labels it "Hirundo Mari".

Dutch historian Paulus Merula (1558 – 1607) lists this constellation as "Hirundo Marina" and "Zeezwaluwe" ("swallowtail").

Edward Sherburne lists this constellation as "Hirundo Marina" in his *Sphere of Marcus Manilius* in 1675. Sherburne also gives the Greek name "Chelidon Thalassia".

Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) labels this constellation "Hirundo Marina".

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer lists this constellation as "Hirundo Marina" and depicts it as a flying fish.

Sea Turtle:

This Carib asterism "Kataruyuman" or "Kataru" represents the sea turtle (Chelone mydas). Its present location is unknown (Magaña, and Jara, 1982) but it is known to be rising in June – August when the sea turtles lay eggs in the sand.

Sea Worms:

This Chaldean asterism "ku mes tu-la-a-tum" is listed in the *Great Star List* (Koch-Westenholz 1995) but the stars have not been identified.

Seacrest Cluster

This **telescopic** asterism, also known as the Ghost Bush Cluster (see below), the Flying Geese (see above), and the Silk Fan Cluster (see below), is the open cluster NGC 6939 in the IAU constellation

Cepheus. It was discovered by William Herschel in 1798 who listed it as VI 42. It is GC 4590 in the *General Catalogue* of 1864. It lies 0.6 degrees northwest of the spiral galaxy NGC 6946 and 2 degrees southwest of the star Eta (η) Cephei. American astronomer David Knisely named it the Seacrest Cluster "since at first glance, some of its stars seemed to look like a row of stadium lights at Lincoln-East High School's Seacrest Field".

Seagull:

This Palikur asterism "Wanawna" is stars in the area of the IAU constellation Orion (Green and Green 2011). It is the name of Kusuvwi Isamwitye's small canoe for going ashore (see Kusuvwi the Younger Brother, above).

This **telescopic** asterism is the open cluster Trumpler 2 (Collinder 29) in the IAU constellation Perseus. Robert Zebahl lists it on his *Faint Fuzzies* website, where René Merting describes "five bright stars form a bird with two wings…looks like a seagull with outstretched wings, the brightest star in the center forms the [body]". The body includes HIP 12152 and 12128

Seagull Nebula:

This **telescopic** asterism is reflection nebula IC 2177 (SH 2-292, vdB 93, RCW 2, LBN 1027, Ced 89c) in the IAU constellation Monoceros. This was discovered by Welsh astronomer Isaac Roberts (1829 – 1904) in 1898. John Sanford lists it as the Seagull in his *Observing the Constellations* in 1989.

Seagull's Wings:

This **telescopic** asterism is HII region is SH 2-296 (LBN 1033) in the IAU constellation Canis Major.

Seal:

This Chukchi asterism is the IAU constellation Delphinus.

Seal Hunters:

This Inuit asterism is the belt of Orion in the IAU constellation Orion (MacDonald 1998).

This Greenland Inuit asterism "Siktut" is the belt of Orion in the IAU constellation Orion as listed in R. H. Allen's *Star Names* in 1899.

Seashell:

This **telescopic** asterism NGC 5291 is a system of interacting galaxies in the IAU constellation Centaurus. It is surrounded by a collisional ring containing a tidal dwarf galaxy. It was discovered by English astronomer John Herschel in 1847 who listed it as h 3535. It is GC 3646 in the *General Catalogue* of 1864.

Seasons:

This Kedahan asterism "Piama" is the Pleiades cluster in the IAU constellation Taurus. They used this asterism as part of a seasonal calendar tracking wind directions and monsoons. Piama literally translates as "seasons", but it is believed to be derived from an earlier term translating as "paddy farmer" (Jaafar and Khairuddin 2019).

Seat:

This Dutch star “Seat” is Pi (π) Aquarii in the IAU constellation Aquarius. It was given this name by the Dutch astronomer Hugo Grotius (Huig de Groot, 1583 – 1645).

Seat Flags:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a bending line of stars in the IAU constellation Auriga: Starting at the determinative star Kappa (κ) Aurigae it runs through WW Aurigae, UU Aurigae, 51 Aurigae, Psi (ψ) 3 and 2 Aurigae, 47 Aurigae, Psi (ψ) 1 Aurigae, and 45 Aurigae.

This Chinese xing guan “Zuòqí” (座旗) is a jagged line of stars in the IAU constellation Auriga: Psi (ψ) 3, 4, 5, 6, 7, 10, and 51 Aurigae.

This Chinese Chenzhuo xing guan “Zuòqí” is a zig-zagging line of stars in the IAU constellations Auriga and Taurus: Starting at Psi (ψ) 10 Aurigae it runs through HIP 33269, Psi (ψ) 7 Aurigae, Psi (ψ) 2 Aurigae, HIP 31579, HIP 29451, Kappa (κ) Aurigae, HIP 27629, and 125 Tauri to 121 Tauri.

Seat for Longevity:

This Korean asterism “Jangsuleul Wihan Jwaseog” (장수를 위한 좌석) is a triangle of stars in the IAU constellation Boötes: 12, 22, and 6 Boötis.

Seat of Emperor:

This Korean lunar mansion “Shim” is a line of three stars in the IAU constellation Scorpius: Alpha (α) Scorpii (Antares), Tau (τ) Scorpii, and Sigma (σ) Scorpii.

Seat of God:

This Arabic asterism is the IAU constellation Draco. It was called this as it never set and thus was very reliable (Steiner 2017). Compare this to the Bedouin asterism Sign of God (below).

Seat of the Azure Emperor:

This Chinese Chenzhuo xing guan “Cangdi” is the star 95 Leonis in the IAU constellation Leo.

Seat of the Black Emperor:

This Chinese Chenzhuo xing guan “Heidi” is the star HIP 57646 in the IAU constellation Leo.

Seat of the Emperor (at Great Horn):

This Chinese Chenzhuo xing guan is a triangle of stars in the IAU constellation Boötes: 10, 12, and 26 Boötis.

Seat of the Flowing Waters:

This Akkadian asterism “Ku-ur-ku” is the asterism Great One (see above).

Seat of the Red Emperor:

This Chinese Chenzhuo xing guan “Chidi” is the star HIP 57779 in the IAU constellation Leo.

Seat of the Yellow Emperor:

This Chinese star “Huangdizuo” from the Three Kingdoms to Ming Dynasty is Beta (β) Leonis (Denebola) in the IAU constellation Leo and is part of their xing guan Seats of the Five Emperors (see above).

This Chinese Chenzhuo xing guan “Huangdizuo” is the star Beta (β) Leonis (Denebola) in the IAU constellation Leo.

Seated Three:

This Italian (Piedmont Alps) asterism “Sete¨u” or “i Tre Sete`y” is the belt of Orion in the IAU constellation Orion. Its appearance and disappearance marked the beginning and end of the winter watches.

Seats of the Five Emperors:

This Chinese xing guan “Wǔdìzuò” (五帝座) is a cross of stars in the IAU constellation Leo: The middle star is Beta (β) Leonis (Denebola), with the four stars at the ends of the “cross” HIP 57646, 57320, 57779, and Omicron (o) Leonis. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore except that in the earlier xing guan the five stars each were named for an emperor:

- Denebola: Huangdizuo (Seat of the Yellow Emperor)
- HIP 57646: Heidi (Black Emperor).
- HIP 57320: Baidi (White Emperor).
- HIP 57779: Chidi (Red Emperor).
- Omicron (o) Leonis: Cangdi (Azure Emperor).

In the Tang Dynasty (619 – 907 C.E.) this was listed as “Yi” (Kotyk 2017) and compared to the Vedic nakshatra Uttara Phalguni (see Second Reddish One, below).

This Chinese Chenzhuo xing guan “Wǔdìzuò” is made up of stars of the IAU constellation Leo: From the star Beta (β) Leonis (Denebola, “Seat of the Yellow Emperor”) three lines run out:

- One to HIP 57779, “Seat of the Red Emperor”,
- One to Omicron (o) Leonis, “Seat of the Azure Emperor”, and
- One to HIP 57646 “Seat of the Black Emperor”.

Second:

This German asterism “Secundus” is the IAU constellation Canis Major as listed by German astronomer Johann Bayer (1572-1625). This is actually a translation of the size of the original asterism.

Second Advisor:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty “Shaofu” is the star 24 Ursae Majoris in the IAU constellation Ursa Major and is part of their xing guan Purple Forbidden Right Wall (see above).

Second Arm of the Charioteer:

This Arabic star “as-sācid aθ-θānī” (الساعد الثاني) is Zeta (ζ) Aurigae in the IAU constellation Auriga. It is part of their asterism The Kids (see Kids, above).:

- This was later latinized to “al Said al Thani”, “Saclateni” (in the 1515 edition of the *Almagest*).
- It is listed as “Sadatoni” in the 15th century *Alfonsine Tables.*
- It is listed as “Haedus I”, or “Hoedus”

- Robert Hues lists “Saclateni” as a name from the *Alfonsine Tables* and “Sadateni” as a name used by Joseph Justus Scaliger in his *A Learned Treatise of Globes* in 1659 and translates this as “the hindmost arm”.
- John Hill lists the name “Sadateni” in his *Urania* in 1754.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Dhát-al-‘inán, corrupted to Sadatoni in the *Alfonsine Tables*”.
- The IAU approved the name Saclateni for Zeta (ζ) Aurigae A in 2017.

Second Circle:

This Greek asterism “Δευτέρα Κύκλα” (“Deftéra Kýkla”) or simply “Δευτέρος” (“Deftéros”- “second”) is the IAU constellation Corona Australis as listed by 1st century Greek astronomer Geminus of Rhodes. This is probably a reference to it being the second crown, the other being Corona Borealis.

Second Commandant:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty “Shaowei” is the star Kappa (κ) Draconis in the IAU constellation Draco and is part of their xing guan Purple Forbidden Right Wall (see above).

Second Connected of Hydra:

This **telescopic** asterism “Concatenáta Secúnda Hýdrae” is the peculiar spiral galaxy NGC 2993 (Arp 245) in the IAU constellation Hydra, which is interacting with NGC 2992. It was discovered by William Herschel in 1785. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Second Dancer:

This German star with the Greek name “Χορευτής δευτέρα” (“Choreftís deftéra”) is Epsilon (ε) Ursae Minoris as listed by German astronomer Johann Bayer (1572-1625). It is part of the Latin asterism Dancers (see above).

Second Dog:

This asterism “Canis Secundus” is the IAU constellation Canis Major. This name is listed in Johann Bayer’s *Uranometria* (1603).

Second Dog of the Shepherd:

This Arabic star is Beta (β) Ophiuchi (Cebalrai) in the IAU constellation Ophiuchus and is also known as the “Second Dog of the Southern Shepherd”. It is part of their asterism Desert Garden and the Goats (see above).

Second Donkey Colt:

This Latin Star “Asellus Secundus” star is Iota (ι) Boötis in the IAU constellation Boötes and is part of their asterism Donkey Colts (see above). Compare this to the Arabic asterism Whelps of the Hyenas (see below). German astronomer Johann Bayer (1572-1625) listed it under this name. The IAU approved the name Asellus Secundus for Iota (ι) Boötis.

Second Eastern General:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty “Dongcijiang” is the star Epsilon (ε) Virginis in the IAU constellation Virgo and is part of their xing guan Supreme Palace Left Wall (see below).

This Chinese Chenzhuo xing guan “Dongcijiang” is the star Epsilon (ε) Virginis in the IAU constellation Virgo. It is part of the Supreme Palace Left Wall.

Second Eastern Premier:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty “Dongcixiang” is the star Delta (δ) Virginis in the IAU constellation Virgo and is part of their xing guan Supreme Palace Left Wall (see below).

This Chinese Chenzhuo xing guan “Dongcixiang” is the star Delta (δ) Virginis in the IAU constellation Virgo. It is part of the Supreme Palace Left Wall.

Second Frog:

This Arabic star “aḍ-Ḍifdaʿ ath-Thānī” (الضّفدع الثاني) or “Al Ḍifdiʿ al Thānī”” is Beta (β) Ceti in the IAU constellation Cetus:

- This was later latinized to “Diphda” or “Difda”.
- The Sloane astrolabe BM SL 54 in the British Museum (1290 – 1300) lists “Denebcaitoz” (Dekker 2000).
- The rete of the 14th century Spanish astrolabe NMM AST0570 lists “Denebcaitoz” (Dekker 2000).
- The celestial globe (1480) of German mechanic Hans Dorn (c 1430 – 1506) lists “Cauda” (“tail”).
- The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists “Denebcayton”.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Difda’ al tháni, or the second frog”.
- *An Improved Moveable Planisphere* (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, lists “Diphda”.
- This is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852 as “Deneb Kaitos”: The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822.
- English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists this star as “Diphda”.
- The 1st edition of British schoolmaster Arthur P. Norton’s *A Star Atlas and Telescopic Handbook* (1910) lists “Diphda” and “Deneb Kaitos Jenubi” for this star, but his 14th edition (1959) only lists “Diphda” for this star.
- R. H. Allen lists “Deneb Kaitos” and “Difda” in his *Star Names* in 1963.
- The IAU approved the name Diphda for the star Beta (β) Ceti. NOTE: The “first frog” is Fomalhaut (see First Frog, above).

This Latin star “Rana Secunda” is Beta (β) Ceti in the IAU constellation Cetus. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists this name for Beta (β) Ceti, indicating that it is an Arabic name but not giving the Arabic name.

Second General:

There are four Chinese xing guans from the Three Kingdoms to the Ming Dynasty using the name "Cijiang":

- One is the star 29 Ursae Majoris in the IAU constellation Ursa Major and is part of their asterism "Wénchāng" (文昌) - see Administrative Centre, above.
- One is the star Delta (δ) Scorpii, part of their xing guan Room (see above).
- One is the star 6 Scorpii, part of their xing guan Room (see above).
- One is the star Gamma (γ) 1 Leonis in the IAU constellation Leo and is part of their asterism Xuanyuan (see below).

There are three Chenzhuo xing guans by this name:

- Cijiang" ("Second General"): Pi (π) Scorpii in the IAU constellation Scorpius, which is part of their xing guan "Room", and
- "Cixiang" (Second General"): Delta (δ) Scorpii in the IAU constellation Scorpius which is part of their xing guan "Room",
- "Cijiang" is the star Tau (τ) Ursae Majoris in the IAU constellation Ursa Major. It is part of their xing guan "Administrative Centre".

Second Giedi:

This Latin star "Secunda Giedi" is Alpha (α) 2 Capricorni (Algedi) in the IAU constellation Capricornus:

- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Secun. Giedi".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Secunda Giedi".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list "Secunda Giedi" for this star.
- Compare this to Goat, above.

Second Horn of the Goat:

This Arabic star "Qarn al-jadi al-thāni" is Alpha (α) Capricorni (Algedi) in the IAU constellation Capricornus as listed on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992).

Second Horse:

This is one of the asterisms found on the cave ceiling in Armintxe, Spain, estimated to be between 12,000 and 14,000 years old. It is a curving line of stars made up of stars of the IAU constellation Cygnus: HIP 102635, 60 Cygni, HIP 103736, 101756, and 100515A.

This Arabic asterism "Al Faras al Thānī" ("second horse") is the IAU constellation Equuleus. The idea is that Equuleus is the second horse as it is a smaller constellation than Pegasus. Having two "horse" constellations side by side in the sky, Pegasus and Equuleus, leads to some confusion. The Latin adjective "Secundus" was often applied in the past to Pegasus to differentiate it from Equuleus, this referring to the fact that Equuleus would rise before Pegasus.

- German astronomer Johann Bayer (1572-1625) called it "Equus Posterior" for this reason, but also lists "Equus Major" and "Equus Posterior".

- John Hill lists it as “Alpharos” in his *Urania* in 1754 and lists it as a name of Pegasus and goes on to claim that the Arabs called this constellation “Alpharas Adam” so that it would “not be confounded with Equuleus”. To further add to the confusion, Hill later lists “Kita Al Phoras” as a name for Equuleus, translating this as “part of a horse”, which of course is what the Arabic name Surrat al-Faras means, although as noted in my entry regarding Pegasus earlier, you can see that his constellation was also frequently listed as half of a horse. Then later still Hill lists “Pharas” as a name for Equuleus, claiming it is a version of “Al Pharas” or “Al Acuval” and translating this as “foremost horse”.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Al faras al tháni, the second horse” and goes on to say that this is now a name for just Alpha (α) Equulei (Kitalpha).
- Second Horse is listed as an alternate name in R. H. Allen’s *Star Names* in 1899.

NOTE: The Arabic asterism “(Surrat) al-Faras” (see Navel of the Mare, above) is latinized into variations of “Alpheratz” as is this one.

Second Ibex:

This is one of the asterisms found on the cave ceiling in Armintxe, Spain, estimated to be between 12,000 and 14,000 years old. This is made up of stars of the IAU constellation Cygnus:

- The “body” is an irregular shape starting at a “nose” at Upsilon (υ) Cygni, running to the top of the “head” at 72 Cygni, then down the “back” through HIP 105229 and 68 Cygni to a “back foot” at 55 Cygni, then across a “belly” through Xi (ξ) and Nu (ν) Cygni, and HIP 103894 to the “neck” at HIP 105269, then back to Upsilon (υ) Cygni,
- The “front leg” runs from HIP 103894 to Lambda (λ) Cygni, and
- The “horns” run from 72 Cygni through 74 Cygni to 75 Cygni.

Second Imperial Guard:

There are two Chinese xing guans from the Three Kingdoms to the Ming Dynasty with the name “Shaowei”

- One is the stars Rho (ρ) 1 and 2 Cephei in the IAU constellation Cepheus and is part of their xing guan Purple Forbidden Left Wall (see above).
- One is the star HIP 24254 in the IAU constellation Camelopardalis and is part of their xing guan Purple Forbidden Right Wall (see above).

Second Imperial Minister:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty “Shaocheng” is the star HIP 6522 in the IAU constellation Cepheus and is part of their xing guan Purple Forbidden Left Wall (see above).

Second in the Forearm:

This Arab star “Al Thānī al Dhirāʿ” is Beta (β) Geminorum (Pollux) in the IAU constellation Gemini as listed by R. H. Allen in his *Star Names* in 1899.

Second Leap of a Gazelle:

This Arabic asterism “al-Qafzat uth-Thāniyah” (لقفزة الثّانية) or “Al Fiḳrah al Thānia” is the stars Lambda (λ) and Mu (μ) Ursae Majoris in the IAU constellation Ursa Major and is part of their asterism Three Leaps of a Gazelle:

- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "al thaniyah" as the second leap.
- R. H. Allen lists the name as "Al Ḳafzah al thānīyah" in his *Star Names* in 1899.
- This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "el Phekrah": The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822.

Second of Luck of Lucks:

This Persian star "thānī sa'd al-su'ūd" (ثاني سعد السعود–), later latinized to "Thanih Saad al Saaoud", is Xi (ξ) Aquarii in the IAU constellation Aquarius as listed in the *Calendarium* of Al Achsasi al Mouakket in 1650 and was part of their asterism Auspice of Auspices (see above).

Second of the Aṣāḍhā:

This Vedic nakshatra (lunar mansion) "Uttara Ashadha" or "Uttara Aṣāḍhā" (translated as "second of the Ashadha" or "Later Victory", is a line of two stars in the IAU constellation Sagittarius: Zeta (ζ) and Sigma (σ) Sagittarii. Ivanković (2021) lists it as "Ūttarā Asādhā" from the *Rig-Veda* and "Úttarāh" from the *Taittirīya Brāhmana*, translates this as "former invincible", and relates it to the Visve devas or Visvedevas, which is all the Gods together. sons of Dharma, representing the laws of time and karma. In 2019 Leitz lists this as appearing in the *Atharveda* and on the nakshatra list of the scholar Varahamihir but identifies this as "the star Sagitarrii": Of course, Sagitarii is a suffix which could be applied to any star in Sagittarius. Leitz also writes that the maharshi Parasara listed the stars Tau (τ), Sigma (σ), Phi (ϕ), and Zeta (ζ) Sagitarii, while the *Brhad Samhita* and *Atharvaveda Parisistha* list eight stars. W. Brennand lists this as "Uttarashadha" in his *Hindu Astronomy* and translates this as "the tooth of a wanton elephant, near which is the kernel of the sringataca nut". Bhagwath (2019) lists its symbols as either an elephant's tusk or a small bed.

This Myanmar nekkhat (lunar mansion) "Ottara Than" (ဥတ္တရာသင်္ဃ) is a line of two stars in the IAU constellation Sagittarius: Zeta (ζ) and Sigma (σ) Sagittarii.

This Tibetan gyukar (lunar house) "Chu Smad" or "Chume" is a line of two stars in the IAU constellation Sagittarius: Zeta (ζ) and Sigma (σ) Sagittarii (Johnson-Groh 2013).

Second of the Blessed Feet:

This Vedic nakshatra (lunar mansion) "Uttara Bhadrapada" or "Uttarabhadra" also known as "Uttṛṭṭāti" (उत्तरभाद्रपदा) is a line of two stars in the IAU constellations Andromeda and Pegasus: Gamma (γ) Pegasi and Alpha (α) Andromedae (Alpheratz). It is translated as "second of the blessed feet", "later happy feet", or "higher fortune". It is related to their deity Ahir Budhnya, Dragon of the Deep. Ivanković (2021) lists the older name "Úttarā Prósthapadā" (see Latter Foot Stool, above). In 2019 Leitz lists "Uttara Bhadrapada" as appearing in the *Atharveda* and on the nakshatra list of the scholar Varahamihir but identifies this as "the star Andromedae": Of course, Andromedae is a suffix which could be applied to any star in Andromeda. W. Brennand lists this as "Uttarabhadrapada" in his *Hindu Astronomy* in 1896 and translates this as "another couch". Bhagwath (2019) lists its symbols as twins, the back legs of a cot, or a snake in the water.

This Myanmar nekkhat (lunar mansion) "Ottara Parabaik" (ဥတ္တရာ ပုရပိုက်) is a line of two stars in the IAU constellations Andromeda and Pegasus: Gamma (γ) Pegasi and Alpha (α) Andromedae (Alpheratz).

This Tibetan gyukar (lunar house) “Khrum Smad” or “Trume” (Johnson-Groh 2013) is a line of two stars in the IAU constellations Andromeda and Pegasus: Gamma (γ) Pegasi and Alpha (α) Andromedae (Alpheratz).

Second of the Hyades:

This Latin star “Secunda Hyadum” is Delta (δ) Tauri in the Hyades cluster in the AIU constellation Taurus. The IAU approved the name Secunda Hyadum for the star Delta (δ) Tauri Aa in 2017.

Second of the Virgins:

This Arabic star “thaanii al-aðārii” (ثاني ألعذاري) or “al-ʿAdhāriy”, in the *Calendarium* of Al Achsasi Al Mouakket in 1650, whose name was later latinized to “Thanih al Adzari” is Omicron (o) 2 Canis Majoris in the IAU constellation Canis Major.

This Latin star “Secunda Virginum” is Omicron (o) 2 Canis Majoris in the IAU constellation Canis Major.

Second of Warida:

This Persian star “Thani al Waridah” is Delta (δ) Sagittarii in the IAU constellation Sagittarius as listed in the *Calendarium* of Al Achsasi al Mouakket in 1650 and is part of the asterism Going Ostriches (see above).

Second Prime Minister:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty “Shaozai” is the star Eta (η) Draconis in the IAU constellation Draco and is part of their xing guan Purple Forbidden Left Wall (see above).

Second Protector:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty “Shaobi” is the star Phi (ϕ) Draconis in the IAU constellation Draco and is part of their xing guan Purple Forbidden Left Wall (see above).

Second Reddish One:

This Vedic nakshatra (lunar mansion) “Uttara Phalgunī” is in the IAU constellation Leo and is the star Beta (β) Leonis (Denebola). It is also known as “Uthiram” and translated as “Back Feet of Marriage Bed”. It is related to their deity Aryman or Aryaman, who presides over marriages, family, and children. Leitz (2019) lists this as “Uttara Phalguni” in the *Atharveda* and on the nakshatra list of the maharshi Varahamihir. The maharshi Parasara listed the stars Beta (β) Leonis (Denebola) and 93 Leonis for this asterism, as do several other ancient texts (Leitz 2019). Ivanković (2021) lists it as “Phalgunī” and “Úttarā Phálgunī” from the Rig-Veda and “Úttare” in the *Taittirīya Brāhmana*, and relates it to the Hindu God Aryaman, a protector of horses. W. Brennand lists it as “Uttara Phalguni” in his *Hindu Astronomy* in 1896 and translates this as “another bedstead”. Bhagwath (2019) lists its symbols as four legs of a bed or a hammock. Along with their asterism Purva Phalguni (see First Reddish One, above) this is known as “Phálgunyau” (“Reddish Ones”).

This Myanmar nekkhat (lunar mansion) “Ottara Baragonni” (ဥတ္တရာ ဘရဏီဏ္ဍီ) is in the IAU constellation Leo and is the star Beta (β) Leonis (Denebola).

This Tibetan gyukar (lunar house) “Dbo” or “Wo” (Johnson-Groh 2013) is in the IAU constellation Leo and is the star Beta (β) Leonis (Denebola).

Second Son of the Sun:

This Arawak star is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius. The Sun had two twin sons, and this one was swallowed by the sky anaconda and became the star Antares. The other the Sun placed in a safe place in the sky as the Pleiades (see First Son of the Sun, above).

Second Spout:

This Arabic manzil "al-fargh ath-thani (الفرغ الثاني) is two stars in the IAU constellations Andromeda and Pegasus as listed by Ibn Qutayba: Alpha (α) Andromedae (Alpheratz) and Gamma (γ) Pegasi. It is also known as the Rear Bucket Mouth or Rear Spout (al-fargh al-mu'akhar) or Last Spout (al-fargh al-akhir):

- Variations of this name include "Al Fargu", "Al Farigh al Muʾaḥḥar" ("hind spout of the water jar").
- Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283) called it "Al Farigh al Thānī ("the second spout").
- English Admiral William Henry Smyth (1788 - 1865) listed it as "Alfargu" and "Al farigh al-muäkhker, the hindmost loiterer" in his Bedford Catalogue of 1844.
- R. H. Allen lists this as "Al Fargh al Thānī" in his *Star Names* in 1899, adding that American philologist William Dwight Whitney (1827 – 1894) listed it as "Al Fargh al Mu'hir".
- NOTE: This manzil was later replaced by the asterism Back Side of the Bucket for Water Pouring (see above). It is also known as Rear Two Crossbars of the Bucket (see above) and Lower Crossbar of the Bucket (see above) and part of their asterism Two Spouts (see below).

Second Star of the Butting One:

This Arabic star "al-awwal min al-nath" is Beta (β) Arietis in the IAU constellation Aries and appears in the star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003).Compare to Butting (above).

Second Western General:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty "Xicijiang" or "Tsze Tseang" is the star Iota (ι) Leonis in the IAU constellation Leo and is part of their xing guan Supreme Palace Right Wall (see below).

This Chinese Chenzhuo xing guan "Xicijiang" is the star Iota (ι) Leonis in the IAU constellation Leo. It is part of the Supreme Palace Right Wall.

Second Western Premier:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty "Xicixiang" is the star Theta (θ) Leonis in the IAU constellation Leo and is part of their xing guan Supreme Palace Right Wall (see below).

This Chinese Chenzhuo xing guan "Xishangxiang" is the star Theta (θ) Leonis in the IAU constellation Leo. It is part of the Supreme Palace Right Wall.

Secret Garden Cluster:

This **telescopic** asterism is the open cluster IC 4756 in the IAU constellation Serpens. It was discovered by American astronomer Solon Irving Bailey (1854 – 1931) in 1908. It is also known as the Tweedledee Cluster and Graff's Cluster or Graff 1.

Secunda Hyadum:

See Second of the Hyades, below.

Šedân Brodih:

This Chakavian asterism is the IAU constellation Ursa Major.

Sedlatschek's Rope Jumping Star:

This **telescopic** asterism "Sedlatscheks seilspringender Stern", "SsS", or "Sedlatschek's Rope Jumping Star" is in the IAU constellation Auriga. Its size is 50' X 50'. René Merting lists it on the *Faint Fuzzies* website and describes it as "a filigree elongated arc of stars around Theta [θ] Aurigae." Size 50' X 50'.

Seed:

This Korean asterism "Ssias" (씨앗) is in the IAU constellation Delphinus. A quadrilateral of stars represents the "seed": Eta (η), Epsilon (ε), Kappa (κ), and Iota (ι) Delphini. A line out from Eta (η) to 17 Delphini represents the "sprout".

Seed Basket:

This Gond asterism "Topli" is stars of the IAU constellation Canis Major (Vahia 2014).

Seed Like Sparkles:

This Diné asterism "Dilyéhé" is the Pleiades cluster in the IAU constellation Taurus (Childrey 2008). It is a time keeping asterism for the Diné, who have a saying: "Don't let Dilyéhé see you plant your seeds." The Pleiades disappear in early May and reappear in late June or early July, and this indicates the time to plant seeds. Other Diné stories tell of seven mischievous young boys who follow the ones who plant too late and snatch their seeds out of the ground.

Seed Sowing Instrument:

This Kolam asterism "Tipan", "Tivpate", or "Trivpate" is the IAU constellation Orion (Vahia 2014).

This Gond asterism "Tipan" is the Belt of Orion in the IAU constellation Orion (Vahia 2014) and part of their asterism "Naagardai" (see Plough, above).

Seedling:

This **telescopic** asterism from *Pattern Asterisms* by American astronomer John A. Chiravalle is in the IAU constellation Pegasus ½ a degree from the star 8 Pegasi. A chevron of 9th magnitude stars forms the roots, and the base of the stem is the star HIP 107184 with a cloud of stars next to it to the southeast the branches. Size 15'. John Raymond calls this asterism "Eniph" and Jeffrey Corder lists it as Corder 4491..

Seeds:

This Zuni asterism is the Pleiades cluster in the IAU constellation Taurus.

This Dogon asterism is three stars from the IAU constellation Canis Major: Alpha (α) Canis Majoris (Sirius), Theta (θ) Canis Majoris, and Beta (β) Canis Majoris (Mirzam). One of these (although we're not certain which one) is called "Po Tolo" ("deep beginning"). These and five other stars in this constellation were considered to be "seeds" scattered in the sky by their creator God, Amma.

Seeming of Draco:

This **telescopic** asterism "Dócon Dracónis" is galaxy PGC 39975 (Mrk 205) in the IAU constellation Draco. It was discovered by Cuno Hoffmeister in 1929 but originally thought to be a variable star. John Schmitt identified it as a radio source in 1968. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "NGC 4319 seems to embrace the quasar MRK 205 but the two objects are actually widely separated."

Segin:

This star is Epsilon (ε) Cassiopeiae in the IAU constellation Cassiopeia. It is a corruption of the name Seginus, the name for Gamma (γ) Boötis, which is itself of uncertain origin. The IAU approved the name Segin for Epsilon (ε) Cassiopeiae in 2016.

Seginus:

This star is Gamma (γ) Boötis in the IAU constellation Boötes. The name "Ceginus", "Theguius", "Teginus", or "Seginus" are believed to be Latin mistranslations of an Arabic rendering of the name of the constellation Boötes in the *Almagest*.

- The mid 15th century Wein, Oesterr. National Bibl., manuscript Lat 5415, ff.168v-169r lists it as "Seguin".
- The celestial globe (1480) of German mechanic Hans Dorn (c 1430 – 1506) lists it as "Teginus".
- The Constance Celestial Globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists "Teginus".
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as "Seginus".
- The IAU approved the name Seginus for the star Gamma (γ) Boötis Aa in 2016. Compare this to Ceginus (above) which is the star Phi (ϕ) Boötis and Segin (above) which is Epsilon (ε) Cassiopeiae.

Segment of Perseus:

This asterism is a chain of stars in the IAU constellation Perseus: Eta (η) Persei, Gamma (γ) Persei, Alpha (α) Persei (Algol), Delta (δ) Persei, Epsilon (ε) Persei, and Zeta (ζ) Persei. *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists the "Segment of Perseus" asterism and describes it as "several stars arranged in a line curving toward Ursa Major" and includes the star Alpha (α) Persei (Algenib). R. H. Allen lists this asterism in his *Star Names* in 1899 but does not identify the source.

Segner's Wheel:

This **telescopic** asterism PGC 52283 (Arp 241) is an interacting galaxy in the IAU constellation Boötes. It is called this because it resembles a Segner Wheel, a type of water turbine invented by Johann Andreas Segner in the 18th century.

Seizer:

This Khorasmian asterism "Dharind" is the star Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius as listed by R. H. Allen in his *Star Names* in 1899.

Sekhmet:

This Egyptian star is Delta (δ) Leonis in the IAU constellation Leo as listed in the 19th dynasty Cairo Calendar (Hardy 2003). Sekhmet was a Goddess of destruction, healing, and winds: She is depicted with a lion's head.

Sekopa Morokotšo:

This Tswana morning star is currently unidentified (Alcock 2014).

Selemela se setona:

This Tlôkwa star is Alpha (α) Eridani (Achernar) in the IAU constellation Eridanus. The meaning of the name is uncertain but has to do with digging or ploughing (compare this to Digging stars, above).

Self Mover:

This Vedic star is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes. This is also their nakshatra (lunar mansion) "Very Good" (see below).

Selkis:

This ancient Egyptian asterism is made up of the stars of the IAU constellations Virgo, Leo, and Libra:

- The "body" is a quadrilateral of four stars: Alpha (α) Virginis (Spica), Zeta (ζ) Virginis, Delta (δ) Virginis, and Gamma (γ) Virginis,
- One "foot" is 9 Librae, the other being the star 109 Virginis,
- One "hand" is the star Epsilon (ε) Virginis, and
- The other "arm" runs from Gamma (γ) Virginis to an "elbow" at 91 Leonis, then on through Sigma (σ) Leonis to a "hand" at Nu (ν) Virginis.

Selkis, Selket, Serqet, or Serkis was a funerary Goddess first mentioned in the First Dynasty (c. 3150 – 2890 B.C.E.) and best known from a golden statue from the tomb of Tutankhamun. Compare this to Serket (see below).

Semi-Circle:

There are four **telescopic** "semi-circle" asterisms:

- One is Vastagh 14, listed in 2009 by Hungarian astronomer László Vastagh, which is in the IAU constellation Cassiopeia. Its apparent diameter is 22.5'. Vastagh describes it as "A semicircular [asterism] in the neighborhood of NGC7795. The semicircle is formed by 7 bright stars. In the center, stars fainter than 10.7 mag are grouped. The semicircle and the group of dim members are 10.2 and it is connected by 10.6 core individuals. The total number of members is 18. I find this formation interesting because of its duality and particularly regular shape."
- One is open cluster Collinder 21 in the IAU constellation Triangulum and is listed by René Merting on Robert Zebahl's *Faint Fuzzies* website. Its size is 6' X 6'.
- One is Elosser 1 in the IAU constellation Orion, halfway between the stars Pi (π) 2 and 3 Orionis. It consists of thirteen stars hooked around a golden 9th magnitude star. It is part of a list by American amateur astronomer David Elosser from North Carolina. René Merting lists it on Robert Zebahl's *Faint Fuzzies* website and notes that it looks like an "old fashioned rocket ship" (see Rocket Ship, above).

- One is Simonic 8 from the list of Hungarian astronomer Ilona Simon Mogyorósi, which is in the IAU constellation Eridanus. This is Ennis 13 listed by Canadian astronomer Charles Ennis.

Semtet:

This Egyptian decan "Semtet" was in the IAU constellation Capricornus. In later Hellenistic texts it was named "ϲϺϪΤ" ("Smat"). In the Testament of Solomon, it became "Hapax" or "Harpax", Aristobulus of Paneas (2nd century B.C.E.) called it "Eracto", in Greek Hermeticism it became "Tair", in Latin Hermeticism "Renpsois", 4th century Roman astrologer Julius Firmicus Maternus called it "Themeso", Cosmas of Maiuma (d. 760) called it "Asklepios", French scholar Joseph Justus Scaliger (1540 - 1609) called it "Themeso" and German Jesuit astronomer Athanasius Kircher (1602 – 1680) called it "ϲϢΔϪ" ("Soda"). This has been depicted as a headless man with a scarab-shell girdle with a flask in his right hand and a scepter in his left.

Send Armed Forces to Suppress (Vassal of Three Stars):

This Chinese asterism "Fá" (伐(附参宿)) is the IAU constellation Orion. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

Senior Judge:

This Chinese star from the Three Kingdoms to the Ming Dynasty "Sili" is Theta (θ) Ursae Majoris in the IAU constellation Ursa Major and is part of their asterism "Wénchāng" (文昌) - see Administrative Centre, above.

Separate:

This Kiribati star "Kamaranga" is currently unidentified (Trussel and Groves 1978).

Septet:

This Egyptian decan "Septet" was in the IAU constellation Cancer. In later Hellenistic texts it was named "ϲϢϴIϹ" ("Sopdet"). In the Testament of Solomon, it became "Metathiax", Aristobulus of Paneas (2nd century B.C.E.) called it "Panem", in Greek Hermeticism it became "Sotheir", in Latin Hermeticism "Seneptois", 4th century Roman astrologer Julius Firmicus Maternus called it "Sothis" or "Socius", Cosmas of Maiuma (d. 760) called it "Nike", French scholar Joseph Justus Scaliger (1540 - 1609) called it "Sothis" and German Jesuit astronomer Athanasius Kircher (1602 – 1680) called it "ΔΠΟΛΛΟΥΝ" ("Apollun"). It has been depicted as a man with a dog's head and serpent's body seated on a pedestal. Compare this to Sothis, below.

Sepulchre:

See Christ's Tomb, above.

Sergeant's Stripes:

This **telescopic** asterism is the open cluster Messier 93 in the IAU constellation Puppis. It was discovered by French astronomer Charles Messier in 1781. It was independently discovered by English astronomer Caroline Herschel two years later. It is listed in the 1864 General Catalogue as GC 1571 and in John Herschel's catalogue as h 3098. It was given this name by American astronomer Wayne Schmidt.

Serikoai:

This Carib asterism is the IAU constellation Orion (Magaña, and Jara, 1982). Wawaiya is the wife of Serikoai. Wawaiya ran off with a tapir. Serikoia chased them caught the tapir and ate all of it except its head. Wawaiya and the tapir's head (the Hyades) ran up into the sky where Serikoai chases them.

Serious Snake:

This Latin asterism "Coluber Furiosus" is the IAU constellation Hydra. Johann Bayer's *Uranometria* (1603) lists "Coluber Furiosus".

Serket:

This ancient Egyptian asterism is made up of stars of the IAU constellation Virgo. Serket (Serqet, Selket, Selqet or Selcis) is a Goddess of fertility, animals, and medicine. It is believed that she originated in a deification of the scorpion, as she was believed to be a healer of venomous stings and is usually depicted as a woman with a scorpion on her crown. The earliest known example is on a sky map on the ceiling of the tomb of Senmut, adviser of Hatschepsut, in Thebes. Compare this to Selkis (see above).

Serpens:

The brightest stars of Serpens are 2nd magnitude, and the stars of this constellation show up in 116 asterisms in this handbook.

This IAU constellation "the Serpent" (IAU abbreviation Ser), the serpent, was first mentioned in Aratus' poem *Phaenomena* (270 B.C.E.) and became one of Ptolemy's 48 original constellations "Ὄφις" ("Ófis" - see Snake, below) or "Ερπετόν" ("Erpetón" or "serpent") in the 2nd century, though it was originally considered part of Ophiuchus and called "Ὄφις Ὀφιοῦχου" ("Ófis Ofioúchou"). Greek mythology identifies this as the snake of the healer Asclepius. The Roman general Germanicus (15 B.C.E. – 19 C.E.) first called it "Serpentarius", and this later became "Serpentum", "Serpentiger", "Serpentinarius", and "Serpens". This constellation has been called the "Serpent of Aesculapius", "Caesius", "Glaucus", "Laocoön", and "Ophiuchus". It has been described as "Serpens Herculeus", "Serpens Lernaeus", and "Serpens Sagarinus".

Serpens is unique amongst IAU constellations in that it is split into two non-contiguous parts:

- Serpens Caput ("serpent head"): This is the western portion.
- Serpens Cauda ("serpent tail"): This is the eastern portion.

The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) depicts this constellation as a nude male striding to our left holding a snake in front of him with the snake's head to the his right (our left).

The Mainz Globe from the eastern end of the Roman empire (c. 150 – 220 C.E.) depicts Serpentarius as a nude male facing away from us, looking over his left shoulder, holding a snake which winds around his waist.

The globe of the 2nd century Farnese Atlas depicts Serpens as a snake being held by "Serpentarius" (Stevenson 1921).

The *Revised Aratus Latinus* (8th century) lists "Serpentarius" as the IAU constellations Serpens and Scorpio. The *De ordine ac positione stellarum in signis* ("*On the order and position of the stars in the signs*") in the Salzburg compilation (810 – 818) of Abbot Arno of Salzburg (785 – 821) lists "Serpentarius" and "qui Graece Ophiuchus vocatur" ('which the Greeks call Ophiuchus" as holding Serpens.

Kauffmann's translation of the *De ordine ac positione stellarum in signis* ("*On the order and position of the stars in the signs*") in 1888 lists "qui Graece Ophiuchus vocatur" ("who in Greek is called Ophiuchus") and "quem Hydrum nominant" ("whom they call Hydra"). The 9th century Berlin 130, Madrid 3307, Monza F.9/176 and Vat lat 645 manuscripts of the *De ordine ac positione stellarum in signis* depict Serpentarius nude as seen from the rear with Serpens facing away from him. The Munich 210 and Vienna ÖNB 387 manuscripts of the *De ordine ac positione stellarum in signis* depict Serpentarius facing us, holding a snake in front of him. The Austin, TX, Ransom Ms 29, and St. Petersburg, Q.V. IX, no.2 manuscripts of the *De ordine ac positione stellarum in signis* depict Serpens facing Serpentarius, but the Paris BN n.a. 1614 manuscript does not. The Paris BN, 12117 and Vat Reg lat 309 manuscripts of the *De ordine ac positione stellarum in signis* depict Serpentarius nude walking to the left, looking backwards over his shoulder, holding Serpens so that its body is horizontal.

This constellation appears in the Leiden *Aratea* (816) as "Serpens" and is a depicted as a snake being held by a nude male viewed from the rear.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi's son depicts Serpens as a serpent being held by Ophiuchus. On one page its head is to the right, and on the other it is to the left. The serpent runs behind the back of Ophiuchus and has two coils.

The 11th century *De signis caeli ("of the signs of heaven*") lists "Serpentarius" and "Asclepius" for this constellation. The Klosterneuberg 685, Paris BN 5239, Paris BN 5543, Vat lat 643, and Zwettl 296 manuscripts of *De signis caeli* depict him holding the snake under his left arm and standing on Scorpius. The Germanicus text in Aberyswyth 735C and in the Hyginus text in Leiden 8° 15 manuscripts of *De signis caeli* depict the snake making an "X" across the body of Serpentarius.

The 12th century Vienna ÖNB Vindob 12600 manuscript of the *De ordine ac positione stellarum in signis* depicts Serpentarius facing forward.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Serpens as a serpent with two coils that is being held in front of Ophiuchus.

Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) depicts Serpens Caput as a snake with its jaws wide with one knot in its length.

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Serpens as a serpent with two coils being held behind the back of Ophiuchus.

The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.168v-169r depicts Serpens as a snake wound around the wrists and middle of Ophiuchus.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.71v-72r depicts Serpens as a snake wrapped around the wrists and waist of Ophiuchus.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Serpens as a serpent with two coils that is tied around the waist of Ophiuchus. It is not labelled.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Serpens as a serpent coiled around the waist of Ophiuchus, its head on our left.

The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts “Serpens” as a serpent with four coils being held by “Serpentarius”:

The early 16th century Real Academia de Historia, manuscript D-97, f.102v – 103r depicts Serpens as a snake being held in front of Ophiuchus and running between his legs. It is not labelled.

The “Nuremburg Maps” *(Die Karte des Nördlichen Sternenhimmels* inv.-Nr. Hz 5576), a pair of celestial hemispheres made in 1503 by Conrad Heinfogel, depicts Serpens as a serpent wound around the arms and knotted about the waist of Ophiuchus, its head to our left. It is not labelled.

The 1515 edition of the *Almagest* and 1521 edition of the *Alfonsine Tables* listed it as “Serpens Alangue”.

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts “Serpens” as a serpent with five coils being held by “Serpentarius”.

Dele Stelle Fisse (“Of the Fixed Stars”) by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as “Del Serpe d’Esculapio” (“Of the Serpent of Aesculapius”). The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as the “Serpent of the Serpent Carrier”.

The Northern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Serpens as a serpent wound around the arms and knotted around the waist of Ophiuchus, its head to our left.

Jesuit German mathematician Christopher Clavius (1538 – 1612) Lists this constellation as “Serpens Ophiuchi” in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicted “Serpens Ophiuci” as a snake with pointed ears and sharp teeth with one coil: Elsewhere he depicts Ophiuchus holding a serpent, but only the serpent’s straight body is seen as its head and tail are out of view.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts this constellation as a serpent being held in front of Ophiuchus. The label is unintelligible.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts “Serpens” as a serpent coiling around the arms and waist of Ophiuchus, its head to our left.

German uranographer Johann Bayer (1572 – 1625) depicts it in his *Uranometria* in 1603 as a Serpent on its own but elsewhere shows it as part of Ophiuchus.

Danish astronomer Tycho Brahe’s *Astronomiae Instauratae Progymnasmata* (1602) lists “Serpentarius” as a name for Ophiuchus and “Serpens Ophiuchi” for Serpens.

Johann Bayer’s *Uranometria* (1603) lists “Serpens” as an alternate name for Draco.

The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch lists “Serpentarius” as an alternate name for Ophiuchus.

German astronomer Johann Bayer (1572-1625) lists both Serpens with Ophiuchus on one chart and Serpens alone on another in his *Uranometria* in 1603.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts "Serpens" as a serpent being held by Ophiuchus.

"Serpens" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and depicted as a serpent being held by Ophiuchus.

Giovanni Paolo Gallucci's *Theatrum Mundi, et Temporis* (1614) labels this constellation "Orphiuchi Serpiente", "Serpentario" and "Orphicus" and depicts it separately from the serpent bearer Ophiuchus, as a serpent with a single loop.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the name "Serpens Ophiuchi" for this constellation.

"Serpens" is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a serpent being held by "Serpentarius".

The huge *Gottorf Globe* (c1650) made for the Duke of Holstein, Frederick III, one of the world's first planetariums, depicts only the upper half of Ophiuchus and parts of Serpens, including its head, above the edge of this dome.

Robert Hues lists it as "the serpent" and "Serpentarius" in his *Learned Treatise on Globes* in 1659.

This constellation is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "Serpentarius" and "Ophiuchus" and is depicted as a nude male holding a serpent in both hands which runs between his legs. The serpent is labelled "Serpens Ophiuchi".

Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) depicts Serpens as a serpent coiled around the waist of Ophiuchus.

The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678 by English uranographer James Clerk depicts "Serpens" as a serpent being held by Serpentarius.

English uranographer John Seller's *A coelestiall planisphere* (1678) depicts "Serpens" as a serpent being held by Serpentarius.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts "Serpens" as a serpent with a arrow point tongue and floppy ears being held in front of Serpentarius.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this "Le Serpent", "Serpens", and "Ερπετόν" and depicts it as a dragon headed serpent with two coils being held by Ophiuchus.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, depicts Serpens as a serpent being held by Ophiuchus (that he labels Serpentarius) that is wound around his waist.

Serpens is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts “Serpens” as a serpent being held by Ophiuchus. It shows him having two coils.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts “Serpens Ophiuchi” as a snake being held by “Serpentarius”: This snake is facing to our right.

German engraver and cartographer Tobias Conrad Lotter’s *Planisphaerium Coeleste* (1750) depicts Serpens as a serpent being held in front of Ophiuchus (which he labels “Serpentarius”).

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Serpens as a serpent being held in front of Ophiuchus.

French uranographer Gabriel Phillipe de la Hire’s *Planisphere Celeste* (1760) depicts “Le Serpent” as a serpent being held by Ophiuchus.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts Serpens as a serpent being held by Ophiuchus.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts “Le Serpent” as a snake being held by “Le Serpentaire”.

Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists this constellation as ”Kopf und Hals der Schlange“.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as “Serpente” in his *Della Specola Astronomica De’ Regj Studj Di Palermo* (1792).

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts Serpens as a serpent being held by Ophiuchus.

In John Hill’s *Urania* in 1754 this constellation is listed as “Serpentary” and “Serpentarius”, which were both commonly used names in his day.

The French edition of Flamsteed’s work, the *Atlas Céleste,* which was revised in 1778, lists “le Serpentaire”. He is depicted as a bearded male holding a snake with both hands. The snake runs between his legs.

American uranographer William Croswell (1760 – 1834) depicts “Serpens the Serpent” on his *Mercator Map of the Starry Heavens* in 1810 as a serpent being held by Ophiuchus, running between the legs of Ophiuchus.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists “Ophiuchus vel Serpentarius” for Ophiuchus and Serpens for just the snake his *Celestial Atlas* in 1822. This is depicted as an older balding bearded man in a toga holding a snake in his hands which passes between his legs. Jameison’s *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822) depicts it the same way, but lists “Serpens” and “Ophiuchus” separately.

German astronomer Johann Elert Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as “Schlange”. Bode’s *Vorstellung Der Gestirne* (1782) lists this constellation as “Schlange” and depicts it as a snake being held by Ophiuchus.

"Serpens" is listed in in two parts either side of Ophiuchus in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875)

"Serpens" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as a snake being held in front of Ophiuchus.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts Serpens as a four coiled serpent being held by Ophiuchus, but does not label it.

Serpentarius is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on Jamieson's *Celestial Atlas*. It is depicted as a bald bearded man in a toga with the snake passing between his legs.

"Serpens" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It is depicted as a serpent being held by Ophiuchus, with its head to our right.

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Serpens, The Serpent" as an official constellation "recognized in the catalogue of the British Association".

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as one: "Ophiuchus et Serpens, the Serpent-bearer and the Serpent".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Serpens" in his *Star Atlas* (1893) and describes it as "The Serpent".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Serpens" and describes it as a "Serpent".

Serpens is depicted on standard IAU charts in two parts:

- The "head" is a triangle of the stars Beta (β) Serpentis (Chow), Gamma (γ) Serpentis, and Kappa (κ) Serpentis, with the "front half" of the serpent running from Chow through Delta (δ) Serpentis, Alpha (α) Serpentis (Unukalhai), Epsilon (ε) Serpentis, and Omega (ω) Serpentis to Mu (μ) Serpentis,
- The "tail" is the line running from Nu (ν) Serpentis through Xi (ξ) Serpentis, Omicron (ο) Serpentis, Eta (η) Serpentis, and 4 Aquilae to Theta (θ) 1 Serpentis.

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) redesigned the lines of Ophiuchus and Serpentis in his book *The Stars - A New Way to See Them* (1952):

- The "head" is a triangle of the stars Beta (β) Serpentis (Chow), Gamma (γ) Serpentis, Kappa (κ) Serpentis, and Iota (ι) Serpentis,
- The front part of the serpent's "body" runs from Chow through Delta (δ) Serpentis, Lambda (λ) Serpentis, Alpha (α) Serpentis (Unukalhai), Epsilon (ε) Serpentis, Omega (ω) Serpentis, Mu (μ) Serpentis, Delta (δ) Ophiuchi, and Epsilon (ε) Ophiuchi, to Upsilon (υ) Ophiuchi,
- The "tai" of the serpent starts at Nu (ν) Ophiuchi and runs through Xi (ξ) Serpentis, Omicron o() Serpentis, Nu (ν) Ophiuchi, Eta (η) Serpentis, Rho (ρ) Serpentis, 71 Ophiuchi, and 72 Ophiuchi to Theta (θ) 1 Serpentis.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) redesigned Ophiuchus and Serpens in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik*:

- Serpens' "head" is an "X" formed by the stars Rho (ρ), Iota (ι), Kappa (κ), Gamma (γ), and Beta (β) Serpentis (Nasak Shamiya).
- Serpens' "body" runs from Beta (β) Serpentis (Nasak Shamiya) through Delta (δ) Serpentis, Alpha (α) Serpentis (Unukalhai), and Epsilon (ε) Serpentis, to Delta (δ) Ophiuchi.

Sky and Telescope Magazine, founded in 1941, depicts in their magazine and publications like this:

- The "head" is a triangle of the stars Beta (β) Serpentis (Chow), Gamma (γ) Serpentis, Kappa (κ) Serpentis, and Iota (ι) Serpentis,
- The "body" is a line running from Chow through Delta (δ) Serpentis, Alpha (α) Serpentis (Unukalhai), Epsilon (υ) Serpentis, Omega (ω) Serpentis, Mu (μ) Serpentis, Delta (δ) Ophiuchi, Epsilon (ε) Ophiuchi, Zeta (ζ) Ophiuchi, Eta (η) Ophiuchi, Xi (ξ) Serpentis, Nu (ν) Ophiuchi, and Eta (η) Serpentis to Theta (θ) Serpentis.

It is known as "le Serpent" in France and "il Serpente" in Italy.

Serpent:

This asterism from the Babylonian MUL.APIN tablets "Nirah", "Mush", or "MUSH" (Anthony 1996) is named for their snake God. This is the IAU constellation Hydra. Later Seleucid sky lore simply calls it "the Snake".

This Babylonian asterism "MUL.DINGIR.MUŠ" or "Mušḫuššu "was a serpent that later became the IAU constellation Hydra. It is listed in the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period as "mul mus" (Koch-Westeholz 1995).

This Persian (Achaemenid, 539 – 331 B.C.E.) asterism "mus" is the IAU constellation Hydra (Weidner 1971).

This Euphratian asterism "Nu-tsir-da" is the IAU constellation Serpens as listed in R. H. Allen's *Star Names* in 1899. Allen translates this as "image of the serpent".

This Arabic asterism "al-ḥayya", later latinized to "Al Hayya" and "Al Hayyah", is the stars Alpha (α) Draconis (Thuban), Kappa (κ) Draconis, Lambda (λ) Draconis, and 10 Draconis in the IAU constellation Draco:

- A 14th century Christian Spanish astrolabe #4560 lists "al hayya" (King 2002).
- Italian astronomer Giovanni Batista Riccioli (1598 – 1671) lists it as "El Havic".
- John Hill lists "Haiya", "Al Hayro" "Haijer", and "Hawitz" as Arabic names of the entire constellation Draco in his *Urania* in 1754.
- In his *Star Names* in 1899, R. H. Allen writes that later translations of this Arabic name appeared as a name for the entire constellation.

There are two Egyptian asterisms with the name "Ophis" that are paranatellonta of Gemini as listed in the *Sphaera Barbarica* described by Teucros (Mosenkis, date n/k);

- One (rising in the morning) Mosenkis describes as "Lynx or Eridanus".

- One (rising in the evening) Mosenkis describes as “Serpens or Lacerta”.

This Hebrew asterism “Hajah” is the IAU constellation Draco as listed by John Hill in his *Urania* in 1745.

This Vedic asterism “Sarpa” is the stars Delta (δ), Epsilon (ε), Eta (η), Rho (ρ), and Sigma (σ) Hydrae in the IAU constellation Hydra (Ivanković 2021). It is also known as “Āślēṣā” (see Embracer, above).

This asterism “Aphaak” is the IAU constellation Draco as listed in John Hill’s *Urania* in 1754: HIll describes this as “one of the Arabic names… that signifies a serpent” which is not the case.

This Greek asterism “Ophis” is the IAU constellation Serpens as listed in John Hill’s *Urania* in 1754. NOTE: A serpent appears next to the Greek asterism Twins (see below) in the Daressy Zodiac of the Roman Imperial Period.

This Belarussian asterism “Zmej” is made up of stars of the IAU constellation Draco and the star Alpha (α) Ursa Minoris (Polaris- Avilin 2009).

This Romanian asterism “şarpe” or “Şarpele” is a combination of the IAU constellations Serpens and Ophiuchus (Ottescu 2009, Lite, Lodina, and Ignat 2018): They’ve combined the two to create this large asterism.

There are two Inca asterisms with the name “Mach’aqway”, “Mach’acuay”, or “Machacuay” (Brosseder 2010, Urton 2022):

- One from Misminay and Sonqo is the dark nebulosity between the star Epsilon (ε) Canis Majoris (Adhara) in the IAU constellation Canis Major and the IAU constellation Crux.
- One from Yucay is the “tail” of the IAU constellation Scorpius: Upsilon (υ), Lambda (λ), Kappa (κ), Iota (ι) 1, Theta (θ), Eta (η), Zeta (ζ) 2, Mu (μ) 2, and Epsilon (ε) Scorpii.

This Wiradjuri asterism “Wāwi” is the dark nebulosity between the IAU constellations Crux and Vela in the Milky Way. Wāwi is a magical serpent who lives in deep waterholes.

This **telescopic** asterism is in the IAU constellation Cepheus and is Corder 693 on the observing list of American astronomer Jeffrey Corder. Size 25’. This is a winding line of stars starting at HIP 20982 and running through the double star HIP 20860A, HIP 10629, HIP 22166, HIP 23010, and HIP 23206, then turning and ending at a 7.70 magnitude star.

Serpent Bearer:

This Hebrew asterism “Utzerath Hajah” is the IAU constellation Serpens as listed in John Hill’s *Urania* in 1754.

This German asterism “Schlangenträger” is the IAU constellation Ophiuchus.

This Latin asterism “Serpentis Lator” (“serpent bearer”) is the IAU constellation Ophiuchus. Johann Bayer’s *Uranometria* (1603) lists “Serpentis lator” as an alternate name for Ophiuchus. The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch lists “Anuitenens”, “Anguiger” and “Serpentis Lator” (“the serpent’s bearer”) as alternate names for Ophiuchus.

English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Serpentis Lator”.

Serpent between the two Arcturus:

"Serpens Inter Ambas Arcturos" is the IAU constellation Draco as described in several editions (Dresden DC 183, Paris BN 12957, Prague IX. C. 6) of the *Revised Aratus Latinus* (8th century). This is a reference to it being between Arcturus Major (Ursa Major, see Arcturus Major, above), and Arcturus Minor (Ursa Minor, see Arcturus Minor, above). The snake is depicted as having three curves.

Serpent Bitten:

This Khorasmian asterism "Markhashik" is the stars Theta (θ) and Xi (ξ) Ophiuchi in the IAU constellation Ophiuchus. It is identified by this name in Richard H. Allen's *Star Names* in 1899.

Serpent Changing to the Condor:

"Amaru Contor" is a Quechua name for the IAU constellation Scorpius (Urton 1981) from Chumbiyilcas.

Serpent Defender:

This Latin asterism "Serpentis Praeses" is the IAU constellation Ophiuchus.

Serpent Frame:

This Moche asterism is the IAU constellation Orion. The star Epsilon (ε) Orionis (Alnilam) is a thief, and the stars to either side, Zeta (ζ) Orionis (Alnitak) and Delta (δ) Orionis (Mintaka) are the people holding him and the other stars of the constellation are vultures attacking him.

Serpent Lisi:

This Chaldean asterism "mul mus mul li.si" from the Great Star List (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period is the IAU constellation Hydra (Koch-Westenholz 1995). Compare this to the Akkadian asterism Lion's Heart (see above) and Seleucid asterism Scorpion's Heart (see above).

Serpent on the Tree:

This Egyptian asterism "Serpent on the Tree which was hunted by Heracles" is one of the paranatellonta of decans of Gemini as listed in the *Sphaera Barbarica* described by Teucros (Mosenkis, date n/k) and is the IAU constellation Serpens.

Serpent Tailed of Ophiuchus:

This **telescopic** asterism "Ophiúra Ophiúchi" is the intermediate barred spiral galaxy NGC 6384 in the IAU constellation Ophiuchus. It was discovered by Albert Marth in 1863. It became GC 4306 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "it has many thin curved arms, like serpent tails".

Serpent Tamer:

This Persian asterism "Garafsa" is the stars Zeta (ζ), Eta (η), Theta (θ), and Xi (ξ) Ophiuchi in the IAU constellation Ophiuchus as listed in R. H. Allen's *Star Names* in 1899. The name "Garafsa" is also used for Theta (θ) Ophiuchi alone.

Serpentine Chain:

This **telescopic** asterism Kernya 86 was listed by Hungarian astronomer Gábor János Kernya in 2016 and is a line of stars in the IAU constellation Cepheus. Kernya describes this "small asterism" as being "at the base of Sharpless 130".

Serpentine Column:

This **telescopic** asterism, also known as the "Orion Belt Cluster" is open cluster Collinder 70 in the IAU constellation Orion. This is an S curve of stars between Epsilon (ε) Orionis and Delta (δ) Orionis.

Serpent's Tail:

This **telescopic** asterism is in the IAU constellation Scorpius and is on the observing lists of John A. Chiravalle. Jeffrey Corder lists it as Corder 3152. Size 45'. This includes the stars HIP 82598, 82731, 82792, and 82848.

Sérsic Cluster:

This **telescopic** asterism is globular cluster is ESO 118-31 in the IAU constellation Reticulum. It is named after Argentine astronomer José Luis Sérsic (1933 – 1993), who created Sérsic's law, a function describing how the intensity of a galaxy varies with distance. It is also known as the Reticulum Cluster or Reticulum Dwarf Galaxy.

Sert:

This Egyptian decan "Sert" was in the IAU constellation Capricornus. In later Hellenistic texts it was named "ϲρω" ("Si-rat"). In the Testament of Solomon, it became "Physikoreth" or "Alleborith", Aristobulus of Paneas (2nd century B. C.E.) called it "Seros", in Greek Hermeticism it became "Epichnaus", in Latin Hermeticism "Marcois", 4th century Roman astrologer Julius Firmicus Maternus called it "Omot", Cosmas of Maiuma (d. 760) called it "Tolma", French scholar Joseph Justus Scaliger (1540 - 1609) called it "Homoth" and German Jesuit astronomer Athanasius Kircher (1602 – 1680) called it "ʜoɴoγϕϳ" ("Monuphta").

Servant Cooking:

This is an alternate name for the Pawnee asterism Errand Man (see above) and is part of their asterism Council of Chiefs.

Servant of Ursa Major:

This **telescopic** asterism "Famulus Úrsae Majóris" is the dwarf galaxy UGC 5336 in the IAU constellation Ursa Major. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "as a dwarf companion of NGC 3031… this galaxy can deservedly be considered a servant of its big neighbour."

Servants:

This German star is Gamma (γ) Arietis in the IAU constellation Aries:

- This star originally shared the name "Al-Šarṭain" with the star Beta (β) Arietis (Sheratan- see Two Signs, below), but the name got corrupted in Medieval manuscripts to "Sartai", which German astronomer Johann Bayer (1572-1625) assumed was a corruption of the Hebrew term "מְשָׁרְתִים" ("m^{e}shār^{e}thīm") and later astronomers adopted this name "Mesarthim" or "Mesartim".
- German poet Philipp von Zesen (1619 – 1689) gave the name "Scartai", a corruption of Sartai.

- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Mesarthim".
- Scottish uranographer Alexander Jamieson (1782 – 1850) listed "Mesarthim" it in his *Celestial Atlas* in 1822.
- German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this star as "Mesarthim" s does Bode's *Vorstellung Der Gestirne* (1782).
- English astronomer William Henry Smyth (1788 - 1865) listed the name as "Mesartun".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Sartai, a corruption of Al Sharataïn" and "Mesartim".
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich list "Mesarthim".
- "Mesarthim" is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on Jamieson's *Celestial Atlas*.
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Mesartim".
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as "Mesarthim".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists "Mesarthim" and "Mesartim" for this star, but his 14th edition (1959) only lists "Mesarthim" for this star.
- The IAU has approved the name Mesarthim for the star Gamma (γ) 1 Arietis A.

Serving Antinoum:

This Latin asterism "Servans Antinoüm" is the IAU constellation Aquila and relates to the obsolete constellation Antinous (see above). Johann Bayer's *Uranometria* (1603) lists "Servans Antinoum" as a name for Aquila.

Servius Sulpicius Rufus Lemonia:

This Latin asterism is the IAU constellation as listed by 1st century Roman poet Marcus Manilius, who named it after this great Roman lawyer and friend of Cicero (106 – 43 B.C.E.).

Settlement:

This Arabic star "Ḥaḍār" (حضار) is Beta (β) Centauri in the IAU constellation Centaurus:

- "Hidār" is listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- "hadāri al-munith yatlu' qabla Suhayl min matla'ihi" is listed on the star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003). "al-munith" means "swearing of a bad oath" (Kunitzsch & Langerman 2003).
- This was later latinized to "Hadar".
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists "Hadar" for this star.
- The IAU approved the name Hadar for the star Beta (β) Centauri Aa.

Seulainer:

This Teutonic asterism is the Pleiades cluster in the IAU constellation Taurus as listed by R. H. Allen in his *Star Names* in 1899.

Seven:

This Hawaiian asterism "Na Hiku" ('the seven") is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above). The full name is actually "Na Hiku-ka-Huihui-a-Makalii" ("the cluster of the seven of Makalii"). The Hawaiians gave each of the seven stars a number:

- "Hiku-kahi" ("Seven-one"): Dubhe
- "Hiku-['a]lua" ("Seven-two"): Merak
- "Hiku-kolu" ("Seven-three"): Phad
- "Hiku-[a]ha" ("Seven-four"): Megrez
- "Hiku-lima" ("Seven-five"): Alioth
- "Hiku-ono" ("Seven-six"): Mizar, and
- "Hiku-pau" ("Seven-finished"): Alkaid.

This Shona asterism "Chinyamunomwe" is the Pleiades cluster in the IAU constellation Taurus.

This Babylonian asterism "d.BI" (Hunger 1992) from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) is the Pleiades cluster in the IAU constellation Taurus.

This Akkadian asterism "Sebetti" (Hunger 1992) from the *Astrological Reports to the Kings* of the late Assyrian period is the Pleaides cluster in the IAU constellation Taurus (Parpola 1993, Belmonte Esteve 2018).

This Bedouin asterism "al-Sibbaʿ" (السبَّع) is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above).

This Hungarian asterism "Heteveny" is the Pleiades cluster in the IAU constellation Taurus.

This Finnish asterism "Het'e wāʻne" is the Pleiades cluster in the IAU constellation Taurus as listed by R. H. Allen in his *Star Names* in 1899.

This Kazakh asterism "Zhetigen" is the Big Dipper asterism in the IAU constellation Ursa Major.

Seven Antelopes:

This Vedic asterism is the is the Big Dipper asterism in the IAU constellation Ursa Major as listed in R. H. Allen's *Star Names* in 1899.

Seven Arrows in the Sky:

This telescopic asterism is an arc of stars in the vicinity of Flamsteed 43 about 1.3 degrees west of Beta (β) Ursae Majoris (Merak). The group subtends less than 0.3 degrees and includes six stars of 8^{th} – 9^{th} magnitude (including HIP 53061 and 53052), and one of 7^{th} magnitude (HIP 53036). This was reported in Chapter XIV of Pierrre Borel's 1655 book *De Vero Telescopii Inventore* ("On the True Inventor of the Telescope") as being discovered by Dutch spectacle maker Johannes Sachariassen. Borel included a woodcut of this asterism, depicting 7 stars interspersed with arrows representing the seven Dutch provinces. Johannes Sachariassen is the son of Sacharias Janssen, a man thought for two centuries to be the true inventor of the telescope.

Seven Atlantic Sisters:

This English asterism is the Pleiades cluster as listed by English poet John Milton (1608 – 1674) and by R. H. Allen in his *Star Names* in 1899. This is a reference to the Atlantides, another name for the Hesperides. English author Geoffrey Chaucer (c.1340s – 1400) called them "Atlantes Doughtres Sevene" in *House of Fame*. Compare this to Eoae Atlantides, above.

Seven Assassins:

This Chinese star "Qisha" is Mu (μ) Sagittarii in the IAU constellation Sagittarius and is part of their xiù (lunar mansion) "Dǒuxiù" (斗宿) – see Dipper, above.

Seven Bears:

This Vedic asterism is the is the Big Dipper asterism in the IAU constellation Ursa Major as listed in R. H. Allen's *Star Names* in 1899.

Seven Birds:

This Ininew (Cree) asterism, "Tepahkoop Pinesisuk", is the stars of the IAU constellation Corona Borealis (Buck 2016).

Seven Boys:

This Mono asterism is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above).

This Cherokee asterism "Ani Tsutsa" is the Pleiades cluster in the IAU constellation Taurus.

Seven Brothers:

This Sardinian asterism "sos sette frades" is the Big Dipper asterism in the IAU constellation Ursa Major (Putzolu 2019).

This Shíshálh asterism is the Big Dipper asterism (see Big Dipper, above), with each star being a brother representing one of their clans. This information was obtained from Shíshálh artist ?antuni "Tony" Paul in 2019 while working on his Reconciliation Totem Pole.

There are two Japanese asterisms by this name:

- The first is the stars of the tail of Scorpius in the IAU constellation Scorpius).
- The second is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above).

This Serbian asterism "Vlašiči" is the Pleiades cluster in the IAU constellation Taurus (Avilin 2018). Each of them has a name, and these vary from region to region. The regional names of these stars include:

- Mika, Mioka, Raka, Raoka, Orisav, Borisav, and Milisav.
- Vole, Voleta, Rale, Raleta, Mile, Mileta, and Pržožak.
- Vao, Vaska, Mio, Mioka, Skarabojo, Borisav, and Biliurak.
- Mile, Mileta, Rade, Radeta, Bore, Boreta, and Prigimaz.
- Ale, Aleta, Šurko, Burko, and Mišurko

This Blackfoot, Cheyenne, Kitkiti'sh, and Apsáalooke asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Berezkin 2005). Each of the seven stars is a brother and the star 80 Ursae Majoris (Alcor) is a younger sister.

This Tsuut'ina asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Berezkin 2005). Each of the seven stars is a brother and the star 80 Ursae Majoris (Alcor) is their sister's dog.

Seven Brother's Driver:

This Sardinian star "su trubadore de sos sette frades" is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes (Putzolu 2019).

Seven Buddhas:

This Mongolian asterism, "Doloon Burkan", is the Big Dipper asterism in the IAU constellation Ursa Major (Lagain & Rousseau 2015).

Seven Bulls:

This Vedic asterism is the is the Big Dipper asterism in the IAU constellation Ursa Major as listed in R. H. Allen's *Star Names* in 1899. Boutet (2014) notes that the Pleiades were considered seven cows (see Seven Cows, above) associated to these seven bulls.

Seven Champions of Christendom:

This Christian asterism is the IAU constellation Ursa Major. These saints are St. George, St. Andrew, St. Patrick, St. Denis, St. James Boanerges, St. Anthony the Lesser, and St. David, who are the patron saints of, respectively, England, Scotland, Ireland, France, Spain, Portugal, and Wales. This is listed in R. H. Allen's *Star Names* in 1899. Allen does not identify the source.

Seven Cousins:

This Arrernte asterism is the Pleaides cluster in the IAU constellation Taurus (Clarke 2009). It is seven female cousins. Compare this to Seven Sisters (below).

Seven Cows:

This Vedic asterism is the Pleiades cluster in the IAU constellation Taurus (Boutet 2014). It is associated with their asterism Seven Bulls (see above).

Seven Doves:

This Greek asterism is the Pleiades cluster in the IAU constellation Taurus as listed in R. H. Allen's *Star Names* in 1899.

This Sicilian asterism "Sette Palommielle" ("seven dovelets") of Giambattista Basile's *Pentamerone* is the Pleiades cluster in the IAU constellation Taurus as listed in R. H. Allen's *Star Names* in 1899.

Seven Elders:

This Kazakh asterism "Zheti Qart" is the Big Dipper asterism in the IAU constellation Ursa Major.

Seven Excellencies:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of seven stars in the IAU constellations Boötes, Corona Borealis, and Hercules: Starting at the determinative star Gamma (γ) Boötis it runs through Beta (β) Boötis (Nekkar), Mu (μ) 1 Boötis, Lambda (λ) Coronae Borealis, 25 Herculis, Eta (η) Herculis, and HIP 83947.

This Chinese xing guan "Qīgōng" (七公) is a line of stars in the IAU constellation Hercules: 42, Tau (τ), Phi (ϕ), Chi (χ), Nu (ν) 1 and 2, Mu (μ) 1 and 2, and Delta (δ) Herculis.

Seven Flames:

This Portuguese asterism "Sete Flammas" is the Big Dipper asterism in the IAU constellation Ursa Major as listed by the Portuguese poet Luís de Camões (1524 – 1580).

Seven Foxes:

This Khakas asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Berezkin 2005).

Seven Girls:

This Dakota/Lakota/Nakota asterism "Wicincala Salowin" is the Pleiades cluster in the IAU constellation Taurus.

Seven Girls of Bear Lodge:

This Mayan, Aztec, and Kiowa asterism is the Pleiades cluster in the IAU constellation Taurus.

Seven Goats:

This Basque asterism "Zazpi Ahuntzak" is the Little Dipper asterism in the IAU constellation Ursa Minor (Knörr 1999, Frank 2021). It is related to their asterism "Artzain" (see Shepherd, below).

This Spanish asterism (Cuzco area) "Siete Cabrillas" is the is the Pleiades cluster in the IAU constellation Taurus (Urton 1981). English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 simply lists "Cabrillas".

Seven Godmothers:

This Armenian asterism "Sayl" is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above). They believe God turned these seven godmothers into seven stars in the sky.

Seven Gods:

This Babylonian asterism "dIMIN.BI" or "ilu sibitti" (Anthony 1996) is the Pleiades cluster in the IAU constellation Taurus.

This Seleucid asterism is the Pleiades cluster in the IAU constellation Taurus.

This Mongol asterism "Dolen Khan" is the Big Dipper asterism in the IAU constellation Ursa Major (Jaambayeva 2019).

Seven Hermits:

This asterism "Saptar Shayar" is the IAU constellation Ursa Major as listed by Iranian astronomer Abu Rayhan Muhammad ibn Ahmad al-Biruni (973 – c. 1050), quoting Indian astrologer Varāhamihira (c. 505 – c. 587). In this asterism the star Alcor is the Pious Woman (see above). Al Biruni wrote that another star, not identified, is the "Chaste Woman, Vumdhati".

Seven Houses of Your Cousins:

This Tibetan khyim (zodiac constellation) is the Pleiades cluster in the IAU constellation Taurus.

Seven Hunters:

This Carib asterism is the Pleiades cluster in the IAU constellation Taurus (Magaña, and Jara, 1982).

Seven Husbands:

This Mono asterism is the Hyades cluster in the IAU constellation Taurus. This is associated to their asterism Six Wives (see below). These husbands are chasing their wives (the Pleiades) across the sky.

Seven Little Girls:

This Lakota asterism is the Pleiades cluster in the IAU constellation Taurus (Hollow Horn Bear 2013).

Seven Little Goats:

This Spanish and Piemontese (Chaco Region, Argentina) asterism "los siete cabritos" is the Pleiades cluster in the IAU constellation Taurus (Mudrik 2011).

This Visayan asterism is the Pleiades cluster in the IAU constellation Taurus as listed by Miguel de Loarca in 1582.

Seven Little Nanny Goats:

This asterism "las Siete Cabrillas" is the Pleiades cluster in the IAU constellation Taurus as listed by Spanish author Don Miguel de Cervantes Saavedra in *Don Quixote* in 1605.

Seven Macaw:

This K'iche' asterism "Vucub Caquix", found in some K'iche' dictionaries, is the Big Dipper is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above). In the Mayan creation story, Popol Vuh, Vucub Caquix is a bird deity who climbs up a tree to proclaim himself the Sun but is shot down by Hunahpu.

Seven Marias:

This Ch'orti' and Tzotzil (Zinacanatán) asterism is the belt and sword of Orion in the IAU constellation Orion (Milbrath 1999). The belt of Orion is known to them as the Three Marias (see below).

Seven Men:

This Belarussian asterism "Siem Malciev" or "Siem Malcov" is the Pleiades cluster in the IAU constellation Taurus (Avilin 2018).

Seven Moment:

This Kedehan asterism "Bintang Ketika" is the Pleiades cluster in the IAU constellation Taurus (Jaafar and Khairuddun 2019).

Seven Oxen:

This Latin asterism "Septentriones" or simply "Septem" has been used for both the Big Dipper in the IAU constellation Ursa Major, and the Little Dipper in Ursa Minor. Because there are seven stars in both of these Dippers, the Latin word for "north" is "septentrio" ("seven oxen"). The ploughman driving these oxen is Boötes (see Ploughman, above).

The *De Natura Rerum Liber ("book on the nature of things*") by Isidori Hisapensis (Isidore of Seville, ca 560 – 636 C.E.) has this entry: "Arcturus [Alpha (α) Boötis] is that constellation which the Latins call Septentrion, which revolves in its own revolution shining with the rays of seven stars" and refers to it as "the chariot": This is clearly a reference to the Big Dipper

Geoffrey Chaucer (c.1340s – 1400) listed it as "Septentrioun" and William Shakespeare (1564 – 1616), in *King Henry VI*, called it "Septentrion" as did Shakespeare's friend Michael Drayton (1563 – 1631), and John Milton (1608 – 1674) in *Paradise Regained*, and Robert Bulwer-Lytton (1831 – 1891).

Johann Bayer's *Uranometria* (1603) lists "Septentrio" as a name for both Ursa Minor and Ursa Major.

Robert Hues lists "Septentriones" in his *A Learned Treatise of Globes* in 1659.

Edward Sherburne lists it as "Septem Triones" in his *Sphere of Marcus Manilius* in 1675, associating it with Ursa major.

John Hill lists it as "Septemtriones" in his *Urania* in 1754.

American uranographer William Croswell (1760 – 1834) depicts the Big Dipper asterism on his *Mercator Map of the Starry Heavens* in 1810 and labels it "Septentrio Charles's Wain".

English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Septentrionis". Boutet (2014) lists it as "Septemtrion".

English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Septentrio" as a name for Boötes.

This Romanian asterism "Şapte Boi" is the Big Dipper asterism in the IAU constellation Ursa Major (Ottescu 2009). They are being driven by the Little Herdsman (see above).

Seven Parakeets:

This Aruanãs asterism "Birri" is the Pleiades cluster in the IAU constellation Taurus (De Freita Mourão 2009).

Seven Poets:

This Greek asterism is the Pleiades cluster in the IAU constellation Taurus as listed in R. H. Allen's *Star Names* in 1899. Allen places this in the 3rd century B. C. and identifies the poets as "Apollonius of Rhodes, Callimachus or Philiscus, Homer the Younger of Hierapolis in Caria, Lycophron, Nicander, Theocritus, and our Aratos".

This French asterism, also known as the "Great Pléiade" is the Pleiades cluster in the IAU constellation Taurus as listed in R. H. Allen's *Star Names* in 1899. Allen places this in the 16th century and identifies the poets as including "Charlemagne… Ronsard, the "Prince of Poets,… [and] d'Aurat, or Dorat, the "Modern Pindar."

This American asterism, also known as the Pleiades of Connecticut, is the Pleiades cluster in the IAU constellation Taurus as listed in R. H. Allen's *Star Names* in 1899. Allen lists the poets as Richard Alsop, Joel Barlow, Theodore Dwight, Timothy Dwight, Lemuel Hopkins, David Humphreys, and John Trumbull.

Seven Portuguese Towers:

This Portuguese asterism “Portugalia” was created from the stars of the IAU constellation Virgo by German astronomer Erhard Weigel (1625 – 99) who produced his *Astrocopium Orbi Europaeo Sacrum* chart in 1661, 1681 and 1688 in which he tried to replace existing constellations a new system based upon the heraldry of the nation states and principalities of seventeenth century Europe, as well as of its principal hierarchies and social classes. It represents Portugal and is depicted by a semi circle of seven towers.

Seven Princesses:

This Malay asterism “Jula Juli Bintang Tujuh” is the Pleiades cluster in the IAU constellation Taurus (Jaafar and Khairuddun 2019). This is related to a Malay myth about seven princesses whose affections were contested by three different parties.

Seven Quail:

This Kedehan asterism “Bintang Puyuh” is the Pleiades cluster in the IAU constellation Taurus (Jaafar and Khairuddun 2019).

Seven Sacraments:

This Yucatec asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Milbrath 1999). They believe that counting them will result in the death of one’s spouse.

Seven Sages:

This Vedic asterism “Saptarshis”, Saptarsayah”, or “Saptarsi” is the Big Dipper asterism in the IAU constellation Ursa Major (Boutet 2014, Bhagwath 2019). The Big Dipper is a boat in which the seven sages are sailing, protected by the Vedic asterism Shisumara (see Dolphin, above). The seven sages are each assigned a star and their names are:

- Alpha (α) Ursae Majoris (Dubhe): Kratu or Jamadagni.
- Beta (β) Ursae Majoris: Pulaha, Visvâmitra
- Eta (η) Ursae Majoris: Bhrigu, Bhrgu, Kasyapa, Gautama or Marìci,
- Delta (δ) Ursae Majoris: Atri or Daksa
- Epsilon (ε) Ursae Majoris: Angiras, Angirā, or Bharadvàja
- Zeta (ζ) Ursae Majoris: Vasishtha, Vasistha, Vaśiṣṭha
- Gamma (γ) Ursae Majoris: Pulastya.

Some lists name Eta (η) Ursae Majoris “Marichi” (see above) and Merak as “Pulaha”. The star 80 Ursae Majoris (Alcor) is called “Arundhati”.

This asterism is the Pleiades cluster in the IAU constellation Taurus as listed in R. H. Allen’s *Star Names* in 1899. Allen places this in “the Philosophical Pleiad of 620 to 550 B.C.” and identifies them “as Bias, Chilo, Cleobūlus, Epimenides or Periander, Pittacus, Solon, and the astronomer Thales”.

This Celtic asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Boutet 2014). The seven sages are each assigned a star and their names are:

- Uesos (“knower”)
- Uocomarcos (“research”)
- Sulacsus or Eulacsus (“wisdom”)
- Uirionos (“truth”)
- Ueros (“overly”)

- Andiatis (“superior”), and
- Uindonos (“dazzling”).

Seven Siblings:

This Tibetan khyim (constellation) “Karma Pun Dhun” is the Little Dipper asterism in the IAU constellation Ursa Minor (Johnson-Groh 2013). These siblings got into a race and the first two tied. The fifth star is a hunter with a dog (Mizar and Alcor).

Seven Sisters:

This Ngarrindjeri and Ngemba asterism is the Pleiades cluster in the IAU constellation Taurus (Clarke 2009, Fuller and Bursill 2021).

This Wiradjuri asterism “Malandyang” is the Pleiades cluster in the IAU constellation Taurus. They are being chased by the “Gibirgang” (see Three Brothers, below). Compare this to the Yolgnu asterism Mayi Mayi (see Seven Young Sisters, above) or the Kamilaroi/Euahlayi asterism “Miyaay Miyaay” (see below).

This Kamilaroi/Euahlayi asterism “Miyaay Miyaay” is the Pleiades cluster in the IAU constellation Taurus. They are being chased by the Birray Birray (see Uninitiated Boys, below). The Kamilaroi believe that these sisters were pushed into the sky when the two trees they were cutting bark from suddenly grew higher and higher (Clarke 2009).

This Bundjalung area asterism “War-ring-garai” is the Pleiades cluster in the IAU constellation Taurus (Clarke 2009, Matthews 1904). Their rising and setting indicated the beginning of cold and warm seasons.

The peoples indigenous to the area of Kimberley, Australia, see the Pleiades cluster in the IAU constellation Taurus as sisters being chased across the sky by old man which is the planet Venus (Clarke 2009).

This Nunkunu asterism is the Pleiades cluster in the IAU constellation Taurus (Clarke 2009). They were chased into the sky by three brothers.

NOTE: Tindale (1980) and Clarke (2009) write that in Western Australia these sisters are often accompanied by dingo dogs and that in the Darling River area the people told that the sisters were out gathering yams and were carried into the sky by a whirlwind (Clarke 2009). In the Kokatha area the people tell of how the sisters were devoured by the Serpent Ancestor Akurra, who were released into the sky when he drowned.

This Ojibwe asterism is the Pleiades cluster in the IAU constellation Taurus (Morin 2022).

This German (Volga Community, Argentina) asterism “las siete hermanas” is the Pleiades cluster in the IAU constellation Taurus (Mudrik 2011).

This Irish asterism is the Pleiades cluster in the IAU constellation Taurus (Boutet 2014). One of the stars was known as the “Old Woman” or the Hag of Beara, a triune Goddess who appears with her sisters Cailleach Bolus and Cailleach Corca Duibhne.

This American asterism is the Pleiades cluster in the IAU constellation Taurus. *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) describes the “Pleiades (Job xxxviii.31) or the Seven Sisters”.

Seven Sisters-in-Law and Brother-in-Law:

This Ben Raji asterism “Hatai Halyou daa Salla” is the Pleiades cluster in the IAU constellation Taurus.

Seven Sisters of the Pole:

This **telescopic** asterism is made up of the stars of the IAU constellations Cepheus and Ursa Minor close to Alpha (α) Ursae Minoris (Polaris). This is listed by German astronomer Robert Zebahl, is Corder 4965 on Jeffrey Corder’s list, and is listed in the SAC database. The seven stars include 2 Ursae Minoris, HIP 115746, 109693, 112833, 113116 and 112519. Its size is 180’. It is also known as the “False Pleiades”.

Seven Sleepers of Ephesus:

This Greek asterism is the IAU constellation Ursa Major and is related to the story of this name written by 10th century chronicler of saints Symeon Metaphrastes. These seven people slept on the slopes of Mount Coelian: Compare this to the star “Mons Coelius” (see Heavenly Mountain, above).

Seven Sons:

This Korean asterism is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above).

Seven Star:

This Northern Icelandic asterism “Sjaustirni” is the Pleiades cluster in the IAU constellation Taurus (Bender 2020, Cleasby and Vigfusson 1874). While in the singular, the word is used to refer to a cluster of stars.

Seven Stars:

This Chinese Chenzhuo xing guan is a winding line of seven stars in the IAU constellation Hydra: Iota (ι) Hydrae, Tau (τ) 1 & 2 Hydrae, HIP 46404, Alpha (α) Hydrae (Alphard), 27 Hydrae, and 26 Hydrae.

This Malay and Temuan asterism “Bintang Tujuh” is the Pleiades cluster in the IAU constellation Taurus. Many seafaring peoples of Malaysia see this star cluster as some sort of creature with a tail, but the identity of this creature is uncertain: Jaafar and Khairuddun (2019) believe that it may be a stingray. It is also known as “Bintang Suraya”, which is a reference to the Arabic asterism “Al Thurayya” (see Little Abundant One, above).

This “Turkish” asterism “Yidigher Yilduz” is the IAU constellation Ursa Major as listed in Edward Sherburne’s *Sphere of Marcus Manilius* in 1675. John Hill lists it as “Yidgher Yilduz” in his *Urania* in 1754 as does R. H. Allen in his Star Names in 1899.

This Old High German asterism “Sibunstirri” is the Pleiades cluster in the IAU constellation Taurus (Bender 2020, Grimm 1873). This is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as “das Sieben Gestirn” and “Septistellium”.

This Basque asterism “Zazpi Izarrak” is the Big Dipper asterism in the IAU constellation Ursa Major (Frank 2021). Knörr (1999) identifies it as the Little Dipper.

This Bugis asterism “Worong-porongngé Bintoéng Pitu” (“cluster of seven stars”) is the Pleiades cluster in the IAU constellation Taurus.

This Icelandic asterism “Siebengestien Gluke” or “Ebergedrängel” is the Pleiades cluster in the IAU constellation Taurus. Compare this to the Northern Icelandic asterism Seven Star, above.

This Saxon asterism “Siebengestirn” is the Pleiades cluster in the IAU constellation Taurus as depicted in the “Nördliche Sternhimmel” sky map of O. S. Reuters based on the work of German astronomer Johann Elert Bode (1747 – 1826). R. H. Allen lists “Sifunsterri” in his *Star Names* in 1899.

This German asterism “Siebengestirn” is the Pleiades cluster as listed by R. H. Allen in his *Star Names* in 1899. German astronomer Johann Bayer (1572-1625) listed “Septistellum”.

This English asterism is the Pleiades cluster in the IAU constellation Taurus. Geoffrey Chaucer (c.1340s – 1400) listed “sterres seven”. “Seven Stars” is listed in John Hill’s *Urania* in 1754.

This American asterism is the Pleiades cluster in the IAU constellation Taurus. *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this name for the Pleiades. R. H. Allen lists it in his *Star Names* in 1899 and writes that it occurs “in various early Bible versions”.

This Elvish asterism “Ostelen” or “Egedil” is is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above) and appears in the later works of J. R. R. Tolkien (1892 – 1973).

This Finnish asterism “Seitsemän Tähteä” ” is the Big Dipper asterism in the IAU constellation Ursa Major. R. H. Allen lists this as “Seitsen tahtinen” in his *Star Names* in 1899.

This Tupi asterism “Setestrelo” is the Pleiades cluster in the IAU constellation Taurus (De Freita Mourão 2009).

This Xerente asterism is the Pleiades cluster in the IAU constellation Taurus (Urton 2016).

This /Xam asterism is the Pleiades cluster in the IAU constellation Taurus (Holbrook and De Prada-Samper 2016).

This Salish asterism “Čsṕeʔlčs Kʷkʷusm” may be either the IAU constellation Ursa Major or Ursa Minor (Pete 2023). It was documented in the early 1800s by Schaeffer.

Seven Stars of the North:

This Korean asterism is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above).

Seven Thieves:

This Basque asterism “Zazpi Ohoinak” is the Big Dipper asterism in the IAU constellation Ursa Major (Knörr 1999, Frank 2021). Compare this to the Macedonian asterism Thieves (see below). Knörr also lists it as a name for the Little Dipper.

This Kazakh asterism “Zheti Qaraqshy” or “Jeti karakshi” is the Big Dipper asterism in the IAU constellation Ursa Major (Jaambayeva 2019).

This Altai and Kyrghyz asterism “Jeti Karaksy” is the Big Dipper asterism in the IAU constellation Ursa Major (Jaambayeva 2019).

This Tuvan asterism “Zhety-uragan” is the Big Dipper asterism in the IAU constellation Ursa Major (Jaambayeva 2019).

This Telengit asterism “Zhety-gan” is the Big Dipper asterism in the IAU constellation Ursa Major (Jaambayeva 2019).

This Uyghur asterism “Ity-gan” is the Big Dipper asterism in the IAU constellation Ursa Major (Jaambayeva 2019).

Seven Virgins:

This Greek asterism is the Pleiades cluster as listed by the Greek poet Hesiod and by R. H. Allen in his *Star Names* in 1899.

This Northern Sotho asterism is the Pleiades cluster in the IAU constellation Taurus. These virgins are fleeing from a hunting dog, the star Sirius (see Hunting Dog, above).

Seven Wise Men:

There are two Greek asterisms by this name:

One is the Pleiades cluster in the IAU constellation Taurus as listed in R. H. Allen’s *Star Names* in 1899. Allen places this in “the Philosophical Pleiad of 620 to 550 B.C.”

One is the Big Dipper asterism in the IAU constellation Ursa Major as listed in R. H. Allen’s *Star Names* in 1899.

Seven Young Men:

This Yolgnu asterism “Berai Berai” is the IAU constellation Orion. They pursue the Mayi Mayi (see Seven Young Sisters, below). They died of love after being rejected and the music from the Mayi Mayi (the Pleiades) makes them dance at night.

Seven Young Sisters:

This Yolgnu asterism “Mayi Mayi” or “Meamai” is the Pleiades cluster in the IAU constellation Taurus. They had long hair and bodies of icicles and thunder is the sound of them laughing and playing. A large family of young men, the Berai Berai (see Seven Young Men, above) followed them. One of them, Karambal (see above) made off with one of them, and the sisters sent wintry weather to force him to release her. Another version of this story has a “Werrinah”, “Wurunna” or “Wurrunnah” (“wise man”) stealing some of the sisters (see Wise Man, below). The Yolgnu have a custom of throwing coals from the fire towards them to keep these icy women from making it too cold.

In the Mldrin Nations area of Australia this asterism is the Pleiades cluster in the IAU constellation Taurus (Clarke 2009). It was believed that these women controlled the cold and warm seasons.

This Ngarrindjeri asterism is the Pleiades cluster in the IAU constellation Taurus (Clarke 2009). Like the Yolgnu, they have a custom of throwing coals from the fire towards them to keep these icy spirit women from making it too cold.

This Ngiyampaa asterism is the Pleiades cluster in the IAU constellation Taurus. They were chased into the sky by a man who became the Moon, while an old clever woman chasing him became the Sun and teaches him the law.

Seven Young Women (Sisters):

This Kamilaroi/Euahlayi asterism “Miyay Miyay”, “Mai Mai”, “Miai Miai”, “Mirrai Mirrai”, or “MeaMei” (Parker 1905) or “Miyaymiyay” (Fuller et al 2014) is the Pleiades star cluster in the IAU constellation Taurus. “Miyay” means “girl” and Miyay Miyay means “several girls”. These women, depending on the story, were chased by the Birray Birray (see Uninitiated Boys, below), or by various Wiringins or other bad persons. These women prayed for deliverance and Bhaiami and Turramulan heard them and lifted

them into the sky. The Kamilaroi believe that as one sister is shy, normally we only see six stars. They are protected from the Birray Birray in Orion by the Wiringin, Old Dthillar (see above), who is the star Alpha (α) Tauri (Aldebaran).

This Bunjalung asterism "Wareenggary" is the Pleiades cluster in the IAU constellation Taurus. One of them was captured by Karambal (see above). This was listed in *Folklore of the Australian Aborigines*, Science of Man, Vol. 1, 1898, p. 119.

Seventh:

This Bedouin star "al-Swaibi'" (السويبع) is Eta (η) Ursae Majoris in the IAU constellation Ursa Major.

Severed Leg:

This Caribbean star is Beta (β) Orionis (Rigel) in the IAU constellation Orion and is part of their asterism "Troi Rois" (see below).

Sextans:

None of the stars of Sextans are on the list of 90 brightest stars: Only one 4th magnitude star, Alpha (α) Sextantis, is above the fifth magnitude. The stars of this constellation only show up in 39 of the asterisms in this handbook.

This IAU constellation "the Sextant" (IAU abbreviation Sex) was created in 1687 by Polish astronomer Johannes Hevelius and originally named "Sextans Uraniae" ("Urania's sextant"). This was an instrument frequently used by Hevelius to make his observations. Hevelius' *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, labels it "Sextans" on one chart page and "Uraniae Sextans" on another.

Sextans is listed in German astronomer Johann Doppelmayr's *Atlas Coelestis* (c. 1730).

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, labels this constellation "Sextans Urania" and depicts it as a sextant.

Sextans is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts "Sextans Uraniæ" as a sextant.

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) labels this constellation "Sextans Uraniae" and depicts it as a sextant.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Sextans as a sextant.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "le Sextans" as a sextant as does the 1778 edition.

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Der Sextant".

Scottish uranographer Alexander Jamieson (1782 – 1850) lists this constellation as "Sextans Uraniae" on one chart in his *Celestial Atlas* in 1822 and simply as "Sextans" on another.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depict "Sextans" as a sextant.

Sextans is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on Jamieson's *Celestial Atlas*.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as "Uran-Sextant" and Bode's *Vorstellung Der Gestirne* (1782) lists this constellation on the charts as "Sextant" and depicts it as a sextant.

"Sextans" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as a sextant.

"Sextans" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It is depicted as a sextant.

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Sextans, The Sextant" as an official constellation "recognized in the catalogue of the British Association".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Sextans" in his *Star Atlas* (1893) and describes it as "The Sextant".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Sextans" and describes it as a "Sextant".

The 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) lists "Sextans" and gives the "original form" as "Sextans Uraniae, Urania's Sextant".

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Sextans".

Standard IAU charts depict Sextans as a line of the two stars Alpha (α) and Beta (β) Sextantis.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Sextans in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* as a "V" shape of three stars: Alpha (α), Gamma (γ), and Beta (β) Sextantis.

Sky and Telescope Magazine, founded in 1941, depicts Sextans in their magazine and publications as a bending line of the stars Delta (δ), Beta (β), Alpha (α) and Gamma (γ) Sextantis.

Sextans A:

This **telescopic** asterism is the dwarf irregular galaxy UGCA 205 (PCG 29653) in the IAU constellation Ursa Major. It is also known as the "Little Square of Sextans" (see above).

Seyfert's Sextet:

This **telescopic** asterism Hickson 79 is a group of galaxies in the IAU constellation Serpens:

- Lenticular galaxy NGC 6027,
- Spiral galaxy NGC 6027a,
- Interacting lenticular galaxy NGC 6027b,
- Barred spiral galaxy NGC 6027c

- Barred spiral galaxy NGC 6027d, and
- The tidal tail of NGC 6027, called NGC 6027e.

It is named after American astronomer Carl Keenan Seyfert who discovered it in 1951. NGC 6027 appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010) as "Seyfertiána Serpéntis" ("belonging to Seyfert of Serpens").

Shackled Woman:

This Arabic asterism "Almar'at Almuqayada" (المرأة المقيدة) which translates as "shackled woman" is the IAU constellation Andromeda, following the Greek myth of Andromeda. Compare this to Chained Woman, above.

Shade:

This Chinese star "Yin" is Tau (τ) Sagittarii in the IAU constellation Sagittarius and is part of their xiù (lunar mansion) "Dǒuxiù" (斗宿) – see Dipper, above.

Shaft:

This asterism "Shafte" is the stars Beta (β) Ursa Minoris (Kochab) and Gamma (γ) Ursae Minoris (Pherkad), which are the two end stars in the "Little Dipper" asterism of the constellation Ursa Minor (see Little Dipper, above). English Admiral Henry William Smyth lists this in his *Bedford Catalogue* in 1844 and attributes it to Welsh physician Robert Recorde (d 1558) who included it in his *Castle of Knowledge*.

Shaft and Wheels:

This Estonian asterism is the IAU constellation Orion (Kuperjanov 2006). It was first recorded by Robert Livländer in 1923.

Shaft of a Plough:

This Belarussian asterism "Kigachi ragachy" is the constellation Orion (Avilin 2009). It is also known as "Kosy" (see Scythes, above), "Matawila" (see Wheel, below), "Traiko" (see Three Times, below), "Karomyselko" (see Small Yoke, below), "Grabli" (see Rake, above), "Kastsy" (see Mowers, above), "Try Karali" (see Three Kings, below), "Kasar" (see Mower, above), "Kreselca Pana Jezusa" (see Lord Jesus' Chair, above), "Tri Siostry" (see Three Sisters, below), "Prahi" or "Prapradki" (see Yarn Spinners, below), "Asilki" (see above), "Kryzhe" (see Cross, above), "Lisa" (see Fox, above), and "Trohkutnaia" (see With Three Corners, below).

Shaftbow:

This Estonian asterism is the "W" asterism in the IAU constellation Cassiopeia (Kuperjanov 2006). This is from the island of Saaremaa.

Shag:

This Wardaman asterism is the stars Epsilon (ε) and Sigma (σ) Cygni in the IAU constellation Cygnus (Cairns and Harney 2003).

Shaken of Lepus:

This **telescopic** asterism "Labefáctus Léporis" is the barred spiral galaxy NGC 1744 in the IAU constellation Lepus. It was discovered in 1835 by British astronomer John Herschel who listed it as 2692 and later GC 964 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name because of its "disordered shape".

Shaker:

This Greek star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Holberg 2007). It got this name as it was observed to be twinkling (due to turbulence in the atmosphere, part of what modern astronomers call "seeing"). The ancient Greeks thought that the star emitted "emanations" that caused disease and anxiety. Compare to the Inuit asterism Flickering (above).

Shala:

See Maiden, above.

Sham:

See Arrow, above.

Shama:

See "Small Lamp", below.

Shapley's of Sculptor:

This telescopic **asterism** "Shapléia Sculptóris" is the dwarf galaxy PGC 3589 (ESO 351-30) in the IAU constellation Sculptor. It was discovered by Harlow Shapley in 1937. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this to honor Harlow Shapley (1885 – 1972). It is also known as the Sculptor Dwarf.

Sharing Foxes:

This Inuit asterism is the Pleiades cluster in the IAU constellation Taurus (MacDonald 1998). It is also known as "Breastbone" (see above).

Sharjah:

This **telescopic** United Arab Emirates star is HIP 79431 in the IAU constellation Scorpius (magnitude 79431). It was given this name in the IAU NameExoWorlds campaign. It is named for their cultural capital. It has an exoplanet named Barajeel, which is a type of wind tower used to recirculate air as a form of air conditioning.

Shark:

This Mayan asterism "Xoc" is made up of stars of the IAU constellations Hydra, Libra, Centaurus, and Lupus: Alpha (α) and Beta (β) Lupi, Eta (η), Zeta (ζ), Iota (ι), and Theta (θ) Centauri, and Eta (η) Hydrae, and Nu (ν) Librae. Compare this to the postclassic Mayan asterism Fish Snake (see above).

This Kala Lagaw Ya asterism "Baidam" is centered on the Big Dipper asterism in the IAU constellation Ursa Major (Hamacher 2017).

This Meriam Mir asterism "Baizam" is centered on the Big Dipper asterism in IAU constellation Ursa Major (Hamacher 2017).

This Māori asterism “Māngō” or “Māngōroa” has its “head” in the Coal Sack Nebula (see Coal Sack, above), and its “neck and body” stretching out through the dust lanes of the Milky Way past the galactic bulge near the IAU constellation Scorpius.

This Polynesian asterism from the Tuamotu archipelago “Te Aku” has its “head” in the Coal Sack Nebula (see Coal Sack, above), and its “neck and body” stretching out through the dust lanes of the Milky Way past the galactic bulge near the IAU constellation Scorpius.

This Tahitian asterism has its “head” in the Coal Sack Nebula (see Coal Sack, above), and its “neck and body” stretching out through the dust lanes of the Milky Way past the galactic bulge near the IAU constellation Scorpius.

This Kiwai Papuan asterism “Baidamu” is the IAU constellation Ursa Major.

This Kiribati asterism “Baibure”, “Nei Tebaibure”, or “Baiburebure” is a group of five stars in a V shape in the IAU constellation Pegasus (Trussel and Groves 1978). A baibure is a type of shark with white spots on its fins.

This Kiribati asterism “Bakoa” is the sword of Orion in the IAU constellation Orion (Trussel and Groves 1978). Bakoa is a general term for sharks in this culture.

This 12-star **telescopic** asterism from *Pattern Asterisms* by American astronomer John A. Chiravalle is found in the IAU constellation Ursa Minor, 2 degrees from the star 21 Ursae Minoris. Jeffrey Corder lists this as Corder 3093. John Raymond calls this the “Ursa Minor Pseudo Cluster”. Size 120’ X 90’:

- Four stars form the “tail”: HIP 83184, 82847, 82871 and 83225,
- The star HIP 82061 is the “back”,
- A chevron of five stars forms the “nose”: HIP 81528, 81219, 81156, 80850, and 81854, and
- HIP 82571 is the “fin”.

Shark Nebula:

This **telescopic** asterism is dark nebula is LDN 1235 in the IAU constellation Cepheus. This is in the catalogues of American astronomer Beverly Turner Lynds (1929 – 2024). It is also known as the Dark Shark Nebula (see above).

Shark of the Heavenly Night:

This Hawaiian star “Manokalnipo” is Delta (δ) Pegasi (Alpheratz) in the IAU constellation Pegasus. This is a title of Mō’i of O’ahu, who brought prosperity to his people.

Shark Stars:

This Bugis asterism “Bintoéng Balé Mangngiweng” is the “tail” end of the IAU constellation Scorpius: Eta (η), Theta (θ), Iota (ι), Kappa (κ), Lambda (λ), and Nu (ν) Scorpii.

Shark Tooth:

This **telescopic** asterism in the IAU constellation Taurus is Corder 883 on the observing list of American astronomer Jeffrey Corder. Size 90’. Corder describes this as a “prehistoric shark tooth” and it is bounded by the double star 125 Tauri, the double star HIP 26332, HIP 25969, HIP 26291, the double star HIP 26396B, and the double star HIP 26571.

Shark’s Entrails:

This Kiribati asterism “kurikuri” is made up of stars of the IAU constellations Leo and Centaurus (Trussel and Groves 1978). Kurikuri is a part of a shark’s entrails.

Sharmishtha:

This Hindu asterism is the IAU constellation Cassiopeia. Sharmishtha is the daughter of King Vrishparva.

Sharp Leaf of Canes Venatici:

This **telescopic** asterism “Acutifólium Cánum Venaticórum” is the barred spiral galaxy NGC 5297 in the IAU constellation Canes Venatici. It was discovered in 1787 by William Herschel who listed it as “I 180”. It became GC 3652 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it has “sharp ends and thin arms”. It is also known as the “Hook Galaxy”.

Sharp Sighted of Lynx:

This **telescopic** asterism “Oxydérces Lýncis” is the barred spiral galaxy UGC 3685 in the IAU constellation Lynx. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “in Hevelius’ 17th century Uranographia star atlas, this galaxy is situated in the head of Lynx, an animal famous for its keen eyesight”.

Sharply Pointed of Virgo:

This **telescopic** asterism “Oxýpages Vírginis” is the edge-on barred spiral galaxy NGC 5073 in the IAU constellation Virgo. It was discovered in 1785 by William Herschel who listed it as “III 282”. It became GC 3483 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Shattered:

This Iñupiat asterism “Siqupsiqat” is the Pleaides cluster in the IAU constellation Taurus.

Shaula:

See Raised Tail of the Scorpion, above.

She Bear:

This Evenk asterism is the IAU constellation Ursa Major (Dmitrieva and Romeiko 2009).

This Belarussian asterism “Viadmedzitsa” is the IAU constellation Ursa Major (Avilin 2009).

She Camel:

This Arabic asterism “Jamal” (جمل) is made up of the stars of the IAU constellations Andromeda, Cassiopeia, and Perseus:

- The “head” is the stars Lambda (λ), Kappa (κ), Iota (ι) and Phi (ϕ) Andromedae,
- The “neck” is a curving line running from Lambda (λ) Andromedae through 22 Andromedae, HIP 2225, HIP 2900, Pi (π) Cassiopeiae, Omicron (ο) Cassiopeiae, Xi (ξ) Cassiopeiae, and Zeta (ζ) Cassiopeiae to Lambda (λ) Cassiopeiae.

- The “hump” is Beta (β) Cassiopeiae (Caph) and its “body” is an oval of stars running around from Caph through Lambda (λ) Cassiopeiae, Alpha (α) Cassiopeiae (Sheddar), Eta (η) Cassiopeiae, Upsilon (υ) 1 and 2 Cassiopeiae, Gamma (γ) Cassiopeiae, HIP 4151 and Kappa (κ) Cassiopeiae,
- The “tail” is a line from Kappa (κ) Cassiopeiae to Epsilon (ε) Cassiopeiae,
- The “legs” are two lines of two stars:
    - One runs from HIP 5251 to Phi (ϕ) Persei, and
    - One runs from HIP 4998 to 51 Andromedae.

She Camel’s Hump:

This Arabic star “Al Sanām al Nākah” is Beta (β) Cassiopeiae (Caph) in the IAU constellation Cassiopeia:

- “Sinām al-Nāqa” was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- “Al Sanām al Nākah” as listed by the 16th century Arabic astronomer Al Tizini and is part of their asterism the “She Camel” (see above).
- English Admiral Henry William Smyth lists “Al Sanām al Nākah” in his *Bedford Catalogue* in 1844 and translates this as the “camel’s hump”.

She Elk and Her Calf:

This Mari asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Berezkin 2005).

She-Goat:

This asterism from the Babylonian MUL.APIN tablets and from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) “MUL.UZ” (Hunger 1992, Parpola 1993) or “u-za” and in the from the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period as “mu luz” and listed in Anthony Hope’s *A Guide to Ancient Near Eastern Astronomy* in 1996 as “ÙZ” is the IAU constellation Lyra. The parallelogram of stars that forms the “harp” of Lyra is the body of the she-goat. A triangle of stars formed by Zeta (ζ) Lyrae, Epsilon (ε) Lyrae, and Alpha (α) Lyrae (Vega which the Babylonians called the Goddess Lamassatu) form the “head”. This asterism appears in later Seleucid sky lore.

This Akkadian asterism “Enzu” (Hunger 1992, Anthony 1996) from the *Astrological Reports to the Kings* of the late Assyrian period (Parpola 1993) or “en-zu” from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is identical to the Babylonian asterism MUL.UZ above.

This Sumerian asterism “mulùz” from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is identical to the Babylonian asterism MUL.UZ above.

This Latin star “Capra” is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga. The Arabic name for this star was “al-cayyūq” (see Goat, below).

- Variations of the name include “Caper”, and “Crepa”.
- In Ptolemy’s *Almagest* (2nd century) “Capra” is the goat that the charioteer is carrying.
- In Bayer’s 1603 *Uranometria*, it is one the charioteer’s back and a name for Alpha (α) Aurigae (Capella) but is also given as an alternate name for Capricornus.
- John Hill lists the name “Capra” for this star in his *Urania* in 1754.

- Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this star as "Capra" in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists Capra as a name for this star.

This Greek lunar mansion "Capra" is the star Alpha (α) Aurigae (Capella) is listed in the Magical Papyrus 121, preserved in the British Museum, and dated to the 3rd century C.E. (Mosenkis, date n/k).

This Latin asterism is the IAU constellation Auriga as described by 1st century Roman poet Marcus Manilius and Pliny the Elder (24 – 79), who used the names "Capra" and "Caper".

This Arabic asterism "'l-Arḍ" or "'l-Ardh" ("she-goat" (of the land)) is the star Gamma (γ) 1 and 2 Andromedae in the IAU constellation Andromeda. It is also known as the Caracal (see above).

This Belarussian star "Kaza" is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga (Avilin 2007, 2009).

She-Goat with Three Kids:

This Romanian asterism "Ea Capră cu Trei Copii" or "Capra cu Trei Iezi" is made up of stars of the IAU constellation Auriga (Ottescu 2009, Lite, Lodina, and Ignat 2018). The star Alpha (α) Aurigae (Capella) is the she-goat, "Capra", and the three kids "Iezzi Caprei" are a triangle of stars alongside: Epsilon (ε), Eta (η), and Zeta (ζ) Aurigae. In modern times this has been adopted as a **telescopic** asterism (see Goatlings, above).

She is the Hand of God:

This Hebrew star "ha-yad ha-sevu'a" is Alpha (α) Andromedae (Alpheratz) in the IAU constellation Andromeda as listed in an anonymous Hebrew star list from 1392 (Goldstein 1985). This list gives the Arabic name "Kaff al-nasīr" ("palm of the supporter").

She of the Throne:

This Greek asterism "Η τοῦ θρόνου" or "I toú thrónou" is the IAU constellation Cassiopeia.

She Who Makes Food Scarce:

This Māori star "Whaka-onge-kai" is close by their star Rehua, Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius. She is a bird that is the mate of Rehua (see above). This is either Tau (τ) Scorpii or Sigma (σ) Scorpii.

She Who Runs After of Corvus:

This **telescopic** asterism "Metadoma Córvi" is the interacting galaxy NGC 4783 in the IAU constellation Corvus. It was discovered in 1786 by English astronomer William Herschel who listed it as "I 136". It became GC 3294 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because this galaxy and NGC 4782 are connected with a "material bridge".

She Who Runs Before of Corvus:

This **telescopic** asterism "Pródroma Córvi" is the interacting galaxy NGC 4782 in the IAU constellation Corvus. It was discovered in 1786 by English astronomer William Herschel who listed it as "I 135". It became GC 3293 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One*

Thousand Named Galaxies by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because this galaxy and NGC 4783 are connected with a "material bridge".

Sheaf of Ears:

This Latin asterism "Spicarum Manipulum" is the IAU constellation Coma Berenices as listed in John Hill's *Urania* in 1754. He only identifies his source as "some of the Latin writers".

Sheath of the Penis:

This Arabic star "al-qunb" ("sheath of the penis") or "qunb al-asad" (قنب الأسد) or "sheath of the penis of the lion" is Beta (β) Leonis (Denebola) in the IAU constellation Leo. It was called this because of its location slightly between and ahead of their asterism Two Haunches (see below).

Sheep:

This ancient Egyptian "Seret" asterism is made up of stars of the IAU constellation Grus and appeared from the New Kingdom onward. Locher (1981) constructed this out of the stars of the IAU constellations Capricornus, Aquarius, and Grus.

This Arabic star "aš-šā[t]" (الشاة) or "ash-shat", later latinized to "Alshat" or "Al Shat" is Nu (ν) Capricorni in the IAU constellation Capricornus as listed in 13th century Persian astronomer Zakariyya' al-Qazwini's *Wonders of the Creation and Unique of the Existence* and is part of their asterism "Lucky Star of the Slaughterer" (see above). It represents the "sheep" that is to be slaughtered. The IAU approved the name Alshat for Nu (ν) Capricorni A.

This Tibetan khyim (zodiac constellation) "Lug" or "Luk" is the IAU constellation Aries (Johnson-Groh 2013).

This Seleucid asterism is made up of stars of the IAU constellations Aries, Cetus, and Taurus and is a forerunner of the modern IAU constellation Aries:

- An irregular oval of stars forms the "body", including Iota (ι), 65, Zeta (ζ), Delta (δ), 40, and Theta (θ) Arietis, Xi (ξ) 1, Upsilon (υ), and Lambda (λ) Ceti, Omicron (ο), Xi (ξ), and 5 Tauri, and HIP 16641, and
- From Iota (ι) Arietis a curving line runs off through the stars Gamma (γ) Arietis, Beta (β) Arietis (Sheratan) and Alpha (α) Arietis (Hamal).

This Etruscan asterism "Evi" is the IAU constellation Aries.

Sheep Deity:

The Chinese translation of the Sūryagarbha-parivarta from 585 describes the IAU constellation Aries as "Chí yáng zhī shén" (持羊之神) or "deity of sheep" (Kotyk 2017).

Sheepfold:

This ancient Egyptian asterism "Qed" is made up of the stars of the IAU constellation Cetus. It is a quadrilateral with four stars at the corners: Alpha (α) Ceti (Menkar), Mu (μ) Ceti, Xi (ξ) Ceti, and Gamma (γ) Ceti.

Sheepskin Cloak:

This Khoikhoi asterism “kaross” is Theta (θ) and Gamma (γ) Tauri in the IAU constellation Taurus (Alcock 2014). This is the kaross of Tsui //Goab (see below).

Shekel:

This Bedouin star “Al-Miss.hil” or “al-Mishil” (المسهل) is Alpha (α) Eridani (Achernar) in the IAU constellation Eridanus.

Sheliak:

This Arabic star “ash-Shiliyāq” (الشلياق) or “Al Shilyāk” is Beta (β) Lyrae in the IAU constellation Lyra:

- This was later latinized to “Sheliak” and “Shiliak”.
- John Hill lists this as “Shelyak” in his *Urania* in 1754 as a “bright star” but then states that this is “Lucida Lyrae”, which is a name he assigned to Alpha (α) Lyrae (Vega) and reports that is it in “Hugh Beigh’s tables of the heavens”, which would be a reference to Persian astronomer Ulugh Beg Mirza (1394 – 1449).
- Italian astronomer Giuseppe Piazzi (1786 – 1846) listed it as “Salibāḳ“ and cites Persian astronomer Zakariyya’ al-Qazwini (1203 – 1283).
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Sheliak, from Shelyâk” and says that it was originally the name for the entire constellation.
- English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists this star as “Sheliak”.
- In his *Star Names* in 1899 R. H. Allen cites “Ulugh Beg’s translator” (without naming the translator) as giving the name “Shelyāk” and translates it as Arabic “words for the tortoise”, as the early Greek name was Tortoise Shell (see below).
- The 1st edition of British schoolmaster Arthur P. Norton’s *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list the name “Sheliak” for this star.
- The IAU approved the name Sheliak for the star Beta (β) Lyrae Aa1.

Shell:

This Latin asterism “Testa” is the IAU constellation Lyra. This relates to the myth of Mercury creating the first lyre from a turtle or tortoise shell. German astronomer Johann Bayer (1572-1625) mistranslates this as “Βάσανος” (“Vásanos” or “torture”) which R. H. Allen suggests is a misinterpretation of “Testa” as “test” in his *Star Names* in 1899. In the 1551 edition of the *Almagest*, it is described as “Fulgens quae in testa est vocatur Lyra” (“The glittering things in the shell called Lyra”). English astronomer John Flamsteed (1646 – 1719) described it as “Testa fulgida dicta Lyra” (“A bright shell called Lyra”).

Shell Parakeet:

This Wiradjuri star “Bidgerigang” is possibly Eta (η) Carinae in the IAU constellation Carina. This was listed by Howitt in 1905, who described it only as “a small star in Argus”. Alternate names listed in 2010 by Grant and Rudder include “Gidyerriga”, “Gidyerrigaa”, and “Badyarigar”.

Shellfish:

This English asterism “Gryphites” was created in 1754 by British botanist and natural philosopher John Hill and published in his *Urania: Or a Complete View of the Heavens***.** It is made up of the stars of the IAU constellation Hercules: 112, 110, 109, 98, 95, and 102 Herculis.

Shenelto:

This Syrian asterism is the IAU constellation Virgo as listed in John Hill's *Urania* in 1754.

Shepherd:

There are to Arabic stars by this name:

- One, "ar-Rāʿī" (الراعي) is the star Gamma (γ) Cephei in the IAU constellation Cepheus and later latinized to "Errai", "El Rai", or "Alrai". This is part of their asterism Shepherd and the Sheep (see below) and is also called the Northern Shepherd:
    - This is depicted on a globe made by Mohammed ben Helal in 1275 in Mosul (Dorn 1829), based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283).
    - John Hill lists it as "Al Rai" in his *Urania* in 1754.
    - English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Ar rái, the shepherd".
    - This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "en rai": The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822.
    - English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Errai".
    - The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1910) and the 14th edition (1959) both list "Alrai" and "Errai" for this star.
    - The IAU approved the name Errai for the star Gamma (γ) Cephei Aa. This has an exoplanet named Tadmor, which is an ancient Palmyrene and modern Arabic name for Palmyra.
- One is Alpha (α) Ophiuchi (Rasalhague) in the IAU constellation Ophiuchus and is part of their asterism Desert Garden and the Goats (see above). It is also known as the Southern Shepherd.:
    - It is described by Dorn (1829) as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of al-Qazwini).
    - This is attributed to Persian astronomer Zakariyya' al-Qazwini (1203 – 1283) by R. H. Allen in his *Star Names* in 1899
    - English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Al râyi, from ar-ra'i the shepherd".

This Inca asterism "Michiq" is the dark nebulosity in the region of the IAU constellation Scorpius.

This Basque asterism "Artzain", also known as "Artzaina Makoarekin" (See Shepherd and his Crook, below) is the Big Dipper asterism in the IAU constellation Ursa Major (Knörr 1999,.Frank 2021). It is related to the nearby asterism "Zazpi Ahuntzak" (see Seven Goats above).

This Romanian star is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra (Ottescu 2009). This is part of their asterism "Ciobanul cu Oile" (see Shepherd with the Sheep, below).

Shepherd and his Crook:

This Basque asterism "Artzaina Makoarekin" ("the shepherd and his crook") is the Big Dipper asterism in the IAU constellation Ursa Major (Knörr 1999,.Frank 2021). It is also known as "Artzain" (see Shepherd, above). It is related to the nearby asterism "Zazpi Ahuntzak" (see Seven Goats above).

Shepherd and the Sheep:

This Arabic asterism is an oval of stars in the IAU constellations Cassiopeia, Cepheus, Draco, and Ursa Minor: Iota (ι) Cephei, HIP 117371, 23 Cassiopeiae, HIP 5626, 2 Ursae Minoris, HIP 109693, HIP 101044, Kappa (κ) Cephei, 73 Draconis, and 11 Cephei. In the middle is the Northern Shepherd, Gamma (γ) Cephei:

- The *Horoscopion generale* (1533) of Petrus Apianus (1495 – 1552) depicts this asterism as a shepherd with a staff surrounded by sheep.
- John Hill lists this as "Shepherd and Flock" in his *Urania* in 1754.
- R. H. Allen lists it as "the Fold" (that is sheepfold) in his *Star Names* in 1899.

Shepherd, Dogs, and Sheep:

This asterism "Pastor Canes et Oves" was created by German astronomer Petrus Apianus in 1533 in his *Horoscopion Apiani General*. It is made up of stars between the IAU constellations Cassiopeia and Cepheus. It is probably influenced by the Arabic asterism Shepherd and the Sheep (see above). 12th century Spanish Rabbi Abraham ibn Ezra called it "Pastor in cujus manu est frenum" ("the shepherd in who's hand is the bridle").

Shepherd Holding a Bridle:

This Hebrew asterism "Roah" or "Ha Roah Schehido Ha Resan" is the IAU constellation Auriga as listed in John Hill's *Urania* in 1754. He translates this as "shepherd holding a bridle". Compare this to Reins Holder (above).

Shepherd of the Jauza:

This Arabic asterism "Rā'ī al-Jauzā'" is Beta (β) Orionis (Rigel) in the IAU constellation Orion:

- "Rā'ī al-Jauzā'" is listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- "Ra'l al-Jauza… shepherd of the Jauza, whose herds, or thirst allaying camels" is listed in English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 and Smyth describes this as the stars Alpha (α) Orionis (Betelgeuse), Lambda (λ) Orionis, Delta (δ) Orionis, and Kappa (κ) Orionis. Smyth does not identify his source.

Shepherd of the Ostriches:

This Arabic star "Ra'i al-Nayyem" (راعي النعايم) is Lambda (λ) Sagittarii in the IAU constellation Sagittarius as listed in the poems of Muhammad al-Mukrī and Mohammad al-Qadhi (Kunitzsch 1989).

Shepherd with the Sheep:

This Romanian asterism "Ciobanul cu Oile" is the IAU constellation Lyra (Ottescu 2009, Lite 2018). The star Alpha (α) Lyrae (Vega) is the Shepherd and the rest of the stars in this constellation are the sheep.

Shepherd's Dog:

There are two Arabic stars with this name:

- One, "kalb al-rā'ī" (كلب الراعي) is the star Beta (β) Ophiuchi in the IAU constellation Ophiuchus:

- "Kalp al-Rā'ī" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- This was later latinized to "Al Kalb al Rai", "Cebalrai", "Celbalrai", "Cheleb", "Celabrai", "Kelb Alrai", or "Alrai".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Kelb ar rái, the shepherd's dog".
- "Celbalrai" appears in Giuseppe Piazzi's *Palermo Catalogue* of 1814.
- German astronomer Johann Elert Bode (1747 – 1826) lists it as "Chelb Er Rai".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Cebalrai".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists "Kelp al Rai" and "Celb al Rai" for this star, but his 14th edition (1959)only lists this star as "Kelb al Rai".
- In 2106 the IAU Working Group on Star Names approved the name Cebalrai for Beta (β) Ophiuchi.
- NOTE: R. H. Allen translated this Arabic name as "Heart of the Shepherd" in his *Star Names* in 1899.

- One is the star Pi (π) Cephei in the IAU constellation Cepheus and is part of their asterism Shepherd and the Sheep (see above). It is also known as Northern Shepherd Dog:
  - This appears on a globe made by Mohammed ben Helal in 1275 in Mosul (Dorn 1829), based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283).
  - John Hill lists this as "Kelb" in his *Urania* in 1754.

Shepherd's Star:

This Romanian star "Steaua Ciobanului" is Alpha (α) Ursae Minoris (Polaris)in the IAU constellation Ursa Minor (Ottescu 2009). NOTE: They also use this as a name for Venus.

This star is Alpha (α) Arietis (Hamal) in the IAU constellation Aries as listed in *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns.

English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists this as a name for Alpha (α) Aurigae (Capella) in the IAU constellation Auriga.

Shepherd's Yoke:

This Romanian asterism "Cobiliţa Ciobanului" is the IAU constellation Cygnus (Ottescu 2009). It is called this as it rises and sets as the same time as their star Shepherd (See above).

Sheratan:

See Two Signs, below

Shesmu:

This Egyptian decan "Shesmu" was in the IAU constellation Sagittarius. In later Hellenistic texts it was named "ϲЄϹϺЄ" or "ϹΙϹЄϹϺЄ" ("Sesme"). In the Testament of Solomon, it became "Enautha" or "Enenuth", Aristobulus of Paneas (2nd century) called it "Daha", in Greek Hermeticism it became "Teuchmos", in Latin Hermeticism "Thursois", 4th century Roman astrologer Julius Firmicus Maternus called it "Sagon", Cosmas of Maiuma (d. 760) called it "Kore", French scholar Joseph Justus Scaliger

(1540 - 1609) called it “Sagen” and German Jesuit astronomer Athanasius Kircher (1602 – 1680) called it “ⲧⲟⲙⲣⲁⲥ” (“Tomras”). Variations include “Teukhmos”. It is depicted as a man with a bird’s head with a flask in his right hand and a scepter in his left.

Shi Shen:

This Chinese asterism “Shi Shen” from the *Xiuyao jing* (宿曜經）(759 and revised 764) is the IAU constellation Gemini (Kotyk 2017).

Shichen:

This Chinese asterism is the xiù (lunar mansion) “Shēnxiù” (参宿), which is the three stars of the “belt of Orion” in the IAU constellation Orion (See Three Stars, below). Ridpath (1988) relates a story of how the emperor Gaoxinshi (c 2436 B.C.E.) placed his sons Sichen and Ebo in different parts of the sky as they were always fighting. Shichen ended up ruling this xiù.

Shield:

This Latin star “Scutulum” is Iota (ι) Carinae in the IAU constellation Carina.

This star “Clypeo” is Theta (θ) Persei in the IAU constellation Perseus. This name is listed in Johann Bayer’s *Uranometria* (1603).

This Greek star “ασπιδίσκε”, “Aspidiske”, or “Asmidiske”, is Iota (ι) Carinae in the IAU constellation Carina. “Asmidiske” appears in Giuseppe Piazzi’s *Palermo Catalogue* of 1814. The IAU approved the name Aspidiske for Iota (ι) Carinae.

This Greek star “Asmidiske”, “Azmidi”, or “Azmisdiske” is Xi (ξ) Puppis in the IAU constellation Puppis. Its name is a misspelling and misplacement of the name “Aspidiske” (see above) which was the name of the star Iota (ι) Carinae.

This Latin asterism is the stars Omicron (ο) 1 and 2 Orionis, Pi (π) 1, 2, 3, 4, 5, and 6 Orionis and 6 Orionis in the IAU constellation Orion and was listed by Pliny the Elder (23 – 79 C.E.) in his *Naturalis Historia* and in R. H. Allen’s *Star Names* in 1899.

Shield Bearer:

This Chaldean asterism “mul a-ri-tum” is listed in the *Great Star List* (Koch-Westenholz 1995) but the stars have not been identified.

Shield of Antlia:

This **telescopic** asterism “Peltáta Ántliae” is the lenticular spiral galaxy NGC 3358 in the IAU constellation Antila. It was discovered in 1835 by John Herschel who listed it as h 3293 and later as GC 2188 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Shield of Eridanus:

This **telescopic** asterism “Clípeus Erídani” is the almost edge-on elliptical galaxy NGC 1332 in the IAU constellation Eridanus. It was discovered in 1784 by English astronomer William Herschel who listed it as “I 60”. This became GC 709 in the *General Catalogue* of 1864. This name appears in *The Catalogue of*

One Thousand Named Galaxies by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as it "looks like an ancient Roman shield in oblique view".

Shield of Hydra:

This **telescopic** asterism "Scútum Hýdrae" is the barred spiral galaxy NGC 2811 in the IAU constellation Hydra. It was discovered in 1785 by William Herschel who listed it as "II 505". It became GC 1796 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They call it this as "this nearly edge-on barred spiral galaxy resembles a shield".

Shield Star:

This Yucatec star is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor. They also call it "Xaman Ek" (see Star of the North, below).

Shield Stars:

This Cochiti asterism is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above).

Shin Bone of the Lion:

This Arabic star "Sāḳ al Asad" is Alpha (α) Virginis (Spica) in the IAU constellation Virgo:

- This was listed by Persian astronomer Zakariyya' al-Qazwini (1203 – 1283).
- This was listed by R. H. Allen in his *Star Names* in 1899.

Shine (like a Star):

This **telescopic** Manx star "Gloas" is WASP 13 in the IAU constellation Lynx (magnitude 10.42). It was given this name in the IAU NameExoWorlds campaign. It has an exoplanet named Cruinlagh ("to orbit (like a planet)").

Shining Boat:

This English star "Lucida Cymbae" is Alpha (α) Phoenicis in the IAU constellation Phoenix as listed in R. H. Allen's *Star Names* in 1899. Compare this to the Arabic asterism Bright One of the Boat

Shining Brightly:

This Sotho and Tswana star "U-Canzibe" is Alpha (α) Carinae (Canopus) in the IAU constellation Carina (Holbrook and Baleisis 2007, Alcock 2014).

This Zulu star "uCwazibe" is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus.

This Xhosa star "uCanzibe" ("shining" or "sparkling") or "inKwenkwezi" is Alpha (α) Carinae (Canopus) in the IAU constellation Carina (Lock and Slotegraaf 2022). This star and iQhawe (see Champion, above) are seen by some as suitors, though it is not clear whose affection they are seeking.

Shining Copper of Ursa Major:

This **telescopic** asterism "Chalcóphanes Úrsae Majóris" is the lenticular galaxy NGC 2768 in the IAU constellation Ursa Major. William Herschel listed it as "II 490", his son John Herschel listed it as h 562

and later as GC 1768 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Shining in Heaven:

This Hawaiian star "Polo-ahi-lani" is Alpha (α) Cassiopeiae (Shedar) in the IAU constellation Cassiopeia.

Shining Jewel:

See Bright One, above.

Shining One:

There are two Arabic stars with this name:

- One, "al-Maysān" (الميسان) is the star Gamma (γ) Geminorum in the IAU constellation Gemini:
    - This was later latinized to "Almeisan", "Al Maisan", "Almeisan", "Almisan", "Almeisam", and "Almisam".
    - English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists this as "Al meïsan, the proud marcher".
    - This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as Meissa: The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822.
    - R.H. Allen translates it as "proudly marching one" in his *Star Names* in 1899.
- One, "al-Maysān" (الميسان) is the star Lambda (λ) Orionis in the IAU constellation Orion:
    - This was later latinized to "Meissa".
    - R. H. Allen writes in his *Star Names* in 1899 that Persian lexicographer "Firuzbadi… applied to this star Meissa, and is now common for it". This would be Fairūzābādī (فیروزآبادی), also known as el-Fīrūz Abādī", "al-Fayrūzabādī (الفيروزآبادي) and "Firuzbadi" (1329–1414) whose al-Qamous (القاموس) dictionary was in use for five centuries.
    - The IAU approved the name Meissa for the star Lambda (λ) Orionis A.

This Latin asterism "Maera" is the IAU constellation Corona Borealis as listed by 4th century Latin Christian poet Aurelius Clemens Prudentius (Prudens).

Shining Red:

This Hawaiian star "Polo'ula" is Beta (β) Cassiopeiae (Caph). It is also known as "Pohina".

Shining Ring of Leo:

This **telescopic** asterism "Cyclóphaës Leónis" is the barred spiral galaxy NGC 3705 in the IAU constellation Leo. It was discovered in 1784 by William Herschel who listed it as "II 13". John Herschel listed it as h 902 and h 903, and later as GC 2434 and GC 2436 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name due to its "bright inner ring".

Ship:

This Arabic star "Al-Safinah" (السفينة) is Delta (δ) Velorum in the IAU constellation Vela:

- "al-Safīna" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- This was later latinized to "Alsephina" or "Alsafina"
- Johann Bayer's *Uranometria* (1603) lists "Sephina".
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Sephina".
- Robert Hues lists "Alsephina" in his *A Learned Treatise of Globes* in 1659.
- John Hill lists "Sephina" and "Al Sephina" as names for the asterism Argo's Ship (see above) in his *Urania* in 1754 and confirms that he recognizes that the translation of this term is "ship".
- "Alsephina" or "Alsafina" are listed in R. H. Allen's *Star Names* in 1899. Allen wrote that this was a name given by the Arabs to Ptolemy's asterism Argo's Ship (see above).
- The IAU approved the name Alsephina for the star Delta (δ) Velorum Aa.

This Greek star "*ναύς*" or "Naos" is Zeta (ζ) Puppis in the IAU constellation Puppis:

- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as "Naos".
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists "Naos" for this star.
- The IAU approved the name Naos for this star.

This German asterism "Schiff" is the asterism Argo's Ship (see above).

This Greek asterism "κάραβος" or "Káravos" is the IAU constellation Cancer as it appears in a 12th century illustrated astronomical manuscript according to R. H. Allen in his *Star Names* in 1899.

This Egyptian asterism "Skaphos" is one of the paranatellonta of decans of Leo as listed in the *Sphaera Barbarica* described by Teucros (Mosenkis, date n/k) and is the Greek asterism Argo's Ship (see above).

This **telescopic** asterism Leiter 10 from the list of American astronomer Frank Leiter is a group of 9th magnitude stars in the IAU constellation Pegasus. Five stars of 10th magnitude form a "V". A pair of stars and a single star make a "deck" across it. Leiter also describes his as a "Little Teapot". Its size is 18' X 8'. Robert Zebahl lists it on his *Faint Fuzzies* website and describes it as resembling a "Star Trek A".

Ship of Horus:

This ancient Egyptian asterism is the belt of Orion in the IAU constellation Orion.

Ship of Hydra:

This **telescopic** asterism "Návis Hýdrae" is the edge-on spiral galaxy NGC 3404 in the IAU constellation Hydra. It was discovered by English astronomer Andrew Ainslie Common in 1880. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as "the profile of this edge-on galaxy puts in mind a ship's shape".

Ship of Sky:

This Korean asterism "Haneul-ui Bae" (하늘의 배) is a curving line of stars in the IAU constellation Perseus. The line starts at Eta (η) Persei and runs through Gamma (γ) Persei, Alpha (α) Persei (Mirfak), Psi (ψ) Persei, Delta (δ) Persei, 48 Persei, Mu (μ) Persei, and b Persei, ending at HIP 19949.

Shipping Star:

This asterism "Schifffahrts Gestirn" is the Pleiades cluster as listed by German astronomer Christian Ludwig Ideler (1766 – 1846). English Admiral Henry William Smyth lists this in his *Bedford Catalogue* in 1844 and attributes it to Ideler.

Ship's Star:

This Anglo-Saxon star "Scip-steorra" is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor. It is mentioned in the 8th or 9th century Old English *Rune Poem* which has stanzas on 29 Anglo Saxon runes and is associated to the run "ᛏ" or "Týr" which is in turn associated with a circumpolar constellation compared to steadfastness of honour. This Rune Poem was found in the manuscript Cotton Otho B.x, which was destroyed in a fire in 1731, but recorded in a facsimile by George Hickes in 1705.

This German star "Schif-stern" is Alpha (α) Carinae (Canopus) in the IAU constellation Carina.

Shi'ra Who Crossed Over:

This Arabic star "ash-shi'ra al-'abur is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major and is part of the asterism Two Shi'ra Sisters (below). It is called this represents the sister (also called the Teary-Eyed Woman, see below) who crosses the "river" (the Milky Way) to be with her brother Suhayl (see Glorious, above). NOTE: Sirius 50,000 years ago was on the other side of the Milky Way as viewed from Earth. That doesn't mean this story is that old, but if you go back between 15,000 and 20,000 years ago it would be emerging from the Milky Way and the old story could conceivably date back that far. "al-Shi'ra al-'Abūr" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

Shoe:

This Greek asterism is the "claw" of the IAU constellation Cancer as described by the Greek poet Aratus (315 – 240 B.C.) in his *Phenomena*.

Shoe-Buckle Cluster:

This **telescopic** asterism is the open cluster Messier 35 in the IAU constellation Gemini. It was discovered by Swiss astronomer Philippe Loys de Chéseaux in 1745. It is listed in the General Catalogue of 1864 as GC 1360 and in John Herschel's catalogue as h 377. *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) simply refers to this as a "Gemini Nebula". One of the reasons that it got this name is because it is above the "foot" of the twin Castor in this constellation. The other is that the stars of the cluster form a rectangular shape like a "buckle" with a line of stars running out one side like the "tongue". This is also known as the Sky-Rocket Burst.

Shoeprint Nebula:

This is an alternate name for NGC 6309 (see Box Nebula, above).

Sholbi:

This Mursi star is Alpha (α) Centauri (Rigil Kentaurus) in the IAU constellation Centaurus (see Pointers, above). They used it as part of a system to tell when the local Omo River would flood.

Shopping Cart:

See “37” above.

Short Horizon:

This Māori star “Kapae-poto” is Alpha (α) Carinae (Canopus) in the IAU constellation Carina.

Short Yoke:

This Netwar asterism “Kasulia Reparep” is a quadrilateral of stars in the IAU constellation Orion (Ramík 2019): Kappa (κ) Orionis (Saiph) and Beta (β) Orionis (Rigel) and the Belt of Orion.

This Nahwal asterism “Kasulia Kuakua” (Ramik 2019) is identical to the Netwar asterism “Kasulia Reparep” (see Short Yoke, above).

Shorter Post:

This Tahitian star “Anatahu’ata Metu te Tupu Ma Vae” is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes (Edwards 2015). Edwards listed the name of the star as “Articus”.

Shou Xing:

This Chinese asterism “Shou Xing from the *Xiuyao jing* (宿曜經）(759 and revised 764) is the IAU constellation Libra (Kotyk 2017).

Shoulder:

There are two Arabic stars with the name “Al Mankib” (المنقب):

- One is Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion:
    - The star list of Abraham Bar Hiyya in 1104 (Goldstein 1985) lists the Arabic name “mankib al-jawzā ayman” for this star and the Hebrew name “sad te’omim yemini”. NOTE: It also gives Gamma (γ) Orionis the Arabic name “mankib al-jawzā” and the Hebrew name “sad semol te-omim”, as does an anonymous Hebrew star list from 1392 (Goldstein 1985).
    - The star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985) gives the Arabic name “mankib al-jabbār” and the Hebrew name “shekhem ha-gibbor”.
    - The rete of the 14th century Spanish astrolabe NMM AST0570 in the National Maritime Museum lists “Algenie” (Dekker 2000).
    - English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Menkib al jauzá” as a name for this star.
- One, “Al Mankib” (المنقب) or “Mankib al-Thurayya” is Xi (ξ) Persei in the IAU constellation Perseus and is part of their asterism “Al Thuraya” (see above). This was later latinized to “Menkib”. The IAU approved the name Menkib for Xi (ξ) Persei.

Shoulder Blade:

This Arabic asterism “al-‘atiq” (العاتق) is Omicron (ο) and Zeta (ζ) Persei in the IAU constellation Perseus and is part of their asterism Al-Thurayya (see Little Abundant One above).

Shoulder of Al Jawza:

This Arabic star “Al Manib” is Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion:

- "Mankib al-Jauzā'" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists "mankib al-jawzā' al-yusrā".
- An anonymous Hebrew star list from 1392 (Goldstein 1985) lists the Arabic name "mankib al-Yamin" and the Hebrew name "yemin te'omim".
- NOTE: R. H. Allen writes in his *Star Names* in 1899 that 14th century Greek geographer and astronomer Georgius Chrysococcas gave the Greek name "Ὦμος διδύμων" ("Ómos didýmon" or "shoulder of") for this star.

Shoulder of Al-Thurayya:

There are two Arabic stars with this name:

- One, "al-ʿĀtiq ath-Thurayyā" (عاتق الثّريّا), is the star Omicron (o) Persei in the IAU constellation Perseus as listed by Persian astronomer Ulugh Beg Mirza (1394 – 1449):
    - This was later latinized to "Atik", "Ati", or "Al Atik".
    - The Borgian Globe of 1225 depicts this star. It is part of their asterism Al-Thurayya, (see above).
    - In 2016 the IAU Working Group on Star Names assigned the name Atik to Omicron (o) Persei A.
- One, "Al-Mankib uth-Thurayyā" (منكب الثّريّا) or "Mankib al Thurayya" is the star Xi (ξ) Persei in the IAU constellation Perseus. It is part of their asterism Al-Thurayya, (see above).:
    - This was later latinized to "Menkib", "Menchib", "Menkhib", or "Al Mankib".
    - American uranographer Elijah Burritt (1794 – 1838) listed "Menkib".
    - This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Menchib": The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822.
    - The IAU approved the name Menkib for Xi (ξ) Persei in 2016.

Shoulder of the Centaur:

This Arabic star "Mankib ul-Qanṭūris" (منكب قنطورس) is Theta (θ) Centauri in the IAU constellation Centaurus, later latinized to "Menkent". The IAU approved the name Menkent for Theta (θ) Centauri.

Shoulder of the Eagle:

This Persian star "mankib al-nasr" (منكب ألنسر), later latinized to "Menkib al Nesr", is Gamma (γ) Aquilae in the IAU constellation Aquila as listed in the *Calendarium* of Al Achsasi Al Mouakket in 1650.

Shoulder of the Giant:

This Arabic star "makib al-jabbār al-aysar" is Gamma (γ) Orionis in the IAU constellation Orion as listed in the star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985). Ibn Ezra gives the Hebrew name "shekhem ha-gibbor ha-semoli".

Shoulder of the Horse:

This Arabic star "Mankib (ul-Faras)" (منكب الفرس) is Alpha (α) Pegasi (Markab) in the IAU constellation Pegasus:

- "Mankib al-Faras" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- This is listed as "Mankib al-faras" on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992).
- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists "mankib al-faras".
- An anonymous Hebrew star list from 1392 (Goldstein 1985) lists the Arabic name "mankib al-faras" and the Hebrew name "yemin ha-sus". .
- The Sloan astrolabe BM SL 54 in the British Museum which dates to 1290 – 1300 lists "MENkeb" (Dekker 2000).
- This was later latinized to "Mankib" and "Menkib".
- R. H. Allen lists it as "Mankib al Faras" in his *Star Names* in 1899 and attributes the later name to Persian astronomer Ulugh Beg Mirza (1394 – 1449).
- John Chilmead (1899) lists "Almenkeb", which he derived from Robert Hues' *A Learned Treatise of Globes* (1659).
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Menkib al feres, the horse's shoulder".

Shoulder of the Lion:

This Arabic star "mankib al-asad" is Gamma (γ) Leonis in the IAU constellation Leo as it appears in the star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003).

Shoulder of the Panther:

This Babylonian star MUL.KUMARU" from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) or "MUL.ku-ma-ru" (Parpola 1993) is Delta (δ) Cygni in the IAU constellation Cygnus and is part of the asterism Panther (see above).

This Akkadian star "Kumaru" from the *Astrological Reports to the Kings* of the late Assyrian period Parpola 1993) is Delta (δ) Cygni in the IAU constellation Cygnus and is part of the asterism Panther (see above).

Shoulder of the Rein Holder:

There are two Arabic stars with this name:

- One, "Kaʿab Dhiy l-ʿInān" (كعب ذي العنان) is the star Iota (ι) Aurigae in the IAU constellation Auriga, later latinized to "Kalb".
- One, "Mankib Dhiyi l-ʿInān" (منكب ذي العنان) is the star Beta (β) Aurigae in the IAU constellation Auriga:
    - This was later latinized to "Menkalinan", "Menkalinam", "Menkalina", or "Menkarlina".
    - The star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985) lists the Arabic name "katif mumsik al-'inān" and the Hebrew name "ketef 'oser ha-resen".
    - The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists "mankib dhī 'l-inān al-aysar" and "mankib dhī 'l-inān".

- American uranographer Elijah Burritt's *The Constellations for each Month in the Year* (1835) lists this star as "Menkalinan".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Menkib dhi l'inán, the rein holder's shoulder".
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as "Menkalinan".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Menkalinan".
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as "Menkalina (sic)".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and the 14th edition (1959) list "Menkalinan" for this star.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists "Menkalinan" for this star.
- The IAU approved the name Menkalinan for the star Beta (β) Aurigae Aa.

Shoulder of the Water Pourer:

This Arabic star "Mankib sākib al-mā" is Alpha (α) Aquarii (Sadalmelik) in the IAU constellation Aquarius as listed on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992).

Shouter:

This Latin asterism "Vociferans" ("shout") is the IAU constellation Boötes. This is related to their asterism Cryer (see above):

- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Vociferator" as an alternate name for Boötes.
- The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch lists "Vociferator" for Boötes.
- Robert Hues lists it as "Vociferator" ("shouter") in his *A Learned Treatise of Globes* in 1659.
- "Vociferator" is listed by English Admiral Henry William Smyth in his *Bedford Catalogue* in 1844, who additionally lists "Clamator".

This Latin asterism "Vociferans" is the IAU constellation Cepheus. Compare this to Singing (below) and Making Sound (above).

Shrewmouse:

This Greek lunar mansion is possibly the IAU constellation Leo Minor and is listed in the *Magical Papyrus 121*, preserved in the British Museum, and dated to the 3rd century C.E. (Mosenkis, date n/k).

Shrine of Sky:

This Korean asterism "Haneul-ui Sinjeon" (하늘의 신전) is a bending line of stars in the IAU constellation Sagittarius. It starts at Zeta (ζ) Sagittarii and runs through Tau (τ), Sigma (σ), Phi (ϕ), and Lambda (λ) to Mu (μ) Sagittarii.

Shrine of the Mace:

This Gallic asterism “Massae Feretrum” is made up of stars of the IAU constellation Gemini. The Gallo-Roman historian and Bishop Gregory of Tours (538 – 594) created this to help monks use certain stars in the sky to determine the time for prayers. This is a “box” formed by the stars Alpha (α) Geminorum (Castor), Beta (β) Geminorum (Pollux), Upsilon (υ) Geminorum, Delta (δ) Geminorum, Epsilon (ε) Geminorum, and Tau (τ) Geminorum.

Shrimp Galaxy:

See Grasshopper.

Shrimp Nebula:

This **telescopic** asterism is planetary nebula Sh 2-188 in the IAU constellation Cassiopeia. It is listed under this name as well as the names “Prawn Nebula” and “Dolphin Nebula” on RASC member Ron Brecher’s *Astro Doc* website.

Shrimp of Triangulum:

This **telescopic** asterism “Pandalus Triánguli” is the barred spiral galaxy IC 1727 in the IAU constellation Triangulum. It was discovered by British astronomer Isaac Roberts in 1896. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Shroud of Vernonica:

This Czech asterism “Sudarium Veronicae” was created by Czech astronomer, optician, and friar Antoine Marie Schyrle de Rheita in 1643. It is a rectangle of stars with the corners being Rho (ρ) and Omicron (ο) Leonis, Beta (β) Sextantis, and Iota (ι) Hydrae. De Rehita writes “Sudarium Veronicae sive faciem Domini maxima similitudine in astris expressum” (“The shroud of Veronica, or the face of the Lord, expressed in the greatest similitude in the stars”). Compare this to Face of the Lord, above.

Shu:

This Egyptian star is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra as listed in the 19th dynasty *Cairo Calendar* (Hardy 2003). Shu is a God of air whose name means “emptiness”. The Temple of Khnum at Esna has a Latopolitan zodiac on the ceiling of the pronaos dating to the age of Ptolemy II Euergetes (246 – 221 B.C.E.) depicts Shu, with an ostrich feather for a head (Bullinger 1882, Seiss 1882).

Shŭ:

This Chinese star “Shŭ” from the 3 Kingdoms and Ming Dynasty Period is the star Alpha (ε) Serpentis (Unukalhai) in the IAU constellation Serpens and is part of their xing guan Heavenly Market West Wall (see above).

Shullat:

This Seleucid star is Alpha (α) Centauri (Rigil Kentaurus) in the IAU constellation Centaurus and is part of the “foot” of their asterism Numushda (see above). Compare this to the Babylonian star dSullat (above).

Siamese Twins:

This **telescopic** asterism is NGC 4567 and NGC 4568, a pair of colliding unbarred spiral galaxies in the IAU constellation Virgo: They are part of the Virgo Cluster. These were discovered by English astronomer

William Herschel in 1784 who listed them as “IV 8” and “IV 9”. His son John Herschel listed them as “1358” and “1359” in his catalogue. They are GC 3108 and GC 3109 in the *General Catalogue* of 1864. They are also known as the Butterfly Galaxies (see above), or the Fish and Chips Galaxies (see above). They are listed separately in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010) as the “Very Elegant of Virgo” and the “Very Wonderful of Virgo” (see below).

Sibilut:

This Sama star is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Santos et al 2019).

Sibyl:

This Greek asterism “Σίβυλλα” (“Sívylla”) is the IAU constellation Virgo as listed in R. H. Allen’s *Star Names* in 1899. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists the “Singing Sibyl” for this constellation. The Sibyls were prophetesses of Ancient Greece, who prophesied at holy sites.

Sicily:

This Latin asterism “Sicilia” is the IAU constellation Triangulum. It is called this as the island of Sicily was considered to be roughly the same shape. The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Sicilia”. “Sicilia” is listed in R. H. Allen’s *Star Names* in 1899. Other names for Sicily used for this asterism include “Trinacria” and “Triqueta”.

Sickle:

This Latin star “Falx Italica” is 38 Boötis in the IAU constellation Boötes.

This Sardinian asterism “sa frache” is the curve of stars at the front end of the IAU constellation Leo from the star Epsilon (ε) Leonis to the star Alpha (α) Leonis (Regulus), resembling a mirror-image question mark (Putzolu 2019 - see Sickle of Leo, below).

This Gallic asterism “Falx” is made up of stars of the IAU constellation Leo. The Gallo-Roman historian and Bishop Gregory of Tours (538 – 594) created this to help monks use certain stars in the sky to determine the time for prayers. This line of stars starts at Epsilon (ε) Leonis and runs through Mu (μ) Leonis, Zeta (ζ) Leonis, Gamma (γ) Leonis and Eta (η) Leonis to the star Alpha (α) Leonis (Regulus).

This Norwegian asterism “Sigden” is the curve of stars at the front end of the IAU constellation Leo from the star Epsilon (ε) Leonis to the star Alpha (α) Leonis (Regulus), resembling a mirror-image question mark (see Sickle of Leo, below).

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a sickle shaped curve of stars in the IAU constellation Sculptor:

- The “handle” is the determinative star Alpha (α) Sculptoris and HIP 6502,
- The “blade” is the stars Sigma (σ) Sculptoris, Alpha (α) Sculptoris, HIP 2661 and Eta (η) Sculptoris.

This Chinese xing guan “Fūzhì” (钬铚) is a sickle shaped curve of stars in the IAU constellation Cetus:

- The “handle” is the stars Iota (ι) and Eta (η) Ceti, and

- The “blade” runs from Eta (η) Ceti through Theta (θ), Zeta (ζ), Tau (τ), and Upsilon (υ) Ceti, ending at 48 Ceti.

The area inside of the curved blade of their asterism “Fūzhì” is known as the “Square Celestial Granary” (see below).

This Chinese Chenzhuo xing guan is made up of the stars of the IAU constellation Sculptor. The “handle” runs from Alpha (α) Sculptoris to HIP 6502. The “sickle blade” is the curve of stars Sigma (σ) Sculptoris, Alpha (α) Sculptoris, HIP 2661 and Eta (η) Sculptoris.

This Romanian asterism “Secera” is in the IAU constellation Orion (Ottescu 2009, Lite 2018). The “handle” is the sword of Orion and the arc of stars 49 Orionis, Nu (ν) Orionis, 29 Orionis and Tau (τ) Orionis is the “blade”.

This Hobbit asterism is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above) and appears in the later works of J. R. R. Tolkien (1892 – 1973). In Tolkien’s early notes (1910) he called it “Telpea Kalka” (“Silvern Sickle”).

There are four **telescopic** “sickle” asterisms:

- One is Leiter 17 from the list of astronomer Frank Leiter and is in the IAU constellation Pegasus. This includes HIP 479. Its size is 11’ X 8’.
- One is in the IAU constellation Ursa Major and is Corder 1959 on the observing list of American astronomer Jeffrey Corder. Size 25’. This is five 8^{th} – 9^{th} magnitude stars including HIP 49649 and the double star HIP 49596A.
- One is in the IAU constellation Boötes and is Corder 2717 on the observing list of American astronomer Jeffrey Corder. Size 125’ X 80. The “blade” is five 4^{th} – 5^{th} magnitude stars including Psi (ψ) Boötis, 46 Boötis, Omega (ω) Boötis, and the double stars HIP 74096 and 45 Boötis. The “handle” is eight 7^{th} – 8^{th} magnitude stars including HIP 73303, 73203, 73071, 72982, and 73301, and the double star HIP 72762.
- One is the galaxy UGC 10402 in the IAU constellation Hercules. This name was posted by American astronomer Jimi Lowrey on the *Deep Sky Forum* in May 2025.

Sickle of Cronus:

This Greek asterism is the IAU constellation Scorpius as listed by Hesiod (Mosenkis, date N/K).

Sickle of Hydrus:

This **telescopic** asterism “Falcátus Hýdri” is the barred spiral galaxy NGC 646 in the IAU constellation Hydrus. This was discovered in 1834 by John Herschel who listed it as 2434 in his catalogue. This became GC 384 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): Along with nearby PGV 6014 it forms the shape of a sickle.

Sickle of Leo:

The curve of stars at the front end of the IAU constellation Leo resembles a mirror-image question mark or a sickle, and according to R. H. Allen in his *Star Names* of 1899, this goes back centuries. This is a line of stars from Epsilon (ε) Leonis (Algenubi, Ras Elased Australis, or Ras Elased) through Mu (μ) Leonis (Rasalas, Alshemali, or Ras Elased Borealis), Zeta (ζ) Leonis (Adharera or Adhafera), Gamma (γ) Leonis

(Algieba or Al Gieba- 50th brightest star) and Eta (η) Leonis (Al Jabhah, Chort, Chertain or Coxa) to the star Alpha (α) Leonis (Regulus, Cor Leonis, Rex, Kabeleced, or Al Kalb al Asad- 21st brightest star). Another star in this constellation, Beta (β) Leonis (Denebola), is the 60th brightest star. *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), describes this "sickle of Leo". *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this "Sickle of Leo" asterism.

Sickle of the Valar:

This Elvish (Qenya) asterism "Valacirca" is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above) and appears in the later works of J. R. R. Tolkien (1892 – 1973). In his earlier works Tolkien called it Valakirka ("Sickle of the Gods"). Its name in Sindarin is "Circh i-Mbelain".

Side General:

This Chinese star "Bianjiang" from the Three Kingdoms to the Ming Dynasty is Alpha (α) Tauri (Aldebaran). It is also known as Celestial High Terrace (see above).

Side of the Chained Woman:

This Arabic star "Al Janb al Musalsalah" is Beta (β) Andromedae (Mirach) in the IAU constellation Andromeda:

- "Janab al-Musalsala" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 but this may be 12 Andromedae (Hafez 2010).
- "janb-al-musalsala wa-huwa batn al-hūt" ("the side of the chained [woman]; it is the belly of the fish") appears on the star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003).
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists this as "Jenb-al-muselselah".

Side of Perseus:

This Arabic star "Janb Barshāūsh" is Beta (β) Persei (Mirfak) in the IAU constellation Perseus:

- "Janb Barshāūsh" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists janb barsāwus".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Jenb Bersháwush", … the side of Perseus".

Side Star:

This KhoiKhoi star "!nam /gamirob" is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Alcock 2014).

This G/wi star "g/aokhu" is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Alcock 2014).

Sided One:

This Bedouin star "al-Ǧinīb" (الجنيب) is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga.

Sieve:

There are three Belarussian asterisms by the name “Sita”, “Sito”, “Sitačko”, “Sitca”, “Sitsiachko”, “Sicca”, “Sitechko”, or “Reshata”:

- One is the IAU constellation Coma Berenices (Avilin 2009).
- One is the Pleiades cluster in the IAU constellation Taurus (Avilin 2018). It is also known as the Heavenly Sieve (see above). This is believed to be a sieve used by the angels to sift righteous souls. It is also known as “Maloe Sita” (see Little Sieve, above).
- One, “Sitso”, is the IAU constellation Ursa Major (Avilin 2009).

This Latvian asterism “Sietiņš” is the Pleiades cluster in the IAU constellation Taurus.

This Finnish asterism “Seulaset” (“colander holes”) is the Pleiades cluster in the IAU constellation Taurus. R. H. Allen lists this as “Sieve” in his *Star Names* in 1899.

This Lithuanian asterism “Sietinas, Sétas”, “Sietis”, “Sytas”,”Seitas”, or “Sėtis” is the Pleiades open cluster in the IAU constellation Taurus. R. H. Allen listed it as “sieve” in his *Star Names* in 1899.

This Estonian asterism “Sõel” is the Pleiades cluster in the IAU constellation Taurus (Kuperjanov 2006). This comes from the island of Saaremaa.

Sieve of Heaven:

This Estonian asterism “Taeva Sõel” is the Pleiades cluster in the IAU constellation Taurus. Compare this to the Belarussian asterism “Нябеснае Сіта” (see Heavenly Sieve, above).

Sieve of Stars:

This Lithuanian asterism “Žwaizdziusytas” is the Pleiades open cluster in the IAU constellation Taurus. Variations include: “Žvaigždžių sietas”, “Žvaizdžių sietas”, and “Zwayzdzių sitas”.

Sigma:

This **telescopic** asterism is Do Dz 17 or Stratton 2 on the asterism list of Troy Stratton, Observing Program Coordinator of The Astronomical League. It is in the IAU constellation Orion near the star Gamma (γ) Orionis (Bellatrix). It resembles a capital Greek letter Sigma (Σ) with the middle star being the 7th magnitude star HIP 25073.

Sigmas:

This **telescopic** asterism is made up of a pair of stars of the IAU constellation Taurus: Sigma (σ) 1, and 2 Tauri. *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), labels these the “Sigmas”.

Sign:

This Arabic asterism “ash-sharat” is Alpha (α) Arietis (Hamal) and Beta (β) Arietis (Sheratan) in the IAU constellation Aries as listed in the rain stars calendars of Qushayr and Qays. Compare this to their asterism ash-sharatan (see Two Signs below) and al-ashrat (see Signs below). This appeared around the 9th century and although the original meaning is uncertain it is believed that it might have been called this because at that time the sun began its new year in Aries (Adams 2018).

Sign of Christ:

This Gallic asterism “Signum Christi” is made up of stars of the IAU constellations Andromeda and Pisces. The Gallo-Roman historian and Bishop Gregory of Tours (538 – 594) created this to help monks use certain stars in the sky to determine the time for prayers. It is a circle of stars starting at Phi (ϕ) Piscium and running through Upsilon (υ) Piscium, Tau (τ) Piscium and Sigma (σ) Piscium (all part of the northern “fish” of Pisces), Delta (δ) Andromedae, Epsilon (ε) Andromedae, Zeta (ζ) Andromedae, and Eta (η) Andromedae. McKay (2020) describes this “fish” as a sign of Christ.

Sign of God:

This Bedouin asterism is the IAU constellation Draco. It was seen as a reminder or sign (“ayah”) of God’s existence (Steiner 2017). Compare this to the Arabic asterism Seat of God (above).

Sign of Tau:

This German asterism “Signum Tau” is the IAU constellation Triangulum Australe as listed by German uranographer Julius Schiller (c. 1580 – 1627). This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as “Signum Tau Al Triangulum Australe”.

Sign of Three:

This Bugis asterism “Tanra Tellué” is the belt of Orion in the IAU constellation Orion. It is related to their asterism “Bintoéng Rakkalaé” (see Plough Stars, above).

Sign of Thuraya:

This Bedouin asterism from the Negev desert “Wasm-ath-Thuraya” is the Pleiades cluster in the IAU constellation Taurus (Steiner 2017).

Signatures of Lights:

This German asterism is “Signatricia Lumina” is the Pleiades cluster as listed by German astronomer Johann Bayer (1572-1625) and by R. H. Allen in his *Star Names* in 1899.

Signs:

This Arabic asterism “al-ashrat” is Alpha (α) Arietis (Hamal), Beta (β) Arietis (Sheratan), and Gamma (γ) 2 Arietis (Mesarthim) in the IAU constellation Aries as listed by Ibn Qutayba (d. 879 C.E.). Compare this to their asterism ash-sharatan (see Two Signs below) and ash-sharat (see Sign, above). This plural reference to this asterism appeared in many poetic references in Arabic star lists.

Sihor:

This “Egyptian” asterism is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major as listed in John Hill’s *Urania* in 1754.

Silent Carriage:

This Estonian asterism “Väike Vanker” is the IAU constellation Ursa Minor and appears in the *Sky of Ests (Chudes)* by Aleksander Heintalu (Sass of Vigala) (Kuperjanov 2006).

Silk Fan Cluster:

This telescopic asterism is also known as the Flying Geese Cluster and the Ghost Bush Cluster and is the open cluster NGC 6939 in the IAU constellation Cepheus. It was discovered by William Herschel in 1798 who listed it as VI 42. It is GC 4590 in the *General Catalogue* of 1864.It lies 0.6 degrees northwest of spiral galaxy NGC 6946 and 2 degrees southwest of the star Eta (η) Cephei.

Silkworm Nebula:

This **telescopic** asterism is the protoplanetary nebula PN G004.2+02.1 in the IAU constellation Sagittarius.

Silver Coin:

This **telescopic** asterism is NGC 253 (Caldwell 65), an intermediate spiral galaxy in the IAU constellation Sculptor. It was discovered by English astronomer Caroline Herschel in 1783 and observed by her son John Herschel (1792 – 1871) about a half century later. This is listed as GC 138 in the 1846 *General Catalogue*. South African astronomers Magda Streicher and Carol Botha (2011) lists this name in their observation logs on the DOCdb. It is also known as Caroline's Galaxy (see above), the Sculptor Galaxy (see above), and the Silver Dollar Galaxy (see below).

Silver Dollar:

This **telescopic** asterism is NGC 253 (Caldwell 65), an intermediate spiral galaxy in the IAU constellation Sculptor. It was discovered by English astronomer Caroline Herschel in 1783 and observed by her son John Herschel (1792 – 1871) about a half century later. This is listed as GC 138 in the 1846 *General Catalogue*. It is also known as Caroline's Galaxy (see above), the Sculptor Galaxy (see above), and the Silver Coin Galaxy (see above).

Silver Needle:

This **telescopic** asterism is NGC 4244 (Caldwell 26), an edge-on spiral galaxy in the IAU constellation Canes Venatici near Beta (β) Canum Venaticorum. It was discovered by English astronomer William Herschel in 1786 who listed it as "V 41". It is GC 2831 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010) as "Rháphis Cánum Venaticórum" ("the needle of Canes Venatici").

Silver Nugget Cluster:

This **telescopic** asterism is the globular cluster NGC 6441 in the IAU constellation Scorpius. It was discovered in 1827 by Scottish astronomer James Dunlop. John Herschel listed it as h 3705 and later as GC 4332 in the *General Catalogue* of 1864.

Silver Road of Centaurus:

This **telescopic** asterism "Argyróporus Centaúri" is the barred spiral galaxy NGC 4945 (Caldwell 83) in the IAU constellation Centaurus. It was discovered by Scottish astronomer James Dunlop in 1827. This is listed as GC 3386 in John Herschel's General Catalogue of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). It is also known as the Cigar Galaxy (see above), the Tweezers (see below), and the Golden Coin (see above).

Silver Sliver:

This **telescopic** asterism NGC 891 (Caldwell 23) is an edge-on spiral galaxy in the IAU constellation Andromeda with a prominent dust lane. It is also known as the Outer Limits Galaxy (see above). It was discovered by English astronomer William Herschel in October 1784 who listed it as "V 19). It is listed as GC 527 in the *General Catalogue* of 1864. It is also known as the Silver Needle, the Outer Limits Galaxy, and "Surrounded by Dust".

Silver Streak:

This **telescopic** asterism is NGC 4216, an edge-on intermediate spiral galaxy in the IAU constellation Virgo. It was discovered by English astronomer William Herschel in 1784 who listed it as "I 35". It is GC 2806 in the *General Catalogue* of 1864. Size 7.8' X 1.8'. It is also known as the "Spindle of Virgo" (see below), and the "Weaver's Shuttle" (see below). This is part of O'Meara 60 in astronomer Stephen James O'Meara's *Hidden Treasures Catalogue* (2007), where he lists it as the "Silver Streak" and as part of the "Stairway to Heaven".

Silver Wheel:

This Gaulish asterism "Arangtoreta" is the IAU constellation Corona Borealis (Boutet 2001).

Simon:

This German asterism "Simon" or "Saint Simon the Zealot, Apostle" is the IAU constellation Capricornus as listed by German poet Philipp von Zesen (1619 – 1689), who also listed it as "Simon Zelotes". This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "S. Simon al Capricornus". Edward Sherburne lists "St. Simon" in his Sphere of Marcus Manilius in 1675 and it later appears in John Hill's *Urania* in 1754.

Simon the Sailor:

This Latin asterism "Smon Nautis" is the IAU constellation Delphinus.German astronomer Johann Bayer (1572-1625) listed this in his *Uranometria* (1603). Italian astronomer Giovanni Battista Riccioli (1598 – 1671) listed "Smon barbaris". Simon ("flat nosed") was a very common and popular name in ancient times. Henry William Smyth's *Bedford Catalogue* in 1844 lists "Sinon" or "Simon nautis".

Sinew:

This Sahtúotine star "kw'ə" is Beta (β) Orionis (Rigel) in the IAU constellation Orion (Cannon 2021) and is one of the components of an arrow.

Singers:

This Romanian asterism "Lăutarii" is Delta (δ) and Iota (ι) Coronae Borealis in the IAU constellation Corona Borealis (Ottescu 2009). This is part of their asterism Ring Dance (see above).

Singing:

This Latin asterism "Cantans" is the IAU constellation Cepheus. Compare this to Making Sound (above) and Shouter (below).

Singing Bushlark:

This Boorong asterism “Weetkurrk” is in the IAU constellation Boötes as listed by Stanbridge (1857), Morieson (1999), and Hamacher and Frew (2010) and is the singing bushlark (Mirafra cantillans): The bird’s “body” is the stars 2 and 6 Boötis. Weetkurrk is the daughter of Marpeankurrk (see Meat Ant, above).

This Wotjobaluk star “Weet-kurrk” is Eta (η) Boötis in the IAU constellation Boötes (Hamacher 2011).

Single Bull:

This Seleucid asterism “MUL” (see Jaw of the Wild Bull, above) or “al-pi-i[n]” (“single bull”) listed in the tablet SBTU II No 43 (W 22646) from the Seleucid (Hellenistic) period (275 B.C.E. – 116 C.E.) is the Pleiades cluster in the IAU constellation Taurus (Foxvog 1993).

Single Log Bridge:

This Korean asterism “Dan-il Tongnamu Dali” (단일 통나무 다리) is a winding line of stars in the IAU constellation Draco: Starting at HIP 104968 it runs through 77 Draconis, HIP 105727, 104756, 102599, and 75 Draconis, ending at 76 Draconis.

Single Stalk of Virgo:

This **telescopic** asterism “Unicaúlis Virginis” is the intermediate spiral galaxy NGC 4457 in the IAU constellation Virgo. It was discovered in 1784 by William Herschel who listed it as “II 35”. It became GC 3009 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to “one well-developed spiral arm extending from the southern part of the nucleus”.

Single Star:

This Mayan star is Alpha (α) Leonis (Regulus) in the IAU constellation Leo, which they used to track the time at night.

Single Star in Front of the Furrow:

This Persian (Achaemenid Period 539 – 331 B.C.E.) star “DELE sa IGI ABSIN” is Gamma (γ) Virginis in the IAU constellation Virgo (Hunger and Sachs 1988).

Single Star of the Knee of Uz:

This Babylonian and Sumerian star from the BM 78161 tablet is Mu (μ) Herculis in the IAU constellation Hercules and is the 6th ziqpu on this list (Liechty 1988, Leitz 2019).

Single Star of the Tail of the Eagle:

This Babylonian and Sumerian ziqpu “single star of the tail of ur-a” is the star Beta (β) Leonis (Denebola) in the IAU constellation Leo and is listed as ziqpu 24 in the BM 78161 tablet (Liechty 1988).

Sinister:

This Chaldean star “[mu]l man-ma” is listed in the *Great Star List* (Koch-Westenholz 1995) but the stars have not been identified.

Sinistra:

See Left Side, above.

Sink Hole:

This dark nebula Barnard 59 is in the IAU constellation Ophiuchus and is part of the Pipe Nebula (see above).

Sinuous of Leo:

This **telescopic** asterism “Sinuósus Leónis” is the barred spiral galaxy NGC 3187 in the IAU constellation Leo. It was discovered by Irish astronomer George Stoney in 1850. It is GC 2055 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). It is part of the Leo Quartet (see above).

Siphambano:

This Swazi asterism “Siphambano” is the belt of Orion in the IAU constellation Orion.

Siren:

This Dutch asterism appeared on a globe by Dutch uranographer Willem Jansz Blaeu (1571 – 1638) in the place of the IAU constellations Musca and Triangulum Australe.

Sirius:

See Glowing, above.

Sister Barking at an Animal:

This Dena’ina star is Beta (β) Ursae Majoris (Merak) in the IAU constellation Ursa Major (Cannon 2021). Variations include “A Barking Puppy”.

Sister Dog-Child:

This Dakelh star is unidentified at present (Cannon 2021).

Sister of Kwányip:

This Selk’nam star is Epsilon (ε) Orionis (Alnilam) in the IAU constellation Orion. Kwányip (see above) is a mythical shaman.

Sisters of Children:

This Carib asterism is the Pleiades cluster in the IAU constellation Taurus (Magaña, and Jara, 1982).

Sisters of Suhail:

This Arabic star “Al Aliawāt al Suhail” is s Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major and Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor. Suhail is the star Alpha (α) Carinae (Canopus).

Sitting God:

This Babylonian asterism “MUL.UR.KU” is the IAU constellation Hercules.

Sitting Gods:

This Babylonian asterism “DINGIR.KU.A.MESH” is listed in Anthony Hope’s *A Guide to Ancient Near Eastern Astronomy* in 1996 but the stars have not been identified. Compare this to Sitting God, above.

Sitting Hen:

This Russian asterism “Nasēdha” is the Pleiades cluster in the IAU constellation Taurus as listed in R. H. Allen’s *Star Names* in 1899.

Sitting Vulture:

This Greek asterism “Γυψ καθήμενος” (“Gyps kathímenos”) is the IAU constellation Lyra as listed by 14th century Greek geographer and astronomer Georgius Chrysococcas. Compare this to Alighting Vulture, above.

Situla:

See Bucket, above.

Six:

This Ligurian asterism “r Se´ss” (“the six”) is the Pleiades cluster in the IAU constellation Taurus.

This Shona asterism “Chimutanhatu” is the Pleiades cluster in the IAU constellation Taurus.

Six Attendants:

This Pirt-Kopan-noot asterism is the Pleiades cluster in the IAU constellation Taurus. They are the six attendants of Gneeanggar (see Wedge Tailed Eagle, below). Waa (see Crow, above) tricks these women by turning into a grub. When they dig him out, he turns into a giant and carries them off.

Six Departments:

This Korean asterism “6Gae Buseo” (6개 부서) is a curve of stars in the IAU constellation Ursa Major: Omicron (ο), Tau (τ), 23, Upsilon (υ), Phi (ϕ), Theta (θ), and 15 Ursae Majoris.

Six Elk:

This Tse’khene asterism is the Pleaides cluster in the IAU constellation Taurus (Cannon 2021).

Six from Two of Hydra:

This **telescopic** asterism “Sexeduóbus Hýdrae” is the intermediate spiral galaxy NGC 2835 in the IAU constellation Hydra. It was discovered by Wilhelm Tempel in 1884. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “although mostly two-armed in the inner regions, the spiral pattern could be interpreted as being six-armed in the outer regions”.

Six Jia:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is an oval of six stars in the IAU constellation Cepheus: Starting at the determinative star HIP 5626 it runs through HIP 10054, 10623, 4283, 3132, and 2142.

This Chinese xing guan “Liùjiă” (六甲） is a spiral of stars in the IAU constellation Camelopardalis: HIP 25110, 23265, 36547, 39538, and 33694, with HIP 32439 in the center.

This Chinese Chenzhuo xing guan “Liùjiă” is an angular loop of stars in the IAU constellation Draco: Starting at 75 Draconis it runs through 74 Draconis, HIP 102599, HIP 105727, HIP 104756, and 76 Draconis to HIP 101550.

Six on a Dice:

This **telescopic** asterism is listed by Robert Zebahl on his *Faint Fuzzies* website and is in the IAU constellation Aquila. Zebahl describes this as “pretty compact group of 7 stars, whereby 6 of them look like a ‘6’ [on the face]of a dice.” NOTE: This could also be easily interpreted as a kite.

Six Related Stars:

This Japanese asterism “Muzura Boshi” is the belt and sword of Orion in the IAU constellation Orion (see Orion, above).

Six Stars:

This asterism “Cajupal” is the Pleiades cluster in the IAU constellation Taurus as listed in R. H. Allen’s *Star Names* in 1899. Allen only identifies the cultures involved as “South American tribes”.

Six Wives:

This Mono (moʊnoʊ) asterism is the Pleiades cluster in the IAU constellation Taurus. These wives were eating wild onions and their husbands objected to their breath, so they fled into the sky where their husbands couldn’t reach them. Their husbands (the Hyades) chase them across the sky (see Seven Husbands, below).

Sixth:

This Bedouin star “al-Satt” (السات) is Zeta (ζ) Ursae Majoris in the IAU constellation Ursa Major.

Škárnik:

This Kaykavian asterism is the IAU constellation Aquarius.

Skat:

See Leg, above.

Skate Stars:

This Bugis and Titan asterism “Bintoéng Lambarué” is the tail of the IAU constellation Scorpius: Upsilon (υ), Lambda (λ), Kappa (κ), Iota (ι) 1, Theta (θ), Eta (η), Zeta (ζ), Mu (μ), Epsilon (ε), Tau (τ), and Alpha (α) Scorpii (Antares).

Skeletal Snake:

This Mayan asterism from Copán, Palenque and the sarcophagus of Pacal is a skeletal snake associated with the IAU constellation Scorpius and is associated to the rift in the Milky Way they call “Xibalba Be”, a path to the underworld. It is also known as “White Bone Snake”.

Skeleton:

This postclassic Mayan asterism from the Paris Codex is the IAU constellation Pisces.

Skeleton Bird:

This Ojibwe asterism "Bineshi Okanin" is the IAU constellation Cygnus (Lee et al 2014). It is also known as the Crane (see above).

Skellings:

This Irish asterism is the IAU constellation Cassiopeia. This asterism is found in Julie Ormonde's *Constellation Stories of Ancient Ireland* (2015). This is a reference to the Skelligs islands.

Ski Runners:

This Sami asterism is the stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini (Lundmark 1982).

Skiing Cluster:

This **telescopic** asterism is open cluster NGC 457 (Caldwell 13) in the IAU constellation Cassiopeia. It was discovered by William Herschel in 1787 who labeled it "VII 42" in his catalogue. It is GC 256 in the General Catalogue of 1864. It is also known as the Owl Cluster, Kachina Doll Cluster, Massed Jewels, the Dragonfly Cluster, and the E.T. Cluster.

Skillfully Wrought of Pisces:

This **telescopic** asterism "Daédalus Píscium" is the barred spiral galaxy NGC 266 in the IAU constellation Pisces. It was discovered in 1784 by English astronomer William Herschel who listed it as III 153. It is GC 149 in the General Catalogue of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as it "looks as if constructed by a skillful maker". Daedalus is also the name of a mythical constructor.

Skip Loader:

This asterism from the Saguaro Astronomical Club asterism database and Corder 2379 on Jeffrey Corder's list is made up of the stars of the IAU constellations Leo and Virgo. Size 14° X 14°:

- The "tractor" is the IAU constellation Leo, and
- The "bucket" is the stars Epsilon (ε), Delta (δ), Gamma (γ), Eta (η), and Beta (β) Virginis (Zavijava).

Skipping Stone:

This asterism is made up of stars of the IAU constellations Boötes, Serpens, Ophiuchus, and Ursa Major. It is the handle of the Big Dipper asterism (see Big Dipper, above) with the line of stars extending down through 25 Boötis, Epsilon (ε) Boötis (Izar), 24 Serpentis, 37 Serpentis, 12 Ophiuchi, 13 Ophiuchi, & 35 Ophiuchi.

Škraplûne:

This Chakavian asterism is the IAU constellation Scorpius.

Skuld:

This Norse star "Skuld" (from the Old Norse "skulu" which means "need/ought to be/shall be") is the star Sigma (σ) Librae in the IAU constellation Libra and was created by Canadian Bjorn Jónsson (1920 –

1995) who was trying to reconstruct traditional Scandinavian skies (Kuperjanov 2006). Skuld is one of the three Norns in Norse mythology.

Skull:

This Romanian asterism "Căpăţâna" is the IAU constellation Perseus (Ottescu 2009).

There are three **telescopic** "skull" asterisms:

- One is the planetary nebula NGC 246 (Caldwell 56) in the IAU constellation Cetus. It was discovered by English astronomer William Herschel in 1785. This is listed as GC 131 in the 1846 *General Catalogue*. It is also known as the Soap Bubble Nebula and the Voodoo Mask Nebula. Size 4' X 3.5'.
- One is the open cluster Messier 37 (NGC 2099) in the IAU constellation Auriga. It was discovered by Italian astronomer Giovanni Battista Hodierna before 1654 and listed by French astronomer Charles Messier in 1764. The 1864 General Catalogue lists it as GC 1295. John Herschel listed it as h 369. It was given this name by American astronomer Wayne Schmidt, who describes it as a long skull. It is also known as the "Diamond Starburst" (see above) and the "Cartwheel" (see above).
- One is the open cluster NGC 2244 (Caldwell 50) and HII region NGC 2238 in the IAU constellation Monoceros and includes the nebulae NGC 2237, 2239, and NGC 2246. Size 80' X 60'. It was discovered by German astronomer Albert Marth (1828 – 1897) in 1864. English astronomer William Herschel discovered this open cluster (NGC 2244) in 1784 and listed it as "VII 2" in his catalogue, and it is listed as GC 1424 in the *General Catalogue* of 1864. It is also known as the Rosette Nebula (see above).

Skull and Crossbones Nebula:

This **telescopic** asterism is the HII region NGC 2467 (SH 2-311, RCW 16, LBN 1065, Cr 164, Ced 103) in the IAU constellation Puppis. This was discovered by English astronomer William Herschel in 1784 who listed it as "IV 22" in his catalogue. It is GC 1589 in the *General Catalogue* of 1864. It is also known as the Chained Broach Nebula (see above). This is O'Meara 39 in astronomer Stephen James O'Meara's *Hidden Treasures Catalogue* (2007), where the names "Skull and Crossbones Nebula" and "Mandrill Nebula" are listed. It is also known as the "Death's Head Nebula" and the "Chained Broach Nebula".

Skunkâči:

This Kaykavian asterism is the IAU constellation Aries.

Sky:

This asterism "Coelum" is the IAU constellation Corona Australis as listed by Persian astronomer Abu Ma'shar (Albumasar- 787 – 886).

- This appears in the 5th century *Satyricon* of Martianus Mineus Felix Capella as "Coelulum".
- Johann Bayer's *Uranometria* (1603) lists "Coelulum".
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Ceolulum".

This **telescopic** Korean asterism “Maru” (마루) is the DQ white dwarf star WD 0806-661 in the IAU constellation Volans. It received this name in the IAU’s NameExoWorlds competition in 2022. It has a Y type brown dwarf exoplanet WD 0806-661b, “Ahra” (아라), which means “ocean”.

Sky Bora:

This Kamilaroi, Butchulla, Jinibara, and Wakka Wakka asterism is in the IAU constellations Crux and Centaurus. The Bora is the male initiation ceremony, and in southeast Australia one finds Bora ceremonial grounds which consist of two separated circles, one larger than the other. This consists of two adjacent dark patches in the Milky Way:

- One is the Coal Sack Nebula (see Coal Sack, above), which is adjacent to Alpha (α) Crucis (Acrux) and Beta (β) Crucis (Mimosa). NOTE: This represents the area of the head of their asterism “Emu in the Sky” (see above).
- The other is a larger dark patch between the stars Alpha (α) Centauri (Rigil Centaurus) and Beta (β) Centauri (Hadar).

Sky Camel:

This Somali asterism “Awrka-Cirka” is the Coal Sack Nebula (see Coal Sack Nebula, above) near the IAU constellation Crux. The Milky Way is the camel’s path across the sky.

Sky Chief:

This Payómkawichum star is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (see Little Dipper, above.

Sky Coyote:

This Yakut star is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Krupp 1983).

This Chumash star is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Krupp 1983). Sky Coyote was the captain of a team playing a gambling game with the Sun.

Sky Dog:

This Tibetan asterism “Helki” is the IAU constellation Ursa Major (Johnson-Groh 2013).

Sky Keeper:

This is an alternate Dane-zaa name, “Yaak’ih Sadę”, for their asterism “Yèshta” (see Traveler, below (Cannon 2021)).

Sky Keeper’s Kettle:

This Dane-zaa asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Cannon 2021) and is related to their asterism “Yèshta” (see Traveler, below), which is also known as Sky Keeper (see above). Compare this to the Sahtúotine asterism ““Yíhda” or “Yámoréya” (see Traveler, below): The Sahtúotine call this his “ladle” (lıbóchǻ) or kettle.

Sky Market Border:

“Haneul Sijang Gyeong-gye” (하늘 시장 경계) is one of the three enclosures in Korean sky culture, the others being Purple (Violet) Low Border and Big Low Border (see Lunar Mansions, Stations of the

Moon, Nakshatra, and Zodiacs above). This two-part Korean asterism is two long curving lines of stars in the IAU constellations Aquila, Hercules, Ophiuchus, and Serpens:

- The end of one line starts with the star 95 Herculis and runs through 102, 109, and 110 Herculis, Zeta (ζ) Aquilae, Theta (θ) Serpentis, Eta (η) Serpentis, Nu (ν) Ophiuchi, and HIP 86266, ending at Eta (η) Ophiuchi. It is in a similar location and resembles the Chinese xing guan "Heavenly Market Left Wall" (see above).
- The end of the other line starts at the star Beta (β) Herculis (Kornephoros) and runs through Gamma (γ) Herculis and Kappa (κ) Herculis, Gamma (γ) Serpentis, Beta (β) Serpentis (Nasak Shamiya), Delta (δ) Serpentis, Alpha (α) Serpentis (Unukalhai), Epsilon (ε) Serpentis, Delta (δ) Ophiuchi and Epsilon (ε) Ophiuchi, ending at Zeta (ζ) Ophiuchi. This is identical to the Chinese xing guan "Heavenly Market Right Wall".

Sky Neck:

This is an alternate Upper Tanana name, "Yaak'oh", for their asterism "Yihdaa" (see Traveler, below (Cannon 2021)).

Sky Rocket Burst:

This **telescopic** asterism is the open cluster Messier 35 (NGC 2168) in the IAU constellation Gemini. It was discovered by Swiss astronomer Philippe Loys de Chéseaux in 1745. It was listed in the 1864 General Catalogue as GC 1360 and John Herschel's catalogue as h 377. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 describes this as "the bursting of a sky-rocket". *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), cites Smyth and also lists his name "Sky Rocket Burst". This is also known as the Shoe Buckle Cluster.

Sky Story:

This Estonian asterism "Taevalook" is the IAU constellation Cassiopeia (Kuperjanov 2006).

Sky Support:

This Sami star "Boahjenaste" or "Boahji" is Alpha (α) Ursae Minoris (Polaris). If Favdna (see above) shoots his arrow at the Elk (see above) and hits Boahjenaste, the sky will fall ((Lundmark 1982, Persson 2022).

Sky's Votive Light:

This Romanian star "Candela Cerului" is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Ottescu 2009).

Slaughter Prevailed:

This Arabic and Bedouin manzil "Saad Al-Thabih", "Saʿd al-Dhabiḥ" (سعد الذابح), "Saʿdu ʾdh-Dhābiḥ" (ٱلذَّابِح سَعْدُ), or "ʾAdh-Dhābiḥ" (ٱلذَّابِح), translated as "slaughter prevailed" or "lucky star of the slaughterer", is in the IAU constellation Capricornus and is the stars Alpha (α) Capricorni (Algedi) and Beta (β) Capricorni (Dabih).

This Yemeni manzil "Sa'd al-dhābih" is the stars Alpha (α) Capricorni (Algedi) and Beta (β) Capricorni (Dabih) in the IAU constellation Capricornus (Varisco 1995). This appears in the *Kitāb al-Tabṣira Fī'ilm al-Nujūm* of 13th century Rasulid ruler al-Malik al-Ashraf 'Umar ibn Yūsuf (d 1296).

Slanting of Virgo:

This **telescopic** asterism “Oblíquus Vírginis” is the intermediate spiral galaxy NGC 4818 in the IAU constellation Virgo. It was discovered in 1786 by William Herschel who listed it as “II 549”. His son John Herschel listed it twice, once as h 1484 and once as h 3445, then later listed it as GC 3318 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “the major axis of the elongated central region is not aligned with the major axis of the disk”.

Slave Star:

This Estonian star “Orjatäht” or “Orjastäht” is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major and appears in the *Sky of Ests (Chudes)* by Aleksander Heintalu (Sass of Vigala) (Kuperjanov 2006).

Slave’s Ell:

This Finnish asterism “Orjan kyynärä” is the Belt of Orion asterism in the IAU constellation Orion.

Sleeper:

This Bedouin (Central and Northern Saudi Arabia) asterism “Al Nayem” or “al-Naʿāyem” (النعايم) is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above). The meaning of the name is uncertain but may be “the camels”. Compare this to the Arabic asterism Ostriches (see below).

Sleeping Beauty Galaxy:

This **telescopic** asterism is Messier 64 (NGC 4826), a spiral galaxy with prominent dust lanes in the IAU constellation Coma Berenices. It is also known as the Black Eye Galaxy (see above) or Evil Eye Galaxy (see above). This was discovered by English astronomer Edward Pigott in March 1779, observed by German astronomer Johann Elert Bode in April of the same year, and by French astronomer Charles Messier the following year. It is listed in the 1864 General Catalogue as GC 3321 and in John Herschel’s catalogue as h 1486.

Sleeping Giraffe:

This asterism is the IAU constellation Leo as renamed by the Unitarian Universalist Hysterical Society in 2024 on their Facebook page.

Sleeping of Virgo:

This **telescopic** asterism “Sopítus Virginis” is the edge-on spiral galaxy NGC 4469 in the IAU constellation Virgo. It was discovered in 1784 by William Herschel who listed it as “II 157”. It became GC 3019 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “this galaxy is rich in dust but lacks star formation activity, as if it has fallen asleep”.

Sleeping With Open Eyes:

This asterism “apertis oculis dormiens” is the IAU constellation Lepus. This name is listed in Johann Bayer’s *Uranometria* (1603) and attributed to the Roman poet Nicander of Colphon (197 B.C.E. - ?).

Sleepy Eye of Dorado:

This **telescopic** asterism "Hypnódes Dorádus" is the lenticular galaxy NGC 1546 in the IAU constellation Dorado. This is listed by John Herschel as 2628 in his catalogue and later as GC 832 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Sleeve:

There are two Arabic asterisms with this name "al kumm", later Latinized to "Al Kumm":

- One, the Arabic asterism is the stars Omicron (o) 1 and 2 Orionis in the IAU constellation Orion (Al Kumm I & II).
- One, described by the astronomer Al Tizini, is the stars Omicron (o) 1 and 2 Orionis, Pi (π) 1, 2, 3, 4, 5, and 6 Orionis and 6 Orionis.

Slender Arms of Fornax:

This **telescopic** asterism "Tenuibrachiátus Fornácis" is the barred spiral galaxy NGC 1398 in the IAU constellation Fornax. It was discovered by Friedrich Winnecke in 1868. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Slender Limbs of Lepus:

This **telescopic** asterism "Léptopus Léporis" is the barred spiral galaxy NGC 1784 in the IAU constellation Lepus. It was discovered in 1836 by British astronomer John Herschel who listed it as 2719 and later as GC 1001 in his *General Catalogue* of 1864. This is O'Meara 19 in astronomer Stephen James O'Meara's *Hidden Treasures Catalogue* (2007). This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Slender of Virgo:

This **telescopic** asterism "Grácilis Vírginis" is the edge-on spiral galaxy NGC 4307 in the IAU constellation Virgo. It was discovered by Christian Peters in 1881. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as they see it as a "slender, graceful… galaxy".

Sliced Lime Nebula:

See Lemon Slice Nebula, above.

Sliced Onion:

This **telescopic** asterism NGC 3344 is a barred spiral galaxy in the IAU constellation Leo Minor. It was discovered by English astronomer William Herschel in 1785 who listed it as "I 81" in his catalogue. It is GC 2178 in the *General Catalogue* of 1864. Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) lists this as O'Meara 55 without a name.

Slightly Undulating of Gemini:

This **telescopic** asterism "Úndulans Geminórum" is the edge-on spiral galaxy NGC 2357 in the IAU constellation Gemini. It was discovered by Édouard Stephan in 1885. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Slim One of Lacerta:

This **telescopic** asterism "Léptus Lacértae" is the spiral galaxy UGC 11973 in the IAU constellation Lacerta. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the slim aspect of this highly inclined galaxy with the slender arms".

Sling:

This Quechua asterism "Warak'a" or "Honda" is made up of stars of the IAU constellation Scorpius (Ciancia 2018): Alpha (α) Scorpii (Antares), Beta (β) Scorpii (Acrab), Delta (δ) Scorpii, Omega (ω) Scorpii, and Tau (τ) Scorpii. It is related to their nearby asterism "Hondero" (See Slinger, below).

Slinger:

This Quechua asterism "Hondero" is dark nebulosity in the Milky Way midway between the IAU constellations Sagittarius and Scorpius (Ciancia 2018). Alternate names include "Tatalito" (see Father, above) and "Llamero" (see Llama Herder, above). This represents the ancient thunder God Illapa. It is related to their nearby asterism "Warak'a" (see Sling, above).

Slinger of Eridanus:

This **telescopic** asterism "Fúnditor Erídani" is the spiral galaxy NGC 1253 (Arp 279) in the IAU constellation Eridanus. It was discovered in 1784 by English astronomer William Herschel who listed it as "IV 17". It became GC 664 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name due to "the long extending northern arm, ending in [the Magellanic spiral galaxy NGC 1253A, which] makes this galaxy resemble someone slinging a stone.

Slingshot:

This asterism is the IAU constellation Cancer as renamed by the Unitarian Universalist Hysterical Society in 2024 on their Facebook page.

Slipher's of Coma Berenices:

This **telescopic** asterism "Sliphérius Cómae Bereníces" is the edge-on spiral galaxy NGC 4565 (Caldwell 38) in the IAU constellation Coma Berenices. It was discovered in 1785 by English astronomer William Herschel who listed it as "V 24": Herschel described it as a "lucid ray 20' long or more, 3' or 4' broad". It is GC 3106 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this to honor "Vesto Slipher (1875 – 1969) at Lowell Observatory". Slipher measured the redshift of this galaxy in 1917. It is also known as the "Needle Galaxy " (see above), the "Flying Saucer Galaxy" (see above), and "Berenice's Hair Clip" (see above).

Sloping of Coma Berenices:

This **telescopic** asterism "Declivis Cómae Bereníces" is the spiral galaxy NGC 4206 in the IAU constellation Coma Berenices. It was discovered in 1784 by William Herschel who listed it as "II 165". It

became GC 2795 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Sloth:

This Carib asterism "Kupirsiyuman" or "Kupirisi" represents the sloth (Bradypus trydactilus) and is known to rise preceding the dry season, but its present location is unknown (Magaña, and Jara, 1982).

Slow:

This Latin asterism "Tardus" is the IAU constellation Boötes as described by 4th century Latin poet Claudius Claudianus (Claudian), 2nd century Roman poet Decimus Junius Juvenalis (Juvenal), and 1st century Roman poet Publius Ovidius Naso (Ovid, b. 43 B.C.E.). They also used the term "Piger" ("sluggish"). 16th century Italian poet Ludovico Ariosto called it "Pigro Arturo" ("lazy Arthur"), another meaning of the term "Piger" being "lazy".

Slow Heartbeat of Hydra:

This **telescopic** asterism "Bradycárdius Hýdrae" is the intermediate spiral galaxy NGC 2935 in the IAU constellation Hydra. It was discovered in 1786 by William Herschel who listed it as "II 556". It became GC 1882 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to its "low star formation activity in its central region".

Slow Moving:

This Samoan star "Telegese" is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Fitisemanu 2022). This is a zenith star for travel between Sāmoa and Fiji. It is also called "Fētūsolonu'u" (see Gliding Star, above) and "Ta'ulua" (see Two Salutations, below).

Slug:

This English asterism "Limax" was created in 1754 by British botanist and natural philosopher John Hill and published in his *Urania: Or a Complete View of the Heavens.* It is a bent triangle of stars in the IAU constellation Eridanus: 47, 53, 54, 58, and 60 Eridani. Compare this to the asterism "Sceptum Brandenburgium" (see Brandenburg Sceptre, above).

Small and Beautiful of Andromeda:

This **telescopic** asterism "Pulchéllus Andrómedae" is the intermediate spiral galaxy IC 239 in the IAU constellation Andromeda. It was discovered by English astronomer Isaac Roberts in 1893. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as it has low surface brightness.

Small and Exuberant of Pisces:

This **telescopic** asterism "Violéntula Píscium" is the double radio galaxy NGC 383 (Arp 331) in the IAU constellation Pisces. This was discovered by William Herschel and listed as II 247. It became GC 206 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to its "intense star formation activity".

Small and Rightward of Canes Venatici:

This **telescopic** asterism "Dextéllus Cánum Venaticórum" is the distorted dwarf galaxy NGC 4625 in the IAU constellation Canes Venatici. William Herschel listed this as "II 660". John Herschel listed this as h 1392 and later as GC 3160 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "This galaxy forms a physical pair with NGC 4618… Similar to its companion it has one remarkably dominant spiral arm, but winding in the right direction, contrary to its companion".

Small and Slow of Indus:

This **telescopic** asterism "Léntulus Índi" is the irregular galaxy IC 5152 in the IAU constellation Indus. It was discovered by DeLisle Stewart in 1908. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "IC 5152's velocity with respect to the cosmic background radiation field" is slow.

Small Balk of Coma Berenices:

This **telescopic** asterism "Docídium Cómae Bereníces" is the edge-on barred spiral galaxy NGC 4634 in the IAU constellation Coma Berenices. It was discovered in 1787 by William Herschel who listed it as "III 603". It became GC 3167 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Small Band of Cetus:

This **telescopic** asterism "Fascíola Céti" is the barred spiral galaxy NGC 1015 in the IAU constellation Cetus. It was discovered by Wilhelm Tempel in and became GC 5263 in the General Catalogue of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). They gave it this name as it resembles "the shape of an old-fashioned cigar band".

Small Bear:

This asterism Μικρή ᾽΄Αρκτος is the Little Dipper asterism in the IAU constellation Ursa Minor (see Little Dipper, above) as described in Ptolemy's *Almagest* (2nd century). It appears on the Tabula Bianchini.

Small Belly:

This Arabic and Bedouin manzil **"**Al-Botain" ("small belly", "little abdomen", or "little ram"), also known as "Al-Bṭain" (البطين), "'al-Butayn" (ٱلْبُطَيْن) is in the IAU constellation Aries and is the stars Epsilon (ε) Arietis, Rho (ρ) 3 Arietis, and Delta (δ) Arietis (Botein). Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) has this manzil "al-butayn" marked in silver.

This Yemeni asterism "Buţayn" is made up of stars of the IAU constellation Aries (Varisco 1995): Epsilon (ε) Arietis, Rho (ρ) 3 Arietis, and Delta (δ) Arietis. This appears in the *Kitāb al-Tabşira Fī'ilm al-Nujūm* of 13th century Rasulid ruler al-Malik al-Ashraf 'Umar ibn Yūsuf (d 1296).

Small Bird:

This Yucatec star "Chamukuy" is the double star Theta (θ) Tauri in the IAU constellation Taurus: This is a star in the Hyades cluster and the IAU approved the name Chamukuy for Theta (θ) Tauri Aa in 2016.

Small Bodies of Orion:

This **telescopic** asterism “Corpúscula Oriónis” is the spiral galaxy IC 412 in the IAU constellation Orion. It was discovered by American astronomer Edward Emerson Barnard in 1888. It was also recorded by French astronomer Stéphane Javelle (1864 – 1917). This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because this galaxy and its partner are small, interacting galaxies.

Small Booby Bird of Lono:

This Hawaiian star “Hiki-kau-[e]-lia” or “Hiki-kau-e-lono” ("The-small-booby-bird-of-Lono") is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major. It is also known as “A’a” (‘burning brightly”), “Hiki-kau-lono-meha” ("Star of solitary Lono"; also Lono or Lono-meha), “[Hiki] kaulana-o-meha” or “Kau-ano-meha” ("Standing alone and sacred"), “Hoku-kau'opae” ("Star for placing shrimp"), “Hoku-ho'okele-wa'a" ("Canoe-guiding star"), “Kaulu-lena” or “Kaulua-lena” ("Yellow star"), or “Kaulua[-i-ha'i-mohai]” or “[-a-ha'i-mohai]” ("Flower of the heavens").

Small Boy of Virgo:

This **telescopic** asterism “Púpulus Virginis” is the spiral galaxy NGC 4445 in the IAU constellation Virgo. It was discovered by Prussian astronomer Heinrich d’Arrest. It became GC 5651 in the General Catalogue of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to its small size.

Small Broken Disc:

This Greek asterism “Πινάκιν κεκλασμένον”.(“Pinákin keklasménon”) is the IAU constellation Corona Borealis as described by Georgius Chrysococcas, a 14th century Greek geographer and astronomer. 17th century French astronomer Ismaël Boulliau (Ismaël Bullialdus) gave it the Latin name “Discus parvus confractus”. In his *Star Names* in 1899 R. H. Allen corrects Chrysococcas, pointing out that the first word should be “Πινάκιον” (“Pinákion”) as Chrysococcas has written “cracked board”.

Small Candle:

This **telescopic** asterism is a dwarf galaxy ~6’ north of NGC 1023 (Arp 135) in the IAU constellation Perseus. It was discovered in 1784 by William Herschel who listed it as “I 156”. It became 244 on his son John Herschel’s list and GC 574 in the *General Catalogue* of 1864. Astronomer Stephen James O’Meara’s *Hidden Treasures Catalogue* (2007) lists NGC 1023 as O’Meara 10. O’Meara describes this as a “small candle”.

Small Cart:

This Belarussian asterism “Pavozachka” or “Maly vos” is the Little Dipper asterism in the IAU constellation Ursa Minor (Avilin 2009). It is also called “Kolesnitsa” (see Chariot, above). They call the star Alpha (α) Ursae Minoris (Polaris) “the nail”.

This Estonian asterism “Väike Vanker” is the Little Dipper asterism in the IAU constellation Ursa Minor (see Little Dipper, above).

Small Cell of Fornax:

This **telescopic** asterism “Céllula Fornácis” is the barred spiral galaxy NGC 1317 (AKA 1318) in the IAU constellation Fornax. It was discovered by Julius Schmidt in 1865. It became GC 5312 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). It is also known as “Fornax B”.

Small Chief:

This Hawaiian star “Kaikilani” is Alpha (α) Phoenicis (Ankaa) in the IAU constellation Phoenix.

Small Cloud:

This Arabic asterism “as-Saḥābat uş-Şaghirah” (السَحَابَة الصَغِيرَة) is the Andromeda Galaxy, Messier 31, and was mentioned by 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of Fixed Stars*.

This French asterism le Petit Nuage” is the Large Magellanic Cloud as listed by French astronomer Nicolas Louis de Lacaille (1713 – 1762). The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) labels this “le Pt Nuage”.

Small Cluster:

This Kaykavian asterism “Malakóla” is the IAU constellation Ursa Minor.

Small Cluster Nebula:

This **telescopic** asterism is the reflection nebula NGC 7129 (vdB 146, LBN 497, Cr 441, Ced 196) in the IAU constellation Cepheus. It was discovered in 1794 by English astronomer William Herschel who listed it as “IV 75”. It is GC 4702 in the *General Catalogue* of 1864. It is also known as the “Cosmic Rosebud” (see above).

Small Column:

This Latin asterism “Columella” is the IAU constellation Aries as named by 1st century Roman poet Publius Ovidius Naso (Ovid, b. 43 B.C.E.).

Small Cross:

This Quechua asterism “Huch’uy Cruz” or “Huchuy Cruz” is the IAU constellation Crux (Urton 1980 & 1981).

This is an alternate name for the Macedonian asterism “Krst” (Cross), above.

Small Dipper:

This **telescopic** asterism is listed by René Merting on the *Faint Fuzzies* website and is in the IAU constellation Pisces. Merting writes: “The small dipper is conspicuous in binoculars- at first glance, four stars form a flat arc moving north-south – on closer inspection three more faint stars can be seen to the northeast of the arc, which are probably intended to represent the dipper.” This includes HIP 116816 at the base of the “handle”.

Small Distant One of Centaurus:

This **telescopic** asterism “Longínquulus Centaúri” is the spiral galaxy NGC 4219 in the IAU constellation Centaurus. It was discovered in 1834 by John Herschel who listed it as h 3385 and later as GC 2809 in his

General Catalogue of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Small Dog:

This Latin asterism "Canis Parvus" is the IAU constellation Canis Minor, so called as it is north of Canis Major. The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Parvus".

Small Dust Speckle of Hydra:

This **telescopic** asterism "Pulvisculáta Hýdrae" is the barred spiral galaxy NGC 3885 in the IAU constellation Hydra. It was listed by William Herschel as "III 828". John Herschel listed it as h 3359 and later as GC 2553 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of the "small dust speckle in the central region of this galaxy."

Small Eyed of Piscis Austrinus:

This **telescopic** asterism "Microphthálmus Píscis Austríni" is the spiral galaxy NGC 7314 (Arp 14) in the IAU constellation Piscis Austrinus. This was discovered in 1834 by John Herschel who listed it as h 3949 and later as GC 4810 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the bright small nucleus of this galaxy resembles a small eye."

Small Female Goat:

This Greek star is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga and is part of their asterism "Capra and Haedi" ("goat and kids"- see Kids above). 1st century Roman poet Publius Ovidius Naso (Ovid, b. 43 B.C.E.) and Pliny the Elder (24 – 79) both listed it under the name "Capella". The ancient Greeks associated it with the mythological she-goat Amalthea, who breast-fed the infant God Zeus. Capella is a Latin name, the diminutive of "Capra" ("female goat"):

- The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.168v-169r lists this star: It is hard to make out the label as it overlaps the artwork, but it appears to read "Capellum".
- Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) lists this star as "Capella".
- Johann Bayer's *Uranometria* (1603) lists the name "Capella" for this star.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Capella" for this star.
- This star is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as "Capella seu Capra".
- This star is named "the goat" and "Capellam" in Edward Sherburne's *Sphere of Marcus Manilius* in 1675.
- A wooden precession globe (1730) by German uranographer Johann Georg Puschner (Dekker 2003) lists this star as "Capella", "La Chevre", and "De Gei" (Gei being the Dutch name for "goat").

- The French edition of Flamsteed's work, the *Atlas Céleste,* which was revised in 1778, lists this star as "la Chevre" ("the goat").
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782 lists this star as both as "Capella" and as "Alhajoth".
- The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer lists "Capella".
- William Herschel lists "Arcturus" in his *Catalogue of 500 new Nebulae* in 1802.
- American uranographer William Croswell (1760 – 1834) lists this star as "Capella" on his *Mercator Map of the Starry Heavens* in 1810.
- German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this star as "Capella".
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists this star as "Capella vel Alioth" in his *Celestial Atlas* in 1822. Jameison's *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822) lists "Capella".
- American uranographer Elijah Burritt's *The Constellations for each Month in the Year* (1835) lists this star as "Capella".
- Admiral William Henry Smyth's *Prolegomena* of 1844 lists "Capella".
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich lists this star as "Capella".
- "Capella" is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on Jamieson's *Celestial Atlas*.
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as "Capella, the goat star".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Capella".
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as "Capella".
- German astronomer Hermann Joseph Klein (1844 – 1914) lists "Capella" in his *Star Atlas* (1893).
- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Capella" and describes it as "A little she-goat".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list "Capella" for this star.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists "Capella" for this star.
- The IAU approved the name Capella for the star Alpha (α) Aurigae Aa.

This Spanish star "Cabrilla" is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga.

Small Flower of Perseus:

This **telescopic** asterism "Flósculus Pérsei" is the Seyfert type 2 galaxy NGC 1058 in the IAU constellation Perseus. This was listed as "II 633" by William Herschel and became GC 592 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Small Gap:

This Arabic asterism “al-Dayīqa” (“small/narrow gap”) is described by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 as the small gap between the setting of their asterism al-Thurayyā and Aldebaran in the IAU constellation Taurus (Hafez 2010).

Small Goats:

This Quechua asterism “Cabrillas” is the Pleiades cluster in the IAU constellation Taurus (Ciancia 2018).

Small Golden Ring of Canes Venatici:

This **telescopic** asterism “Auréolus Cánum Venaticórum” is the spiral galaxy Messier 94 (NGC 4736) in the IAU constellation Canes Venatici. It was discovered by French astronomer Pierre Méchain in 1781. It is listed in the 1864 General Catalogue as GC 3258 and in John Herschel’s catalogue as h 1456. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “a splendid little ring of active star formation regions surrounds the nucleus”. It is also known as the “Croc’s Eye” (see above) and the “Cat’s Eye” (see above).

Small Group of Stars Together:

This T’atsaol’ine and Wiidiideh asterism “kwǫ̀ tsòa” is the Pleiades cluster in the IAU constellation Taurus (Cannon 2021).

Small Hen:

This Belarussian asterism “Kurochka” is the IAU constellation Ursa Minor (Avilin 2009).

Small Husband of Centaurus:

This **telescopic** asterism “Andriscus Centaúri” is the lenticular galaxy IC 3290 in the IAU constellation Centaurus. It was discovered by Lewis Swift in 1898. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name because “this galaxy is the male partner (according to our gender rules) of the pair with NGC 4373. They named NGC 4373 “Wife of Centaurus” (see below).

Small Hut:

This Quechua asterism “Cabañuelas” is an unidentified small group of stars used for crop predictions (Urton 1981).

Small Iguana:

This Euahlayi star “Gani” is Alpha (α) Piscis Austrini (Fomalhaut) in the IAU constellation Piscis Austrinus (William Ridley 1875).

Small Lamp:

This **telescopic** Urdu star “Shama” (“small lamp” or “flame”) is HIP 55664 (HD 99109) in the IAU constellation Leo (magnitude 9.06). It was given this name in the IAU NameExoWorlds campaign. It has an exoplanet named Perwana (“moth”).

Small Lance of Eridanus:

This **telescopic** asterism “Lancéola Erídani” is the edge-on lenticular galaxy NGC 1461 in the IAU constellation Eridanus. It was discovered in 1785 by William Herschel who listed it as “II 460”. It became GC 780 in the General Catalogue of 1864. NOTE: American astronomer Lewis Swift observed this galaxy in 1896 and classified it as IC 1983. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Small Lens of Fornax:

This **telescopic** asterism “Lenticula Fornácis” is the elliptical galaxy NGC 1340 (AKA 1344) in the IAU constellation Fornax. It was discovered in 1790 by William Herschel (“I 257”) and added to the General Catalogue of 1864 as GC 175 and later in the NGC catalogue as NGC 1344, but when his son John Herschel observed it in 1835, he added it to the General Catalogue as GC 714 and later it was added to the NGC catalogue as NGC 1340. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Small Limb:

This Welsh asterism listed by Victorian folklorist Marie Trevelyan (1852 – 1922) in her *Folk-lore and Folk-stories of Wales* (1909) is currently unidentified.

Small Lump of Puppis:

This **telescopic** asterism “Glébula Púppis” is the barred spiral galaxy NGC 2566 in the IAU constellation Puppis. It was discovered in 1785 by William Herschel who listed it as “III 288”. It became GC 1648 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name because “This galaxy looks like a little lump, almost a snow flock, with the Milky Way stars as a snow shower in the foreground”.

Small Magellanic Cloud:

This dwarf irregular galaxy NGC 292 is in the IAU constellation Tucana. Persian astronomer Abd Al Rahman al Sufi listed it as “Al Bakr” (see White Ox, below). This is listed as GC 165 in the 1846 *General Catalogue*. Portuguese and Dutch sailors called them the Cape Clouds (see above). German astronomer Johann Bayer named it “Nubecula Minor” in his Uranometria in 1603 (see Nubecula Minor, above).

Small Man:

This Egyptian asterism is one of the paranatellonta of the decans of Leo as listed in the *Sphaera Barbarica* described by Teucros (Mosenkis, date n/k) and is possibly Canes Venatici.

Small Mouse:

This Ukrainian asterism “malen’ka mysha” (маленька миша) is the star 80 Ursae Majoris (Alcor) in the IAU constellation Ursa Major. It is described as a small mouse gnawing on the handle of the Cart (“Viz” or “Vizok”) every night.

Small Nucleus of Ursa Major:

This **telescopic** asterism “Parvinúcleus Úrsae Majóris” is the spiral galaxy NGC 3917 in the IAU constellation Ursa Major. It was discovered in 1790 by William Herschel who listed it as “II 824”. John

Herschel listed it as h 994, but later as GC 2579 and GC 2583 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of the "small nuclear bulge".

Small Nucleus of Virgo:

This **telescopic** asterism "Micropyrénus Virginis" is the spiral galaxy NGC 4504 in the IAU constellation Virgo. It was discovered in 1789 by William Herschel who listed it as "II 771". It became GC 3054 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010)": They called it this because it has "a rather small nucleus."

Small Otters:

This Barasana asterism "Wania Timia" or "Ria Timia" is a collection of stars, each representing an otter: Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor and Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini (Hugh-Jones 2006).

Small Saddle:

This Arabic star "Al Ḳatab" is Beta (β) Leonis (Denebola) in the IAU constellation Leo as listed in R. H. Allen's *Star Names* in 1899.

Small She Dog:

This Hebrew star "ha-kelev ha-qatan" is Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor as listed on star list of Abraham Bar Hiyya in 1104, who gives the Arabic name "shi'rā 'abūr". (Goldstein 1985).

Small Shield:

There are two Arabic stars with the name "turais" (تُرَيْس), later latinized to "Turais" or "Tureis":

- One is Iota (ι) Carinae in the IAU constellation Carina. English Admiral Henry William Smyth lists "Tureïs, the scutulum or little shield" in his *Bedford Catalogue* in 1844.
- One is Rho (ρ) Puppis in the IAU constellation Puppis. The IAU approved the name Tureis for Rho (ρ) Puppis A.

Small Staff of Ursa Major:

This **telescopic** asterism "Bacíllus Úrsae Majóris" is the barred spiral galaxy NGC 4144 in the IAU constellation Ursa Major. It was discovered in 1788 by William Herschel who listed it as "II 747". It became GC 2749 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Small Star 4 Cubits Behind the King:

This Persian (Achaemenid Period 539 – 331 B.C.E.) star "MUL TUR sa 4 KUS ar LUGAL" is Rho (ρ) Leonis in the IAU constellation Leo (Hunger and Sachs 1988).

Small Sword of Eridanus:

This **telescopic** asterism "Xiphidium Erídani" is the edge-on spiral galaxy NGC 1045 in the IAU constellation Eridanus. It was discovered in 1785 by William Herschel who listed it as II 488". It became GC 585 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They named it this due to its slender shape.

Small Thief:

This Macedonian star is 80 Ursae Majoris (Alcor) in the IAU constellation Ursa Major (Cenev 2014). It is part of their asterism "Aramii" (see Thieves, below). It is described as a child kidnapped by the other thieves and made to become one of them.

Small Umari Fruit Fence:

This Barasana asterism "Wamu Saniro Kihika" is the line of stars Upsilon (υ), Kappa (κ) 1 and 2, and Omega (ω) Tauri in the IAU constellation Taurus. Hugh-Jones (2006) describes it as Upsilon (υ), Chi (χ), and Omega (ω) Tauri.

Small Vortex of Leo:

This **telescopic** asterism "Vertículus Leónis" is the spiral galaxy NGC 3370 in the IAU constellation Leo. It was discovered by William Herschel in 1784, who provided it with the designation II 81. His son John later designated it 750. William Herschel cataloged I 80 to NGC 3348 before and II 82 to NGC 3455 after NGC 3370. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Small Wagon:

This Belarussian asterism "Малы Воз" ("Maly Vos") is the Little Dipper asterism in the IAU constellation Ursa Minor (see Little Dipper, above).

Small Whale of Canes Venatici:

This **telescopic** asterism "Cetéllus Cánum Venaticórum" is the distorted dwarf galaxy NGC 4627 (Arp 281) in the IAU constellation Canes Venatici. William Herschel listed this as "II 659". John Herschel listed this as h 1391 and later as GC 3159 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it is a companion of NGC 4631, commonly known as "the Whale".

Small Wheel of Phoenix:

This **telescopic** asterism "Orbículus Phoenícis" is the spiral galaxy NGC 238 in the IAU constellation Phoenix. It was discovered by John Herschel in 1834 and appears as GC 116 in his General Catalogue of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name due to its small apparent diameter.

Small Yoke:

This Belarussian asterism "Karomyselko" is the belt of Orion in the constellation Orion (Avilin 2009). They saw it as a girl carrying water with a yoke. It is also known as "Grabli" (see Rake, below), "Kastsy" (see Mowers, below), "Try Karali" (see Three Kings, below), "Kasar" (see Mower, below), "Kreselca Pana Jezusa" (see Lord Jesus' Chair, above), "Tri Siostry" (see Three Sisters, below), "Prahi" or

“Prapradki” (see Yarn Spinners, below), “Traiko” (see Three Times, below), “Asilki” (see above), “Matawila” (see Wheel, below), “Kosy” (see Scythes, above), “Kigachi ragachy” (see Shaft of a Plough, above), “Kryzhe” (see Cross, above), “Lisa” (see Fox, above), and “Trohkutnaia” (see With Three Corners, below). Compare this to their asterism “Karomisla” (see Yoke, below).

Smaller Chariot:

This Danish and Icelandic asterism “Litli Vagn” is the IAU constellation Ursa Minor as listed in R. H. Allen’s *Star Names* in 1899.

Smaller Dog:

This Sardinian asterism “su gajone” is the IAU constellation Canis Minor (Putzolu 2019).

Smaller Fish:

This Arabic asterism “as-samaka as sughra” (السمكة الصغرى) is from 'Abd al-Rahman al-Sufi (903 – 986)’s *Book of Fixed Stars* and is an oval of stars of the IAU constellations Andromeda and Perseus, and there are two versions of this:

- The first version (Adams 2016) starts at the star Beta (β) Andromedae (Mirach - called “Abdomen of the Fish” or “Abdomen of the Whale”) and runs around through Nu (ν) Andromedae, 32 Andromedae, Pi (π) Andromedae, Epsilon (ε) Andromedae, Zeta (ζ) Andromedae, Psi (ψ) 3 Piscium, Chi (χ) Piscium, Upsilon (υ) Piscium, and 91 Piscium.
- The second version:
  - One side starts at 9 Persei and runs through 4 Persei, Phi (ϕ) Persei, 51 Andromedae, Chi (χ) Andromedae, and Upsilon (υ) Andromedae to 53 Andromedae.
  - The other side runs from 53 Andromedae through 55 Andromedae, Gamma (γ) Andromedae, 60 Andromedae, 62 Andromedae, and 65 Andromedae back to 9 Persei.
  - The Double Cluster (see above), which is the double clusters NGC 869 and 884, were also included in this asterism by 'Abd al-Rahman al-Sufi (903 – 986).

Note: This is next to the Arabic asterism “Great Fish” (see above) and part of their asterism complex Two Fish (see below). On Stellarium it is labelled “the Other Fish”.

Smaller Plough Handle:

This is a Welsh name for the Little Dipper asterism in the IAU constellation Ursa Minor as listed by Victorian folklorist Marie Trevelyan (1852 – 1922) in her *Folk-lore and Folk-stories of Wales* (1909).

Smart Beaver:

This Kaska asterism “Tsa’ Ushyqq” is cognate with the Gwich’in asterism “Yahdii” (see Traveler, below (Cannon 2021)).

Smart Boy:

This is an alternate Dena’ina name, “Kil Qeyu”, for their asterism “Yéhda” (see Traveler, below (Cannon 2021)).

Smart Young Man:

This Ahtna name, “Ciił Hywaa” or “Ciil Kuyaan”, is an alternate name for their asterism “Nek’eltaeni” (see That Which Moves Over Us, below (Cannon 2021)).

NOTE: This character shows up in Dena’ina culture as “Kil Qeyu”.

Smell:

This Latin asterism “Olor” is the IAU constellation Cygnus. “Olor” and “Cygnus” both appear as names for Cygnus in *De Astronomica* (“the astronomy”), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). This was likely influenced by Latin asterism Lilium (see Lily, above). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt.

- The Constance Celestial Globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists the names “Olor avt Gallus” for this constellation.
- Jesuit German mathematician Christopher Clavius (1538 – 1612) lists this constellation as “Olor, sive Cygnus qvi Etiam. Auis, feu Gallina dicitur” (“Olor, also Cygnus. A fowl is called a hen”) in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).
- “Olor” appears in Danish astronomer Tycho Brahe’s *Astronomiae Instauratae Progymnasmata* (1602).
- Johann Bayer’s *Uranometria* (1603) lists the names “Olor” and “Auis” for this constellation.
- The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the names “Cygnus” and “Olor” for this constellation.
- John Hill’s *Urania* in 1754 lists the name “Olor” for this constellation.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Olor”.

Smelly Hands:

This Kiribati star “Baibingao” is currently unidentified (Trussel and Groves 1978). This name specifically refers to smelly or dirty hands.

Smile of Hydra:

This **telescopic** asterism “Mediásis Hýdrae” is the edge-on barred spiral galaxy NGC 5078 in the IAU constellation Hydra. William Herschel listed this as “II 566”. John Herschel listed it as h 3484 and later as GC 3487 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of “the slightly curved dark band across the large bulge”. This is probably caused by its interaction with the nearby galaxy IC 879.

Smiley Face:

There are eight **telescopic** “smiley face” asterisms:

- One, also known as the Cheshire Cat or Carol’s Smiley, is found in the IAU constellation Auriga 30 arcminutes south of the Starfish Cluster (Messier 38). The “smile” is a curved chain of stars: LY Aurigae, HIP 25735, HIP 25624, Phi (ϕ) Aurigae, HIP 25471 and HIP 25363. The “eyes” are the stars HIP 25476 and 25343. Size 80’ X 40’. This is listed in Asterisms: Small Star Patterns for Telescopes and Binoculars by Dutch astronomer Demelza Ramakers in 2011 and on Robert

Zebahl's Faint Fuzzies website by René Merting. Jeffrey Corder incorporates this into his "Elephant" asterism Corder 856/857 (see above).

- One, also known as "Vultus Irrisorie" (Latin for "looking ironically") is listed in Asterisms: Small Star Patterns for Telescopes and Binoculars by Dutch astronomer Demelza Ramakers in 2011. Size 84'. It is in the IAU constellation Cygnus:
- The curving "lips" consist of the five stars HIP 97774, 97845, 98013, 98071 and 98028.
- The "eyes" are the two stars HIP 97757 and 97700.
- One is in the IAU constellation Ursa Major and is Ennis 55 on the observing list of Canadian astronomer Charles Ennis. Size 100' X 35'. Two double stars form the eyes: HIP 57985 and HIP 57705. A curve of five 9th – 10th magnitude stars form the "lips": SAO 43936, HIP 57954, SAO 43928, SAO 43919 and Gaia DR3 769583235214110080. A rectangle of 9th – 12th magnitude stars including HIP 57862 form the nose. The curve of stars is Corder 2259 on Jeffrey Corder's observing list: Corder describes it as a "faint arc or 'C'".
- One is in the IAU constellation Scorpius and is Ennis 79 on the observing list of Canadian astronomer Charles Ennis. Size 70'. HIP 82489 and Gaia DR3 5970014750633758080 are the "eyes". Between them 8.85 magnitude Gaia DR3 5970014613194775552 and a tight cluster of dimmer stars form the "nose". A curve of three stars forms the "mouth": HD 151870, Gaia DR3 5969966543909143168, and HD 151790. Jeffrey Corder lists this as Corder 3136, which he describes as "two arcs of three stars".
- One is in the IAU constellation Hercules and is Ennis 80 on the observing list of Canadian astronomer Charles Ennis. Size 30'. The "eyes" are Rho (ρ) Herculis and HIP 85137. The "lips" are a curve of four 6th – 8th magnitude stars: HD 158015, SAO 66026, double star HIP 85181 and 85160. This includes stars of Corder 3264.
- One is made up of stars of the IAU constellation Pegasus. It is Ennis 89 on the asterism list of Canadian astronomer Charles Ennis and Bedö 1 on the list of Hungarian astronomer Veronika Bedö. Ennis posted it in July 2025. The "eyes" are HIP 108212 and HIP 107956. The "nose" is HIP 108063, SAO 90081 and HD 208225. The smiling "mouth" is HIP 108121, HIP 108060, HIP 107887, and HIP 107734. Size 1° 30'.
- One is made up of stars of the IAU constellation Orion. It is Ennis 91 on the asterism list of Canadian astronomer Charles Ennis and Dezsi 20 on the list of Hungarian astronomer Attila Dezsi. The "eyes" are the stars HIP 281129 and HD 249448. The "mouth" includes Gaia DR3 3348833387069792128 and Gaia DR3 3348833146551644288. Size 4'.
- One is the galaxy NGC 3758 in the IAU constellation Leo. It was found by Ralph Copeland in March 1874. This name was posted by American astronomer Jimi Lowrey on the Deep Sky Forum in April 2018. It is also known as the Owl Galaxy. This name relates to the two black holes in this galaxy that are spiraling in towards each other.

Smiting Sun Face:

This "Euphratian" asterism "Ukdagaba" is the IAU constellation Lepus as listed in R. H. Allen's *Star Names* in 1899. Allen attributes this to German orientalist Fritz Hommel but notes that English orientalist Robert Brown Jr. places it in Sagittarius.

Smoke:

This Wotjobaluk asterism is the Andromeda Galaxy, Messier 31, in the IAU constellation Andromeda (Hamacher 2011).

This Mara and Moporr asterism "Barnk" is the Andromeda Galaxy, Messier 31, in the IAU constellation Andromeda (Hamacher 2011).

Smoke from the Ancestor's Fires:

This Wiradjuri asterism is the Orion Nebula, Messier 42 (NGC 1976, SH 2-281, LBN 974, Ced 55d) in the IAU constellation Orion (Clarke 2014). They saw it as smoke from the fires of the ancestors who were cooking mussels from the river which was the Milky Way.

Smoke Ring:

This **telescopic** asterism is the open cluster NGC 6811 in the IAU constellation Cygnus. It was discovered by English astronomer John Herschel in 1829 who listed it as h 2044. It is GC 4505 in the *General Catalogue* of 1864. American astronomer Walter Scott Houston (1973) attributes the "smoke ring" to Tommy Christensen and gives a detailed description of how to see it. It is also known as the Hole in a Cluster, "83", Nefertiti's Headpiece, the Bicycle, or the Reliquary.

Smoking Gun:

This **telescopic** asterism is the galaxy Messier 87 (NGC 4486) in the IAU constellation Virgo. This was discovered by French astronomer Charles Messier in 1781. It contains the supermassive black hole known as Virgo A, which emits jets of plasma which inspired this name.

Smooth Arrow:

This Turkish asterism "Otysys Kalem" is the IAU constellation Sagitta. Johann Bayer's *Uranometria* (1603) lists "Orfercalim" as an alternate name for Satitta. R. H. Allen's *Star Names* in 1899 lists "Otysys Kalem" and writes that this is probably the source of the name "Orfercalim" listed by Italian astronomer Giovanni Battista Riccioli (1598 – 1671). Allen also lists the name "Albumasar" and attributes this to Georg Wilhelm Sigismund Beigel (1753 – 1837).

Smooth One of Virgo:

This **telescopic** asterism "Móllis Vírginis" is the lenticular galaxy NGC 5838 in the IAU constellation Virgo. It was discovered in 1786 by William Herschel who listed it as "II 542". It became GC 4038 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Snail:

This Greek asterism "τετράπλευρον" ("tetráplevro"), later latinized to "Terebellum" was first described by Ptolemy (c.100 – c.170) and is a small quadrilateral or cross of four faint stars in the IAU constellation Sagittarius made up of the stars Omega (ω) Sagittarii (which also bears the name Terebellum) plus the stars 59 Sagittarii (Terebellum II), 60 Sagittarii (Terebellum III), and 62 Sagittarii (Terebellum IV). Terebellum is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch. NOTE: This is in recent years often described as a **telescopic** asterism, despite being originally listed as a unaided eye object. As a **telescopic** asterism it is also known as Herman's Cross. Terebellum is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based

on the Celestial Atlas of Alexander Jamieson, published in 1822. The IAU approved the name Terebellum for the star Omega (ω) Sagittarii A. Compare this to the asterism Drill, above.

This is also an alternate name for the **telescopic** asterism called the Coat Hanger (see above).

This **telescopic** asterism is the planetary nebula NGC 6543 (Caldwell 6) in the IAU constellation Draco. It was discovered by English astronomer William Herschel in 1786 who listed it as IV 37". It is GC 4373 in the *General Catalogue* of 1864. It is also known as the Cat's Eye Nebula or the Sunflower Nebula. Size 0.3' X 0.3'.

Snake:

This Greek asterism "Ὄφις" ("Ófis") is the IAU constellation Serpens as described by Ptolemy (c.100 – c.170) in his *Almagest*. It was originally considered part of Ophiuchus had the additional name "Ὄφις Ὀφιοῦχου" ("Ófis Ofioúchou"). This was later Latinized to "Anguis", "Anguis Æsculapis", and "Coluber".

The original asterism included stars of the IAU constellations Serpens and Ophiuchus:

- The "head" is the quadrilateral of the stars Beta (β) Serpentis, Gamma (γ) Serpentis, Rho (ρ) Serpentis and 21 Serpentis,
- The "body" is the line of stars from Beta (β) Serpentis through Delta (δ) Serpentis, Alpha (α) Serpentis, Epsilon (ε) Serpentis, Mu (μ) Serpentis, HIP 79195, Delta (δ) Ophiuchi, 23 Ophiuchi, Mu (μ) Ophiuchi, Zeta (ζ) Serpentis, and Eta (η) Serpentis, with the tip of the "tail" being the double star Theta (θ) Serpentis, and
- The Greek asterism "Serpent Bearer" is holding this "snake" at the star Delta (δ) Ophiuchi (see Serpent Bearer, above).

NOTE: Eudoxus (408 – 355 B.C.E.) used the name "ὁ διά τῶν" ("Ἄrkton Ὄfi B") or just "ὁ Ὄfi B" (Snake) for the constellation Draco. Aratus (315 – 240 B.C.E) changed this to Dragon (see above), probably to avoid confusion with the constellation Serpens.

This Gallic asterism "Anguis" is made up of stars of the IAU constellation Hydra. The Gallo-Roman historian and Bishop Gregory of Tours (538 – 594) created this to help monks use certain stars in the sky to determine the time for prayers. This is the circular group of stars that forms the modern "head" of Hydra: Epsilon (ε) Hydrae, Delta (δ) Hydrae, Sigma (σ) Hydrae, Eta (η) Hydrae, and Rho (ρ) Hydrae (McKay 2020).

This Egyptian Dendera asterism is a combination of the Babylonian asterism MUL.DINGIR.MUŠ (see Serpent, above) which later became the Greek asterism Hydra, and the Babylonian asterism MUL.UGA.MUSHEN (see Raven, above) which later became the Greek asterism Corvus (Hoffman 2017).

The "Nuremburg Maps", a pair of celestial hemispheres made in 1503 by Conrad Heinfogel depicts a serpent held by "OPHIVLCVS" but does not label it.

The *imagines coeli septentrionales cum duodecint imaginibus zodiaci* ("images of the northern sky with twelve images of the zodiac"), commonly known as the *Northern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius (Dekker & Lippincott, 1999) labels this constellation "Anguis" and depicts it as a serpent wrapped around the arms and knotted around the waist of Ophiuchus. It head is on our left.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts Anguis in the same manner as Dürer et al.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts “Anguis” as a serpent wound around the waist of Ophiuchus.

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts “Anguis” as a snake wrapped around the middle of Ophiuchus.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts “Anguis” as a serpent wound around “Serpentarius” twice.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) depicts “Ophiuchus” as a nude male standing on “Scorpius” holding a serpent in front of him which is labelled “Anguis”.

Johann Bayer’s *Uranometria* (1603) lists “Coluber”, “Anguis”, and “Anguilla” as names for Serpens and lists “Anguis” as a name for Draco and Hydra.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Ophiuchi”, “Coluber”, and “Anguis” as alternate names for Serpens.

“Anguis” is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as an alternate name for Serpens.

John Hill lists “Anguis” for Serpens in his *Urania* in 1754.

English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Anguis” as a “Latin” name for Serpens, Draco, and Hydra.

This Latin asterism “Anguis”, “Coluber”, or “Serpens” is the IAU constellation Draco as listed by R. H. Allen in his *Star Names* in 1899.

This Arabic asterism “Al'aqeaa” (الأقعى) is the IAU constellation Serpens.

- “Al-Hayyā” was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- Variations include “Al Ḥayyah”:
- It was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- Robert Hues (1659) lists it as “Alhafa”.
- John Chilmead (1899) lists it as “Alhafa”.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Huweyyah, the snake”.

This Arabic star “ath-Thuʿabān”, or “Ath-ThuʿAbaan” (الثعبان) is Alpha (α) Draconis (Thuban) in the IAU constellation Draco:

- It was later latinized to “Thuban”.
- Robert Hues lists it as “Taben” in his *A Learned Treatise on Globes* in 1659 and attributes this name to French Scholar Joseph Justus Scaliger (1540 – 1609).
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Thuban, from the Arabian al-Thu’bán, the dragon”.
- English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists this star as “Thuban”.

- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Thuban" and describes it as "a dragon".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and the 14th edition (1959) list this star as "Thuban".
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this star as "Thuban".
- The IAU approved the name Thuban for the star Alpha (α) Draconis A.

This "Hebrew" asterism "Fleuban" is the IAU constellation Draco. In his *Urania* in 1754 John Hill gives this as a "Hebrew name" for this constellation. This is clearly a reference to the Arabic name Thuban (see above).

This Sumerian asterism "mul dnirah" from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is the IAU constellation Hydra. It is related to the story of Etana of Kiš and the deities Šamaš and Ištar.

This Akkadian asterism "ni-ra-ḫu" from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is the IAU constellation Hydra. It is related to the story of Etana of Kiš and the deities Šamaš and Ištar. R. H. Allen lists this in his *Star Names* in 1899 as "Tsir" or "Sir" and describes it as the stars Eta (η), Theta (θ), and Xi (ξ) Ophiuchi in the IAU constellation Ophiuchus.

This Coptic asterism "Tshiō" is the stars Theta (θ) and Eta (η) Ophiuchi in the IAU constellation Ophiuchus as listed in R. H. Allen's *Star Names* in 1899.

This Tukano asterism "Aña Diaso", "Aña" ("viper"), "Jaracae", "Jararaca", or "Fer-de-lance" is made up of stars of the IAU constellation Scorpius, Sagittarius, and Corona Australis (Cardoso 2015, Cardoso 2016, Urton 2016). The constellation Scorpius makes up the front of this asterism, and then it extends from Scorpius' "stinger" to a curving line of stars (Eta (η), Epsilon (ε), Delta (δ), Lambda (λ), Phi (ϕ), Sigma (σ), Tau (τ), and Zeta (ζ) Sagittarii to a spiral of stars that is the IAU constellation Corona Australis. This is divided into segments including the head, body, venom, liver, egg sack, and tail, each associated with a particular flood season.

This Kogi asterism "Tarbi" or "Takbi" is the IAU constellation Scorpius.

This Persian asterism "EN.TE.NA.MAS.SIG" from the list of Lumasi Stars from the Persian (Achaemenid) Period (539 – 331 B.C.E.) is the IAU constellation Hydra:

This Dakota/Lakota/Nakota asterism "Zuzuecha" is made up of stars in the IAU constellations Canis Major, Puppis, and Columba. This is a wavy line of stars running from Rho (ρ) Puppis through Xi (ξ) Puppis and Kappa (κ) Puppis and on through Eta (η), Delta (δ), Sigma (σ), Epsilon (ε), Kappa (κ) and Zeta (ζ) Canis Majoris to Beta (β) Columbae (Wazn), Alpha (α) Columbae (Phact), and Epsilon (ε) Columbae.

This Pawnee asterism is the IAU constellation Scorpius.

This Skidi asterism is the IAU constellation Scorpius.

This Belarussian asterism "Змей" ("Zmej") is the IAU constellation Draco. This is the serpent killed by St. George.

This Kolam asterism "Borenagu" or "Nago" is the IAU constellation Scorpius (Vahia 2014).

This Estonian asterism “Siulik” (“snakelike”) is made up of stars of the IAU constellation Orion (Kuperjanov 2006): It is an “S” shape starting at Alpha (α) Orionis (Betelgeuse) and running through Gamma (γ) Orionis, Delta (δ) Orionis, Epsilon (ε) Orionis, Zeta (ζ) Orionis, and Iota (ι) Orionis, ending at Beta (β) Orionis (Rigel).

This Ainu Nociw (“asterism”) is made up of stars of the IAU constellation Draco.

This asterism is the IAU constellation Pisces as renamed by the Unitarian Universalist Hysterical Society in 2024 on their Facebook page.

There are two **telescopic** Snake asterisms:

- One is in the IAU constellation Orion and is Ennis 41 on the observing list of Canadian astronomer Charles Ennis. The “head” is a triangle of four 8^{th} – 9^{th} magnitude stars: HD 30559, Gaia DR3 3230130764567833216, HD 30520, and HD 30533. The “body” is a curving line of eight 8^{th} – 10^{th} magnitude stars starting at HIP 22296 and running through HD 30428 and SAO 112076 to HIP 22230. This is Corder 733 on Jeffrey Corder’s list, which Corder describes as a “thick arc”.
- One is made up of stars of the IAU constellation Perseus. It was posted on *Cloudy Nights* by Spanish astronomer “Takuan” in December 2023. The “head” of the snake is the loop of stars starting at HIP 18207 and running around through HIP 18309, HIP 18366, HD 24503, and HIP 18370. The “body” is the cascade of stars from HIP 18207 through HIP 17963, HIP 17800, HIP 17675, HIP 17718, HIP 17807, HIP 17869, and HIP 17827 to HIP 17772.

Snake Charmer:

This Arabic asterism “Sahir Althaeabin” (ساحر الثعابين) is the IAU constellation Ophiuchus.

Snake Climbing a Tree:

This Latin asterism “Coluber Arborem Conscendens” is the IAU constellation Draco and is a reference to the Staff of Aesculapius (see Aesculapius, above). Johann Bayer’s *Uranometria* (1603) lists “Coluber Arborem Conscendens”.

Snake Goddess:

Lithuanian archaeologist Marija Gimbutas (1996) and others identify the IAU constellations Ophiuchus and Serpens as a goddess holding a snake, which was a common theme in ancient cultures. The Uppsala Archaeoastronomical Project proposed this Minoan asterism, which they call the Serpent Mother. This asterism was passed on to me by Dana Corby of Ariadne’s Tribe in Tacoma, Washington in November 2023.

Snake Head:

This French asterism “Serpentaire” is the IAU constellation Ophiuchus.

Snake Large Anus:

This Tukano asterism “Sipé Phairo”, also known as “Cobra de Ânus Grande” (“Snake Large Anus”) is their name for the Big Dipper asterism in the IAU constellation Ursa Major (Cardoso 2007). Their legends tell that when this asterism touches the horizon after the sunset almost all fishes in the main river are swallowed by it.

Snake Man:

This Arabic asterism “ul-Ḥawwā'” or “Al Hawwāʿ” is the IAU constellation Ophiuchus:

- “al-Hawwā” was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- Catholic librarian Giuseppe Simone Assemani (1687 - 1768) listed it as “Alhava”.
- Robert Hues listed it as “Alhava” and “Hasalangue” in his *A Learned Treatise of Globes* in 1659.
- Other variations include “Al Haur”, “Al Hague”, “Alangue”, “Hasalangue”, “Alange”, and “Yilange”.
- German astronomer Johann Bayer (1572-1625) lists it as “Elhague” and describes it as “the Crane or Stork of the Serpent”, this being a reference to Serpens.
- John Hill lists it as “Hauwa” or “Al Hauwa” in his *Urania* in 1754.
- R. H. Allen lists the “Moorish” name “El Hauwe” in his *Star Names* in 1899. Allen suggests that this interpretation comes from “a drawing of a Crane, or Stork, on a Turkish planisphere”: Compare this to Stork, below.
- The *Century Cyclopedia* of 1894 lists “Hawwa”.

This Romanian asterism “Zmeu” is the IAU constellation Draco (Ottescu 2009). In Romanian legend the Zmei are men with snake skin with the ability to fly who come from “the other space” (“taramul celalalt”).

Snake Mouth:

This **telescopic** asterism is Corder 3491 in the IAU constellation Draco and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 40’. Corder describes it as “12 stars of magnitude 8 to 9 that make up the ‘mouth’ shape, with a 10th magnitude star making up a ‘fang’ at top of the mouth”. This includes HIP 89204, 89400, and 89175.

Snake Nebula:

This **telescopic** asterism is dark nebula is Barnard 72 in the IAU constellation Ophiuchus. It is part of the larger Dark Horse Nebula (see above). It is also known as the “S Nebula”.

Snake of North:

This Estonian asterism is the IAU constellation Draco (Kuperjanov 2006).

Snake of Pegasus:

This **telescopic** asterism “Serpens Pégasi” is the barred spiral galaxy NGC 7479 (Caldwell 44) in the IAU constellation Pegasus. It was discovered by English astronomer William Herschel in 1784 who listed it as “I 55”. It is GC 4892 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “with its long, thin, widely curved arms this galaxy resembles a twisting snake”. It is also known as the “Superman Galaxy” (see below), the “Propeller Galaxy” (see above) and the "Lawn Sprinkler” (see above).

Snake of Ursa Major:

This **telescopic** asterism “Opheódes Úrsae Majóris” is the barred spiral galaxy NGC 2854 (Arp 285) in the IAU constellation Ursa Major. It was discovered in 1788 by William Herschel who listed it as “III 714”. It became GC 1823 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Snake’s Abdomen:

This Chinese xing guan “Shéfù” (蛇腹) is a curving line of four stars in the IAU constellation Hydrus: Zeta (ζ), Epsilon (ε), Delta (δ), and Eta (η) 2 Hydri. This xing guan is roughly parallel to a nearby xing guan: “Snake’s Head” (see below).

Snake’s Head:

This Chinese xing guan “Shéshǒu” (蛇首) is a line of four stars in the IAU constellations Horologium, Hydrus, and Reticulum: Alpha (α) Hydri, Gamma (γ) and Beta (β) Horologii, and Beta (β) Reticuli. It is roughly parallel to a nearby xing guan: “Snake’s Abdomen” (see above).

This asterism “Anguicomum Caput” is an alternate name for the asterism “Medusa’s Head” (see above) in the IAU constellation Perseus and is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

Snake’s Nose:

This Arabic star “Al Minḥar al Shujāʿ” is Rho (ρ) Hydrae in the IAU constellation Hydra as listed by Persian astronomer Ulugh Beg Mirza (1394 – 1449) and listed in R. H. Allen’s *Star Names* in 1899.

Snake’s Tail:

This Chinese xing guan “Shéwěi” (蛇尾) is a line of four stars in the IAU constellations Octans and Hydrus: Beta (β) Hydri and Psi (ψ), Nu (ν) and Alpha (α) Octantis.

Snapping Turtle:

This Korean asterism “Mulgeobug” (물거북) is the IAU constellation Corona Australis extended to form an oval of stars, including Alpha (α) Coronae Australis (Meridiana), Gamma (γ), Epsilon (ε), Lambda (λ), Theta (θ), Eta (η) 1 and 2, Zeta (ζ), Delta (δ), and Beta (β) Coronae Australis and HIP 90887, 91494, and 92953.

Sneden's Star:

This **telescopic** old population II giant star, BPS CS22892-0052 is located in the galactic halo in the IAU constellation Aquarius and is an ultra-metal-poor star (magnitude 13.21). This was discovered by astronomer Tim C. Beers but is named for American astronomer Chris Sneden who led the extensive spectroscopic observations of this star.

Sneaky One of Camelopardalis:

This **telescopic** asterism “Obrépens Camelopardális” is the edge-on spiral galaxy NGC 1560 in the IAU constellation Camelopardalis. It was discovered by German astronomer W. Tempel in 1883. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): The name is a reference to this galaxy approaching ours.

Sneeze:

This Arabic asterism is the open cluster Messier 44 in the IAU constellation Cancer and is part of their asterism “an-nathra” (see Tip of the Nose, below).

Snorter:

This **telescopic** asterism is NGC 4038 and NGC 4039 (Caldwell 60/61), a pair of colliding galaxies in the IAU constellation Corvus. These galaxies were discovered by English astronomer William Herschel in 1785 who listed them as “IV 28.1” and “IV 28.2”. They are GC 2670 and GC 2671 in the *General Catalogue* of 1864. They got this name because of the two long “tails” of stars, gas, and dust ejected from the collision, resembling an insect’s antennae. This is also known as the Ring Tail Galaxy (see below), the Antennae or Antennae Galaxies (see above), and the Mosquito Larvae (see below).

Snout:

This Latin star “Grumium” is the binary star Xi (χ) Draconis in the IAU constellation Draco. This is a corruption of the Latin “Grunnum”, which is a reference to the name Ptolemy (c.100 – c.170) gave this star “γένυς” (“génys”). “Grumium” appeared in the 1515 edition of the *Almagest*. German astronomer Johann Bayer (1572-1625) listed it as “Genam”. This is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852 as “Grummium”: The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822. American uranographer Elijah Burritt’s *The Constellations for each Month in the Year* (1835) lists “Grumium”. The IAU approved the name Grumium for Xi (χ) Draconis A in 2016. NOTE: German astronomer Johann Bayer incorrectly listed Grumium as the name for Epsilon (ε) Pegasi (Enif), claiming that he was quoting “the interpreters of the Almagest”.

This Arabic star “al-Khatem” is Omicron (ο) Ursae Majoris in the IAU constellation Ursa Major as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

Snow Clad of Triangulum Australe:

This **telescopic** asterism “Niphóbolus Triánguli Austrális” is the spiral galaxy IC 4585 in the IAU constellation Triangulum Australe. It was discovered by DeLisle Stewart in 1900. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it is “IC 4584 and its companion IC 4585, located behind a thick curtain of Milky Way stars, seem to be covered by snow”.

Snow Collar:

This **telescopic** asterism NGC 1291 (also known as NGC 1269) is a lenticular galaxy in the IAU constellation Eridanus. It was discovered by James Dunlop in 1826. John Herschel listed it as h 2518 and h 2521, which later became GC 670 and GC 685 in the *General Catalogue* of 1864 and later NGC 1269 and NGC 1291. It is called this as it has a distinct “ring” surrounding it: This ring was first noted by English astronomer William Parsons (1800 – 1867). This name was posted on the Deep Sky Forum in December 2017 by American astronomer Mark Friedman. It is also known as the Golden Eye of Eridanus (see above).

Snow Covered of Triangulum Australe:

This **telescopic** asterism “Niphóstibes Triánguli Austrális” is the spiral galaxy IC 4584 in the IAU constellation Triangulum Australe. It was discovered by DeLisle Stewart in 1900. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger

(2010): They called it this because it is “IC 4584 and its companion IC 4585, located behind a thick curtain of Milky Way stars, seem to be covered by snow”.

Snow Globe Cluster:

This **telescopic** asterism is the open cluster NGC 5466 in the IAU constellation Boötes. It was discovered by English astronomer William Herschel in 1784 who listed it as “VI 9”. It is GC 3776 in the *General Catalogue* of 1864. It is also known as the Ghost Cluster.

Snow Globe Nebula:

This **telescopic** asterism is the planetary nebula NGC 6781 in the IAU constellation Aquila. This was discovered by English astronomer William Herschel in 1788 who listed it as “III 743”. It is GC 4487 in the *General Catalogue* of 1864. It is also known as the Ghost of the Moon Nebula or the Eagle’s Nest. Size 1.9’ X 1.9’.

Snow Lion:

This Tibetan khyim (zodiac constellation) “Sengge” or “Senge” is the IAU constellation Leo (Johnson-Groh 2013).

Snow Sled:

This **telescopic** asterism is the open cluster NGC 1778 in the IAU constellation Auriga. This was discovered by English astronomer William Herschel in 1787 who listed it as “VIII 61” in his catalogue. It is GC 996 in the *General Catalogue* of 1864. It was given this name by American astronomer Wayne Schmidt, who describes it as a 17-arcminute long sled.

Snowball:

There are eight **telescopic** “snowball” asterisms:

- One is the planetary nebula NGC 7662 (Caldwell 22) in the IAU constellation Andromeda. It was discovered by English astronomer William Herschel in 1864 who listed it as “IV 18”. It is GC 4964 in the *General Catalogue* of 1864. It is also known as the “Blue Snowball” or “Copeland’s Blue Snowball” after American amateur astronomer and poet Leland S. Copeland in the February 1960 Issue of *Sky and Telescope*. It is a bright nebula that definitely appears pale blue in the eyepiece.
- This is also an alternate name for the Incredible Shrinking Nebula (see above).
- One is the globular cluster NGC 5139 (Caldwell 80) in the IAU constellation Centaurus. It is also known as “Omega Centauri” (see below) and the “Star in the Cloud on the Horse’s Back” (see below), which was how it was described by Ptolemy (c.100 – c.170). . It is listed in the *General Catalogue* of 1864 as GC 3531 and in John Herschel’s catalogue as h 3504.It is also known as the Ice Cream Cone (see above). South African astronomer Richard Ford describes it in his observations from 2015 as a “giant mottled snowball”.
- One is the globular cluster Messier 22 (NGC 6656) in the IAU constellation Sagittarius. It was discovered by German amateur astronomer Abraham Ihle in 1665 and included in Charles Messier’s catalogue in 1764. It is GC 4424 in the *General Catalogue* of 1864. *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) simply describes it as “Sagittarius, Nebula”. South African astronomer Richard Ford described this in 2015 as a “large out of focus snowball”.
- One is the planetary nebula NGC 6804 in the IAU constellation Aquila. This was discovered by English astronomer William Herschel in 1791 who listed it as “VI 38”. It is GC 4499 in the *General*

Catalogue of 1864. It is also known as the Incredible Shrinking Nebula and Lipstick Marks on a Mirror.

- One is globular cluster NGC 5897 in the IAU constellation Libra. This was discovered by English astronomer William Herschel in 1784 who listed it as "VI 19" and "VI 8?". It is GC 4075 in the *General Catalogue* of 1864. South African astronomer Richard Ford described it in 2015 as "a large out of focus snowball glowing like mist in the night sky."
- One is the globular cluster Messier 75 (NGC 6864) in the IAU constellation Sagittarius. This was discovered by French astronomer Pierre Méchain in 1780. John Herschel's General Catalogue of 1864 lists it as GC 4543. South African astronomer Richard Ford (2016) described it as a "roundish snowball". It is also known as a "Mini Messier 3" (see above).
- One is the asterism "Niphosphaéra Erídani" ("snowball of Eridanus"), which is the elliptical galaxy NGC 1199 in the IAU constellation Eridanus. It was discovered in 1785 by William Herschel who listed it as "II 503". It became GC 643 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as to them it resembled "a snowball".

Snowflake Cluster:

This **telescopic** asterism is a smaller cluster of stars with a pinwheel shape inside the Christmas Tree Cluster (see above), open cluster Melotte 49, which is found within the emission nebula NGC 2264 (the Cone Nebula) in the IAU constellation Monoceros. This is O'Meara 35 in astronomer Stephen James O'Meara's *Hidden Treasures Catalogue* (2007), which lists the names "Cone Nebula", "Fox Fur Nebula" and "Christmas Tree Cluster".

Snowman Nebula:

This **telescopic** asterism is Sharpless 2 302 (LBN 1046), an H II region in the IAU constellation Puppis adjacent to the open cluster NGC 2409. This was discovered by Stewart Sharpless and included in his 1959 catalogue. A dust lane dividing the oval region makes it look like a snowman.

Snowshoe Trail of Sister and Brothers:

This Dena'ina asterism is Delta (δ) Ursae Majoris, Epsilon (ε) Ursae Majoris, Zeta (ζ) Ursae Majoris, and Eta (η) Ursae Majoris in the IAU constellation Ursa Major (Cannon 2021).

Snowy of Phoenix:

This **telescopic** asterism "Nivális Phoenícis" is the irregular dwarf galaxy PGC 6830 (ESO 245-7) in the IAU constellation Phoenix. It was discovered by Hans Emil Schuster and Richard Martin West in 1976 and first taken for a globular cluster. R. Canterna and P.J. Flower discovered it to be a dwarf galaxy in 1977. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the galaxy looks like a small snowy patch in the sky."

Snowy Star:

This Latin asterism "Pliadum nivosum sidus" is the Pleiades cluster in the IAU constellation Taurus as listed by the 1st century poet Publius Papinius Statius and by R. H. Allen in his *Star Names* in 1899.

Soap Bubble Nebula:

There are two **telescopic** "soap bubble" asterisms:

- One is the planetary nebula NGC 246 (Caldwell 56) in the IAU constellation Cetus. It was discovered by English astronomer William Herschel in 1785. This is listed as GC 131 in the 1846 *General Catalogue*. It is also known as the Skull Nebula and the Voodoo Mask Nebula.
- One is planetary nebula PN G75.5+1.7 in the IAU constellation Cygnus. This was discovered by American amateur astronomer Dave Jurasevich in 2007.

Sob:

This Korean asterism "Heuneukkim" (흐느낌) is a line of two stars in the IAU constellation Capricornus: 42 and Gamma (γ) Capricorni. Their asterism "Weeping" is nearby (see below).

Soccer Ball:

There are twos **telescopic** "Soccer Ball" asterisms:

- One is the "Soccer Ball Nebula", planetary nebula Kronberger 61 in the IAU constellation Cygnus. This was discovered by Austrian amateur astronomer Mattias Kronberger, a member of the Deep Sky Hunters, in January 2011 using images from the Gemini Observatory.
- One is the globular cluster NGC 6723 in the IAU constellation Corona Australis. It was discovered by Scottish astronomer James Dunlop in 1827. It is GC 4450 in the *General Catalogue* of 1864. South African astronomer Richard Ford described it in 2015 as "a slightly irregular soccer ball". It is also known as the Chandelier (see above).

Soccer Player of Pavo:

This **telescopic** asterism "Pedilúsor Pavónis" is the spiral galaxy IC 4721 in the IAU constellation Pavo. It was discovered by Stephane Javelle in 1896. American astronomer DeLisle Stewart (1870 – 1941) also recorded it, resulting in it being listed in the *Index Catalogue*. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "this galaxy at its south end [is] accompanied by a small E0 galaxy [PGC 3096774], bringing to mind a soccer player with a ball at his foot."

Soft Arms of Camelopardalis:

This **telescopic** asterism "Mollibrachiátus Camelopardális" is the spiral galaxy NGC 2460 in the IAU constellation Camelopardalis. It was discovered by William Herschel in 1788. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name due to the "soft looking, weak arms of this spiral galaxy".

Soft Chair:

This German asterism "Cathedra Mollis" is the IAU constellation Cassiopeia. German astronomer Johann Bayer (1572-1625) lists "Iuuenali Cathedra Mollis" ("Juvenal's Soft Chair") in his Uranometria (1603). English Admiral Henry William Smyth lists "Cathedra Mollis" in his *Bedford Catalogue* in 1844 and attributes this to 2nd century poet Juvenal. R. H. Allen in his *Star Names* in 1899 describes this as "an error from misreading of the original text".

Soft Palate:

This Arabic asterism “Al Lihāʿ” is their manzil Tip of the Nose (see below) as listed by Iranian scholar and astronomer Abu Rayhan Muhammad ibn al-Biruni (973 – c.1050).

Soft Patch of Grass:

This Jū/Wãsi, Jū /’hoansi, and !Kung asterism “//Galli Ding” or “//Gali Ding” is the Large Magellanic Cloud, which they see as a patch of thornless grass which they use for bedding (Slotegraaf 2013, Alcock 2014). Their God sleeps there when not hunting. Another version has this patch of grass as packing for ostrich eggs.

This G/wi asterism is the Large Magellanic Cloud, which they see as a patch of thornless grass which they use for bedding.

This Nyae Nyae !Kung asterism “//Gali Ding” is the Large Magellanic Cloud, which they see as a patch of thornless grass which they use for bedding.

Solar Luminosity:

This Chinese star from the Tang Dynasty (Krupp 1983) is Alpha (α) Ursae Majoris (Dubhe) in the IAU constellation Ursa Major (Krupp 1983). It was part of a shamanistic ritual called “Pace of Yu” involving a ritual dance based on the pattern and sequence of stars in the Big Dipper (which they called the Northern Dipper, see above).

Solar Star:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is the star 2 Scorpii in the IAU constellation Scorpius.

This Chinese xing guan “Rì” (日) is the star Kappa (κ) Librae in the IAU constellation Libra.

There are two Chinese Chenzhuo xing guans by the name “Ri” in the IAU constellation Scorpius:

- One is the star HIP 78246, and
- One is the star 2 Scorpii.

Solaris:

This **telescopic** Polish star is BD+14 4559 in the IAU constellation Pegasus (magnitude 9.64). It received this name in the IAU NameExoWorlds Campaign. This is the name of an ocean planet in a science fiction novel by Stanislaw Lem. It has an exoplanet named Pirx, which is the name of one of Lem’s characters.

Solarium:

See Sundial, below.

Soldier:

This Basque asterism “Soldadua” is the IAU constellation Orion (Knörr 1999, Frank 2021).

Soldier’s Bow:

This Welsh asterism listed by Victorian folklorist Marie Trevelyan (1852 – 1922) in her *Folk-lore and Folk-stories of Wales* (1909) is currently unidentified.

Sole of the Left Foot:

This Euphratian asterism “Ur-ner-gub” is the stars Beta (β) 1 and 2 Sagittarii in the IAU constellation Sagittarius as listed in R. H. Allen’s *Star Names* in 1899.

Sole One:

See Solitary One, below.

Solitary:

This Māori star “Kauanga” is Alpha (α) Carinae (Canopus) in the IAU constellation Carina.

This Arabic star “Suhel al Shām” is Alpha (α) Hydrae (Alphard) in the IAU constellation Hydra. It is also known as the Northern Suhail:

- Dorn (1829) describes this as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya’ al-Qazwini (1203 – 1283).
- “Suhel al Sham” is listed in R. H. Allen’s *Star Names* in 1899.

This Coptic star “Khoritos” is Alpha (α) Virginis (Spica) in the IAU constellation Virgo as listed by R. H. Allen in his *Star Names* in 1899.

Solitary Fish:

This Latin asterism “Piscis Solitarius” is the IAU constellation Piscis Austrinus.

- Johann Bayer’s *Uranometria* (1603) lists “Piscis Solitarius”.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Piscis Solitarius”.

Solitary of Coma Berenices:

This **telescopic** asterism “Eremítis Cómae Bereníces” is the elliptical galaxy NGC 4494 in the IAU constellation Coma Berenices. It was discovered in 1785 by William Herschel who listed it as “I 83”. It became GC 3043 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Solitary One:

This Arabic star “al-Fard” (الفرد) (“solitary one” or “sole one”) or “Al Fard al Shujāʿ” (“solitary one in the serpent”) is Alpha (α) Hydrae in the IAU constellation Hydra:

- “al-Fard” was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- It is listed as “Fard al-shujā’” on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992).
- Later it was latinized to “Alphard”, “Alfard”, “Alphora”, and “Alpherd”.
- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists “’unuq al-shujā’ wa huwa al-fard” (“the neck of the snake; it is the solitary one”).

- The rete of the 14th century Spanish astrolabe NMM AST0570 in the National Maritime Museum lists "Alfard" as does the Sloane astrolabe BM SL 54 (1290 – 1300) in the British Museum (Dekker 2000).
- The 15th century *Alfonsine Tables* (Kunitzsch 1986) list this star as "Alphart".
- The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists "Alphart Serpenteidra".
- The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) lists this star as "Alphard".
- Dutch uranographer Hugo Grotius (1583 – 1645) list this star as "Alphart"
- Italian astronomer Giovanni Batista Riccioli (1598 – 1671) listed "Kalbelaphard" and "Kalb Elhavich".
- Johann Bayer's *Uranometria* (1603) lists "Alphard".
- The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch lists "Alpharad".
- Robert Hues in his *A Learned Treatise of Globes* in 1659 lists "Alphart".
- German poet Philipp von Zesen (1619 – 1689) listed it as "Alpharad", and Allen writes that the "Reuter wall map" labelled it as "Alphrad".
- Hugo Grotius (d. 1645) listed it as a star in Ptolemy's asterism Argo's Ship (see above) but later added that it was in Hydra. This star is close to the asterism Argo's Ship and might be considered the top of a mast according to R. H. Allen.
- Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) labels this star "Alphard Cor Hydrae".
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Alphard".
- "Alphard" is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801).
- American uranographer William Croswell (1760 – 1834) lists "Alphard Cor Hydrae" on his *Mercator Map of the Starry Heavens* in 1810.
- Admiral William Henry Smyth's *Prolegomena* of 1844 lists "Alphard".
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists it as "Alphora vel Alphard" on one chart in his *Celestial Atlas* in 1822 and "Cor Hydra vel Alphard" on another chart.
- Alphard is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on Jamieson's *Celestial Atlas*.
- German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this star as "Alphard".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Alphard".
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as "Alphard" but incorrectly translates it as the "Hydra's Heart".
- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Alfard" and describes it as "the solitary".
- In his *Star Names* in 1899 R. H. Allen writes that English orientalist Thomas Hyde (1636 – 1703) listed it as "Pherd".
- The 1st edition (1910) and the 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) list "Alphard" for this star.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists "Alphard" for this star.

- NOTE: Robert Burnham incorrectly names “solitary one” as a name for Alpha (α) Piscis Austrini (Fomalhaut) in his *Burnham’s Celestial Handbook* in 1978.
- The IAU approved the name Alphard for Alpha (α) Hydrae.

Solitary One of the Lancer:

This Arabic star “Mufrid ur-Rāmiḥ” (المفرد الرامح) is Eta (η) Boötis in the IAU constellation Boötes:

- This was later latinized to “Muphrid”, “Mufrid”, and “Mufride”.
- Persian astronomer Ulugh Beg Mirza (1394 – 1449) listed it as “al Rāmiḥ” according to R. H. Allen in *Star Names* in 1899.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Muphrid… from the Arabic al mufrid al rámih, the single, or solitary star of the lancer.”
- English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists this star as “Muphrid”.
- The 1st edition of British schoolmaster Arthur P. Norton’s *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list this star as “Muphrid”.
- The IAU approved the name Muphrid for Eta (η) Boötis Aa.
- Compare this to Lance of the Lance Bearer (above).

Solitary Ones:

There are three Arabic asterisms with the name “al-furūd” (الفرود) meaning “solitary ones” or “single ones”:

- One, later latinized to “Elkurud”, is the star Theta (θ) Columbae in the IAU constellation Columba:
    - The IAU approved the name Elkurud for Theta (θ) Columbae in 2018.
    - NOTE: English Admiral Henry William Smyth writes in his *Bedford Catalogue* in 1844 that this is “probably an error of transcription”, claiming that it comes from “Al kurúd, the monkeys” and in another entry as “El-Kurúd, the apes”, and describing this as “from 2 to 5 of the smaller stars of Canis Major, with θ, κ, and λ Columbae”, though he also lists “el-furúd, bright and insulated”. In his *Star Names* in 1899 R. H. Allen suggested that “al-furūd” was a transcriber’s error for “al-qurūd” (“the apes”) which he listed as “Al Ḳurūd”. Neither Smyth’s nor Allen’s suggestion has received scholarly support.
- One, later latinized to “Furud” and “Phurud” is the star Zeta (ζ) Canis Majoris:
    - English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Phurud… from Al-furúd, the single ones”.
    - The IAU approved the name Furud for Zeta (ζ) Canis Majoris Aa.
- One, “Al Aghribah”, is a bending line of stars in the IAU constellation Canis Majoris and Columba listed by the 16th century Arabic astronomer Al Tizini: Zeta (ζ) Canis Majoris, Delta (δ) Columbae, Beta (β) Columbae, Alpha (α) Columbae, and Epsilon (ε) Columbae.
    - Dorn (1829) lists this as “the Solitary” and describes it as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya’ al-Qazwini (1203 – 1283). \
    - This is also known as the Ravens (see Ravens above).

Solitary Thrush:

This French asterism “Turdus Solitarius” or “Solitaire” is made up of stars of the IAU constellations Hydra and Libra: 4 Librae and 54 to 57 Hydrae. It was created by French astronomer Pierre Charles Le Monnier in 1776: It was supposed to represent the extinct flightless bird Rodrigues solitaire, but the image used in the star atlas was that of a rock thrush, genus Turdus. It was later repurposed by Scottish schoolmaster Alexander Jamieson in the asterism “Noctua” (see Owl, above). German astronomer Christian Ludwig Ideler (1776 – 1846) called it “Einsiedler”, which is the German drossel or thrush. English Admiral Henry William Smyth lists “Turdus Solitarius” in his *Bedford Catalogue* in 1844. Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depict “Solitarius” as a bird standing on Hydra’s tail (behind Corvus).

Solomon:

This German asterism is the IAU constellation Cepheus as listed in John Hill’s *Urania* in 1754. Hill identifies his source as German poet, jurist, and translator Georg Philipp Harsdörffer (1607 – 1658), but German poet Philipp von Zesen (1619 – 1689) also used this name for it.

Solomon’s Crown:

This German asterism is the IAU constellation Corona Australis and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the “pagan” names of constellations with Biblical and early Christian figures. It later appears in Edward Sherburne’s *Sphere of Marcus Manilius* in 1675 and in John Hill’s *Urania* in 1754.

Soma:

This Vedic star “Soma” (which translates as “moon” or “celestial drink”) is Epsilon (ε) Orionis (Alnilam) in the IAU constellation Orion (Vahia 2014). Soma is a Hindu God of the Moon, the night, and vegetation. NOTE: This is also a Vedic name for the Moon, which they also call “Chandra”.

Sombre Lance:

This Chinese xing guan “Xuángē” (玄戈) is the star Lambda (λ) Boötis in the IAU constellation Boötes. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore. The IAU approved the name Xuange for this star.

This Chinese Chenzhuo xing guan “Xuángē” is the star Lambda (λ) Boötis in the IAU constellation Boötes.

Sombrero:

This **telescopic** asterism is the galaxy Messier 104 (NGC 4594) in the IAU constellation Virgo. Its classification is unclear: It has a major dust lane and a large central bulge. It was discovered by French astronomer Pierre Méchain in 1781. English astronomer William Herschel noted the prominent dust lane in 1784 and listed this as “I 43”. It is GC 3132 in the *General Catalogue* of 1864. *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this “Sombrero Galaxy”. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010) as “Subumbrátor Vírginis” (“Sombrero of Virgo”).

Son:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of two stars in the IAU constellation Columba: Beta (β) Columbae (the determinative star) and Gamma (γ) Columbae.

This Chinese xing guan “Zǐ” (子) is a line of two stars in the IAU constellation Columba: Beta (β) Columbae (Wazn) and Lambda (λ) Columbae.

This Chinese Chenzhuo xing guan “Zǐ” is two stars in the IAU constellation Columba: Beta (β) Columbae (Wazn) and Gamma (γ) Columbae.

This Korean lunar mansion “Zaa” is a triangle of stars in the IAU constellation Orion: Phi (ϕ) 1 and 2 and Lambda (λ) Orionis.

Son of Beaver:

This Northern Tutchone asterism “Sojee” or “tsé’zhi?” may be cognate with the Gwich’in asterism “Yahdii” (see Traveler, below (Cannon 2021)).

Son of Heaven:

This Chinese star “Tianzi” ” from the 3 Kingdoms and Ming Dynasty Period is Iota (ι) Ursae Majoris in the IAU constellation Ursa Major and is part of their asterism Three Steps (see below).

Son of M76:

This **telescopic** asterism is the planetary nebula NGC 6778 in the IAU constellation Aquila. This was discovered by German astronomer Albert Marth (1828 – 1897). It is GC 5942 in the *General Catalogue* of 1864.

Son of the Shunammite:

This German asterism is Antinous (see above) in the IAU constellation Aquila as listed by German astronomer Philipp von Zesen (1619 – 1689). This was a person raised to life by the prophet Elisha in Hebrew legends.

Song:

This Latin asterism “Canticum” is the IAU constellation Lyra. Johann Bayer’s *Uranometria* (1603) lists the name “Canticum” for Lyra.

Sòng:

This Chinese star “Sòng” from the 3 Kingdoms and Ming Dynasty Period is the star Eta (η) Ophiuchi in the IAU constellation Ophiuchus and is and is part of their xing guan Heavenly Market East Wall (see above).

Son’s Crown:

This Estonian asterism “Põjah Kroon” is the IAU constellation Hercules and appears in the *Sky of Ests (Chudes)* by Aleksander Heintalu (Sass of Vigala) (Kuperjanov 2006).

Sons of Baayami:

This Kamilaroi/Euahlayi asterism is the bright patches either side of the galactic bulge in the IAU constellation Scorpius. They are the sones of their hero “Baayami” or “Byaame”, who after his sons disobeyed him, turned them into large rocks in the Barwon River and their spirits into these bright patches in the sky.

Soothsayer:

This Latin asterism “Suculae” is the Hyades cluster in the IAU constellation Taurus as listed in John Hill’s *Urania* in 1754.

Sopdet:

This ancient Egyptian star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major. Sopdet, Sopedet, or Satet was an Egyptian archer Goddess known to the Greeks as Sothis, and an aspect of Isis. Her consort was Sah (see Sah, above). Satet is depicted alongside Hathor (see above) in the Circular Zodiac ceiling of the temple in Dendera (Holberg 2007, Bomhard 2009). This asterism appeared from the Middle Kingdom onward, and its heliacal rising marked the beginning of the flooding of the Nile: The Egyptians called this “prt spdt” (“the going forth of Sopdet”) and had a festival by that name to celebrate the event. Hephaestion of Thebes (c. 425 C.E.) noted that the Egyptians noted the color of the rising Sirius: If it appeared white, they believed that the Nile flood would be high with a strong current and if “fiery red and the color of red ochre there would be war” (Holberg 2007). Compare this to Hathor (see above). Isis follows her brother Osiris (represented by Orion) across the sky (Holbrook 2020). John Hill lists Sothis in his *Urania* in 1754. *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), calls this the “Nile Star” and says that the name is related to the flooding of this river. Compare this to Sothis, below.

Sorcerer Men on the Trail:

This Kokatha and Ngalea asterism “Warramula” (“kadaicha (sorcerer) men on the trail”) is the IAU constellation Pisces.

Sorority Cluster:

This **telescopic** asterism is the open cluster NGC 2169 in the IAU constellation Orion. This was discovered by William Herschel in 1784 who listed it as “VIII 24” in his catalogue. It is GC 1361 in the General Catalogue of 1864. American Don Pensack wrote: “I see NGC 2169 as Sigma Nu, not 37. My wife calls it the Sorority Cluster.” It is also known as “37” (see above), the Shopping Cart (see above). “LE” (see above), or the Little Pleiades (see above).

Sosicles of Virgo:

This **telescopic** asterism “Sósicles Vírginis” is the spiral galaxy NGC 4995 in the IAU constellation Virgo. William Herschel listed this as “I 42”. John Herschel listed this as h 1540 and h 3472 and later as GC 3430 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it is paired with NGC 4981 and they saw this as one of the twins in the comedy *the Menaechmi* by Roman author Plautus.

Sothis:

This Egyptian Dendera asterism is the IAU constellation Canis Major (Soliman 2015, Hoffman 2017). It is depicted as an archer with a bow and arrow and is clearly influenced by the earlier Babylonian asterism Qastu (see Bow, above). Sothis is the Greek name for the Egyptian Goddess Sopdet (Compare this to Sopdet, above). English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Sothis” as a name for Alpha (α) Canis Majoris (Sirius).

Soul Nebula:

This **telescopic** asterism is emission nebula IC 1848 (SH 2-199, LBN 667, Cr 34, Ced 9a) in the IAU constellation Cassiopeia. It was first recorded by American astronomer Edward Emerson Barnard (1857 – 1923). American astrophotographer Matt BenDaniel named it this as it is beside IC 1805, the Heart Nebula. It is also known as the Baby Nebula.

South:

This Latin star "Meridiana" is Alpha (α) Coronae Australis in the IAU constellation Corona Australis. Its full name was "Alphekka Meridiana" ("Alphekka South") which came from Latin translator Ali Aben Reduan. It was later contracted to "Meridiana". The IAU approved the name Meridiana for Alpha (α) Coronae Australis.

South Cord:

This Polish asterism "Linum Austrinum" is made up of the stars of the IAU constellation Pisces and was created as one of four subdivisions of this constellation by the Polish astronomer Johannes Hevelius (1611 – 1687). It is the stars Alpha (α) Piscium (Alrescha), Xi (ξ) Piscium, Nu (ν) Piscium, Mu (μ) Piscium, Zeta (ζ) Piscium, Epsilon (ε) Piscium, Delta (δ) Piscium, 41 Piscium, 35 Piscium, and Omega (ω) Piscium.

South Fish:

This Polish asterism "Piscis Austrinum" is made up of the stars of the IAU constellation Pisces and was created as one of four subdivisions of this constellation by the Polish astronomer Johannes Hevelius (1611 – 1687). It is the stars Omega (ω) Piscium, Iota (ι) Piscium, Theta (θ) Piscium, 7 Piscium, Beta (β) Piscium (Fumalsamakah), 5 Piscium, Kappa (κ) Piscium, Lambda (λ) Piscium, and 19 Piscium. John Hill lists it as "Auratus Piscis" in his *Urania* in 1754. The French edition of Flamsteed's work, the *Atlas Céleste,* which was revised in 1778 lists this as "le Poisson Australe".

South River:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of three stars in the IAU constellation Canis Minor: Alpha (α) Canis Minoris (Procyon- the determinative star), Beta (β) Canis Minoris (Gomeisa) and 1 Canis Minoris.

This Chinese xing guan "Nánhé" (南河) is a line of three stars in the IAU constellation Canis Minor: Alpha (α) Canis Minoris (Procyon), Beta (β) Canis Minoris (Gomeisa) and Epsilon (ε) Canis Minoris. Note: This asterism is identical to the Korean xing guan "South River" (see below).

This Chinese Chenzhuo xing guan "Nánhé" is two stars in the IAU constellation Canis Minor: Alpha (α) Canis Minoris (Procyon) and Beta (β) Canis Minoris (Gomeisa).

The Korean asterism "Namjjog Gang" (남쪽 강) is identical to the Chinese xing guan "South River" (see above). Note: Some versions have the stars Alpha (α) Canis Minoris (Procyon), Beta (β) Canis Minoris (Gomeisa), and Gamma (γ) Canis Minoris: The stars Epsilon (ε) and Gamma (γ) Canis Minoris are side by side, so it works out about the same.

South Side of Second Leap of a Gazelle:

This Latin star "Tania Australis" is Mu (μ) Ursae Majoris in the IAU constellation Ursa Major. It is part of their asterism Second Leap of a Gazelle (see above). The IAU approved the name Tania Australis for Mu (μ) Ursae Majoris A in 2016.

South Star:

This Norse star “Sudrstjarna” or “Sunnr Stjarna” is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra (Bender 2020, Persson 2022).

This Anglo-Saxon star “Sûðsteorra” or “Sûðorsteorra” is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra (Bender 2020).

This Old Icelandic star is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra.

This Saxon star “Sudstern” or “Süd Stern” is Alpha (α) Lyrae (Vega) as depicted in the *Nördliche Sternhimmel* sky map of O. S. Reuters in 1934 (Bender 2020).

This Latin star “Polaris Australis” is Sigma (σ) Octantis in the IAU constellation Octans. This name is a contraction of “Stella Polaris Australis” (“south polar star”) which first appeared in the 18th century.

This Pawnee star is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius (Dechend 1975).

This Estonian star is Alpha (α) Piscis Austrini (Fomalhaut) in the IAU constellation Piscis Austrinus (Kuperjanov 2006).

Southeast Wind:

This Latin asterism “Eurus” is the IAU constellation Eridanus as listed in the Maass 1898 manuscript of the 11th century *De signis caeli (“of the signs of heaven*”). Eurus is a Roman name for the southeast wind. The Klosterneuberg 685, Paris BN 5239, Paris BN 5543, Vat lat 643, and Zwettl 296 manuscripts of *De signis caeli* depict the bust of a figure with wild hair with a star nested in it with his open right palm in front of him and a long rectangular shape below him. All but the Klosterneuberg manuscript depict a plant beside him. The Laon 422 and Rouen 26 manuscripts of *De signis caeli* depict just the head with wild hair, set above a rectangular block. The Durham Hunter 100 manuscript of *De signis caeli* depicts a nude river God with a cloak over his right shoulder, holding an urn on his right knee. The Montecassino 3 manuscript of *De signis caeli* depicts him as a disembodied head with wild hair making a gesture of benediction.

Southeastern Star in the Crab:

This Babylonian star “As Arkū-sha-nangaru-sha-shūtu” is Delta (δ) Cancri in the IAU constellation Cancer.

Southern Antenna of Corvus:

This **telescopic** asterism “Anténna Austrális Córvi” is the barred lenticular galaxy NGC 4039 (Arp 244/Caldwell 61) a pair of colliding galaxies in the IAU constellation Corvus. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): This is part of the Antennae Galaxies (see above). These galaxies were discovered by English astronomer William Herschel in 1789 who listed them as “IV 28.1” and “IV 28.2”. They are GC 2670 and GC 2671 in the *General Catalogue* of 1864. They got this name because of the two long “tails” of stars, gas, and dust ejected from the collision, resembling an insect’s antennae. This is also known as the Ring Tail Galaxy (see below), the Snorther (see below), the Antennae or Antennae Galaxies (see above), and the Mosquito Larvae (see above).

Southern Arrow:

This asterism “Sagitta Australis” was created by Flemish astronomer Petrus Plancius (1552 – 1622) from the stars of the IAU constellations Ophiuchus, Scorpius, and Sagittarius. The “tip” of the arrow is Epsilon

(ε) Scorpii, and the shaft runs through 45 Ophiuchi to 2 Sagitarii. A celestial globe (1613) of Plancius published in Amsterdam by Pieter van der Keere depicts this as a fletched arrow about to strike Scorpius in the base of its tail, and labels this "Sagitta Austr" on the chart. It looks like it has been shot by Sagittarius.

This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 with the abbreviated label "Sagitta Austr".

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts "Sagitta Austr" as a fletched arrow flying to our left which appears about to strike the base of the tail of Scorpius and to have been shot by Sagittarius.

Southern Beehive:

This **telescopic** asterism is the open cluster NGC 2516 (Caldwell 2516) in the IAU constellation Carina. It was discovered by French astronomer Abbé Nicolas Louis de Lacaille in 1751 who listed it as "Lac II 3". It is GC 1619 in the *General Catalogue* of 1864. It is also known as the Diamond, the Christmas Tree, and the Sprinter.

Southern Birds:

This is a name for the four southern IAU constellations Tucana, Phoenix, Grus, and Pavo.

Southern Boat:

This Chinese xing guan "Nánchuán" (南船) is a curving line of stars in the IAU constellation Carina: Beta (β) Carinae (Miaplacidus), Omega (ω) Carinae, Theta (θ) Carinae, p Carinae, and q Carinae.

Southern Bow:

This Latin star "Kaus Australis" is Epsilon (ε) Sagittarii in the IAU constellation Sagittarius. This name is derived from the Arabic "gaws" ("bow" قوس) and Latin "austrālis" ("southern"):

- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Kaus Australis".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list "Kaus Australis" for this star.
- The IAU Working Group on Star Names approved the name Kaus Australis for the star Epsilon (ε) Sagittarii A.

Southern Butterfly:

See Butterfly, above.

Southern Celestial Clock:

This Portuguese asterism is the IAU constellation as listed by Portuguese naturalist Cristoval d'Acosta (1550 – 1580).

Southern Chariot:

In 1455 Venetian navigator Alvise Cadamosto gave this name to the IAU constellation Crux.

Southern Claw of Al-Jawza:

This Bedouin star "Zabin al-Ǧawza al-Ǧunūbī " (زابن الجوزا الجنوبي) is Beta (β) Orionis (Rigel) in the IAU constellation Orion as inferred from the name of their star Northern Claw of Al-Jawza (see above)

Southern Claw of the Scorpion:

This Greek star "Χηλή νότιος" ("Chilí nótios") is Alpha (α) Librae (Zubenelgenubi) in the IAU constellation Libra.

This Arabic star "az-Zubān ul-Janūbiy" (الزبان الجنوبي) or "Al Zubān al Janūbiyyah" is the double star Alpha (α) Librae in the IAU constellation Libra, later latinized to "Zubenelgenubi":

- The star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985) lists "ha-niqdam mi-shtei".
- Johann Bayer's *Uranometria* (1603) lists "Zubenelgenubi".
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Zubenelgenubi".
- Robert Hues lists it as "Zubenalgenubi" in his *A Learned Treatise of Globes* in 1659.
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Zubenelgemubi".
- American uranographer Elijah Burritt (1794 – 1838) and American astronomy author Hannah Mary Bouvier Peterson (1811 – 1870) listed the name "Zubenelgemabi".
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists this star as "Zuben el Genubi" in his *Celestial Atlas* in 1822.
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich list this star as "Zuben el Genubi".
- This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Zuben el Genubi": The author is unknown, but it is based on Jamieson's *Celestial Atlas.*
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Zuben el Genula".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) lists "Zuben el Genubi" for this star.
- NOTE: American uranographer Elijah Burritt (1794 – 1838) assigned the name Zubenelgenubi to Gamma (γ) Librae. The IAU approved the name Zubenelgenubi for Alpha (α) 2 Librae Aa.

Southern Coil:

This German asterism "Spira Australis" was a name given to the IAU constellation Corona Australis by the German poet Philipp von Zesen (1619 – 1689).

Southern Crab Nebula:

This **telescopic** asterism is nebula Hen 2-104 in the IAU constellation Centaurus. It has a red dwarf white dwarf pair at its center.

Southern Cross:

This asterism is the most recognizable part of the IAU constellation Crux. The main stars of this asterism are Alpha (α) Crucis (Acrux- 13th brightest star), Beta (β) Crucis (Mimosa or Becrux- 20th brightest star), Delta (δ) Crucis (Imai) and Gamma (γ) Crucis (Gacrux- 25th brightest star), with Epsilon (ε) Crucis tucked in between Acrux and Imai. *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists the "Southern Cross". *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists the "Southern Cross" asterism.

This Somali asterism "Wadaamo-Xooro" or "Waadaamo-Lugud" is the Southern Cross asterism (see Southern Cross, above) in the IAU constellation Crux.

This Quechua (Misminay) asterism is made up of stars in the IAU constellations Centaurus and Lupus (Urton 1980): Alpha (α) Centauri (Rigil Kentaurus), Epsilon (ε) Centauri and Omicron (ο) and Sigma (σ) Lupi. Compare to "Huch'uy Cruz" (see Small Cross, above).

This Northern Andes asterism is the IAU constellation Crux (Quinatoa 2018).

Southern Cross Galaxy:

This **telescopic** asterism NGC 3621 is a field spiral galaxy with an internal ring in the IAU constellation Hydra. This was discovered in 1790 by English astronomer William Herschel who listed it as "I 241" in his catalogue. It is GC 2371 in the *General Catalogue* of 1864. It is also known as the Frame Galaxy (see above) and the "Wreath Wearer of Leo" (see above). South African astronomer Magda Streicher gave it the name Southern Cross Galaxy c. 1997. Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) lists this as O'Meara 57 without a name.

Southern Crown:

This Greek asterism "Στεφάνος νοτίος" ("Stefános notíos") is the IAU constellation Corona Australis as originally described by Ptolemy (c.100 – c.170) in his *Almagest*.

This Arabic asterism "Altaaj Aljanubiu" (التاج الجنوبي) or "al-Iklīl al-Janūbī" is the IAU constellation Corona Australis. "al-Iklīl al-Janūbī" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

Southern Dipper:

This Chinese Chenzhuo xing guan is made up of stars of the IAU constellation Sagittarius: The "handle" is the stars Lambda (λ) Sagittarii and Phi (ϕ) Sagittarii. The "dipper" is the four stars Phi (ϕ) Sagittarii, Sigma (σ) Sagittarii, Tau (τ) Sagittarii, and Zeta (ζ) Sagittarii.

This an alternate name for the Chinese xing guan Dipper, (see above).

Southern Dog:

This asterism "Canis Australis" is the IAU constellation Canis Major as listed in the *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638).

Southern Donkey Colt:

This Greek star "Asellus Australis" is Delta (δ) Cancri in the IAU constellation Cancer and is part of their asterism Donkey Colts (see above):

- This star is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 with the abbreviated label "Asellus Austr".
- Edward Sherburne calls this the "Southern Asinego" ("southern donkey") in his *Sphere of Marcus Manilius* in 1675.
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) labels this star "Asellus Aust" on his charts.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists this star as "Asellus Australis" in his *Celestial Atlas* in 1822.
- This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 in the abbreviated form "Asellus Aust": The author is unknown, but it is based on Jamieson's *Celestial Atlas*.

- The IAU approved the name Asellus Australis for the star Delta (δ) Cancri Aa.

Southern Eel:

This Greek star "Chele Notios" is a "prominent star" in the IAU constellation Libra as listed by John Hill in his *Urania* in 1754.

Southern Ellipse:

This **telescopic** asterism PGC 19481 is a lenticular ring galaxy in the IAU constellation Volans. It is also known as the Lindsay-Shapley Ring (see above).

Southern Fish:

This Greek asterism Νότιος Ἰχθύς is the IAU constellation Piscis Austrinus as mentioned in Aratus' poem *Phaenomena* (270 B.C.E.) and as originally described by Ptolemy (c.100 – c.170) in his *Almagest*. Johann Bayer's *Uranometria* (1603) lists "Piscis Meridianus" and "Piscis Austrinus" as names for this constellation.

This Arabic asterism "Al Ḥūt al Janūbiyy" is the IAU constellation Piscis Austrinus:

- "al-Hūt al-Janūbī was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- This was later latinized to "Haut Elgenubi".
- Robert Hues (1659) and John Chilmead (1899) list it in *A Learned Treatise on Globes* as "Ahaut Algenubi".
- English Admiral Henry William Smyth lists this name in his *Bedford Catalogue* in 1844.
- "Haut Elgenubi" is listed by R. H. Allen in his *Star Names* in 1899 and writes that this asterism extended into the IAU constellation Grus, as 16th century Arabic astronomer Al Tizini listed stars in Grus as part of the tail of this "fish".

Southern Fly:

This German asterism "Südliche Fliege" is the IAU constellation Musca.

This French asterism "Mouche Australe ou Indien" is the IAU constellation Musca.

This Italian asterism "Mosca Australe" is the IAU constellation Musca.

Southern Garland:

This French asterism "Sertum Australe" was a name given to the IAU constellation Corona Australis by the French astronomer Jérôme Lalande (1732 – 1807).

Southern Gate:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of 4 stars in the IAU constellation Centaurus: Starting at the determinative star Xi (ξ) 2 Centauri, it runs through HIP 64515A, 64933, and Epsilon (ε) Centauri.

This Chinese xing guan "Nánmén" (南门) first appeared in the Xia xiao zheng (夏小正 Small Calendar of the Xia Dynasty) which dates to the 21st to 17th century B.C.E. It is a line of two stars in the IAU constellation Centaurus: Alpha (α) Centauri (Rigil Kentaurus) and Epsilon (ε) Centauri.

This Chinese Chenzhuo xing guan is two stars in the IAU constellations Centaurus and Crux: Beta (β) Centauri (Hadar) and Beta (β) Crucis (Mimosa).

Southern Grinder:

This **telescopic** asterism "El Molinillo Austral" is Messier 83 (NGC 5236), a barred spiral galaxy in the IAU constellation Hydra. French astronomer Charles Messier added it to his catalogue in 1781, but it was first observed by French astronomer Nicolas Louis de Lacaille in February 1752 who listed it as Lac I6. It is GC 3606 in the *General Catalogue* of 1864. It is also known as the Thousand Ruby Galaxy and the "Southern Pinwheel".

Southern Horn of Al-Jawza:

This Bedouin star "Qarn al-Ǧawza al-Ǧunūbī" (قرن الجوزا الجنوبي) is Beta (β) Orionis (Rigel) in the IAU constellation Orion. See Giant, above.

Southern Integral Sign:

This **telescopic** asterism IC 5173 is an interacting galaxy in the IAU constellation Indus. This was first recorded by American astronomer DeLisle Stewart (1870 – 1941).

Southern Leg of the Water Pourer:

This Arabic star "Sāq sākib al-mā' al-janūbi" is Delta (δ) Aquarii in the IAU constellation Aquarius as listed on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992).

Southern Lehua Blossom:

This Hawaiian star "Lehuakona" is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius. It is their form of the Maori star Rehua. Lehuakona is also know to the Hawaiians as Hoku'ula (see Red Star, above).

Southern Light:

This Babylonian ecliptic constellation "Nūru-sha-Shūtu" is Alpha (α) 1 and 2 Librae (Zubenelgenubi) the IAU constellation Libra as listed in R. H. Allen's *Star Names* in 1899.

Southern Line of al-Nasaqān:

See Two Lines, below.

Southern Little Queen:

This **telescopic** asterism, Streicher 6, is a miniature version of the "W" of Cassiopeia (hence the reference in the name to a queen) in the IAU constellation Puppis, discovered by South African astronomer Magda Streicher. It is made up of 8^{th} – 9^{th} magnitude stars including HIP 39838A. Size 10'. Jeffrey Corder lists it as Corder 1516.

Southern Military Gate:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is the star Alpha (α) Trianguli in the IAU constellation Triangulum.

This Chinese xing guan “Jūnnánmén” (军南门) is the star Phi (ϕ) Andromedae in the IAU constellation Andromeda.

This Chinese Chenzhuo xing guan “Jūnnánmén” is the star Phi (ϕ) Andromedae in the IAU constellation Andromeda.

Southern of Lilium:

This French star “Līliī Austrīnā” is 41 Arietis in the IAU constellation Aries. French astronomer Nicolas-Louis de Lacaille (1713 – 1762) gave it this name as it was part of the now obsolete constellation Lilium (see Fleur de Lis, above) created by French architect Augustin Royer.

Southern of the Chariot:

This Persian (Achaemenid Period 539 – 331 B.C.E.) star “SUR GIGIR sa ULU” (“southern [unknown part] of the chariot”) is Zeta (ζ) Tauri in the IAU constellation Taurus (Hunger and Sachs 1988).

Southern Owl Nebula:

This **telescopic** asterism is planetary nebula PK 283+25.1 (PLN 283+25.1, ESO 378-1) in the IAU constellation Hydra.

Southern Part of the Scales:

This Persian (Achaemenid Period 539 – 331 B.C.E.) star “RIN sa ULU” is Alpha (α) Librae (Zubenelgenubi) in the IAU constellation Libra (Hunger and Sachs 1988).

Southern Pinwheel:

There are two **telescopic** asterisms by this name:

- One is Messier 83 (NGC 5236), a barred spiral galaxy in the IAU constellation Hydra. French astronomer Charles Messier added it to his catalogue in 1781, but it was first observed by French astronomer Nicolas Louis de Lacaille in February 1752 who listed it as Lac I6. It is GC 3606 in the *General Catalogue* of 1864. Its name comes from its resemblance to the Pinwheel Galaxy, Messier 101. It is also known as the Thousand Ruby Galaxy and “El Molinillo Austral” (“the Southern Grinder”).
- One is NGC 300 (Caldwell 70), a spiral galaxy in the IAU constellation Sculptor. Scottish astronomer James Dunlop discovered this in 1827. It is GC 169 in the 1864 *General Catalogue*. John Dreyer described it in the New General Catalogue of 1888 as “a complex object with several nuclei”. It is also known as the Sculptor Pinwheel and “With Many Grains” (Granósus Sculptóris).

Southern Pleiades:

This **telescopic** asterism is the open cluster the Theta (θ) Carinae cluster, IC 2602 (Melotte 102, Caldwell 102). The name comes from Abbé Nicholas Louis de Lacaille’s original catalogue of 1755, where he describes it as a “large number of stars of 6th, 7th, and 8th magnitude, which resemble the Pleiades”. American astronomer Solon Irving Bailey (1854 – 1931) recorded it and it became IC 2602. It is also known as the “Bow Tie” (see above), and the “Scales of Justice” (see above).

Southern Ring Nebula:

There are two **telescopic** asterisms by this name:

- One is the planetary nebula NGC 3132 (Caldwell 74) in the IAU constellation Vela. It is GC 2017 in the *General Catalogue* of 1864. It is also known as the Eight-Burst Nebula (see above).
- One is the planetary nebula NGC 6563 in the IAU constellation Sagittarius. This was discovered in 1847 by English astronomer John Herschel who listed it as h 3734 and later as GC 4386 in the *General Catalogue* of 1864.

Southern Seagull Nebula:

This **telescopic** asterism is HII region NGC 2032 in the IAU constellation Dorado. This was discovered by Scottish astronomer James Dunlop in 1827. It is listed as GC 1235 in the *General Catalogue* of 1864.

Southern Shaft:

This Latin asterism "Temo Meridianus" is the IAU constellation Sagitta. Johann Bayer's *Uranometria* (1603) lists "Temo Meridianus" as an alternate name for Sagitta. R. H. Allen's *Star Names* in 1899 lists "Temo Meridianus" for Sagitta.

Southern Shepherd:

This Arabic star is Alpha (α) Ophiuchi in the IAU constellation Ophiuchus. It is part of their asterism Two Lines (see below).

Southern Shi'ra:

This Arabic star "Al Shīʿrā al 'Abur al Yamaniyyah" "Brightly Shining Star of Passage of Yemen" is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major:

- "al-Shi'ra al-Yamāniya" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- This is listed on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992) as "Shi'rà Yamānīyah".
- Dorn lists this as "the Star of Yemen" and describes it as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283).
- John of London, in a letter to R. De Guedinge (1246) discusses the star "Alhabor" (Nothaft 2022).
- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists "al-shi'rā al-yamāniya".
- It is listed as "Σιαὴρ Ιαμανὴ" or "Siaír Iamaní" in *Syntaxis ton Person (Persian Compendium)* by the 14th century Greek geographer and astronomer Georgius Chrysococcas and "Sirius Jemenicus" in C. Edward Sachau's translation of the *Chronology* of Abu Rayhan Muhammad ibn Ahmad al-Biruni (973 – c. 1050).
- The rete of the 14th century Spanish astrolabe NMM AST0570 in the National Maritime Museum lists "Alhabor" (Dekker 2000).
- The Sloane astrolabe BM SL 54 in the British Museum (1290 – 1300) lists "ALhABOR" (Dekker 2000).
- A 14th century Christian Spanish astrolabe #4560 lists "Alabor" (King 2002).
- The 15th century *Alfonsine Tables* list "Asceher" and "Aschere Aliemini".
- This was latinized in the 1515 edition of the *Almagest* to "Asehere" and "Alahamor Aliemenia" and in the 1551 edition as "Elsheere". The 1515 edition of the *Almagest* also lists "Halabor".

- John Chilmead (1889) and Robert Hues (1659) lists “Gabbar”, “Gabbir”, “Ecber”, and “Habor”.
- German astronomer Johann Bayer (1572-1625) listed it as “Aschere”, “Aschemie”, “Aliemini”, “Elscheere”, “Scheereeliemini”, “Elfere”, “Elfeiri”, “Sceara”, “Scera”, “Alhabor”, “Elhabor”, and “Elchabar” in his *Uranometria* (1603) and attributes these names to the Alphonsine Tables.
- Dutch astronomer Hugo Grotius (1583 – 1645) listed it as “Elsere”, “Sceara”, “Scera”, and “Scheereliemini”.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Alhabor”, “Elhabor”, Elchabar”, and “Aliemini”.
- “Elahbor”, “Alachbaro”, “Aliemini”, and Aliaminio” are names listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch
- Robert Hues (1659) and John Chilmead (1899) listed it as “Alsahare Aliemalija”, “Elchabar”, and “Scera” (which Hues attributes to Joseph Justus Scaliger (1540 – 1609)).
- German astronomer Johann Bayer (1603) lists “Aschere” and “Elscheere” in his *Uranometria*.
- Dutch uranographer Carel Allard’s *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) labels this star “Sirius Asehere Aliemeni”.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Alshira, from the Arabic Ash-shi’ra l Yemenihya, the bright star of Yemen, or Arabia Felix”. This name indicates the southern province where it set, so this was latinized to “Southern Shi’ra”. It was also known as the “Crossing Shi’ra”.

Southern Star:

This Lithuanian star “Pietinė žvaigždė” is Alpha (α) Leonis (Regulus) in the IAU constellation Leo.

Southern Star in the Head of the Lion:

This Arabic star “raʾas ul-asad ul-janūbiy” or “Al Rās al Asad al Janūbiyyah” is Epsilon (ε) Leonis in the IAU constellation Leo:

- This was later latinized to “Ras Elased”, “Ras Elased Australis”, “Asad Australis“, and “Algenubi”.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Rás al asad al jénúbi, or Australis, to denote the south or undermost of two stars in the Lion’s head”.

Southern Stars:

This Bugis asterism “Bintoéng Sallatang” is the stars Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus.

Southern Tadpoles:

This **telescopic** asterism is open cluster NGC 3572 in the IAU constellation Carina. John Herschel listed this as h 3323 and later as GC 2331 in his *General Catalogue* of 1864.

Southern Tail of the Eagle:

This star “Deneb al Okab Australis”, “Deneb al Okab”, or “Dheneb” is Zeta (ζ) Aquilae in the IAU constellation Aquila. It was given this name as the nearby star Epsilon (ε) Aquilae is called Deneb al Okab Borealis (see Tail of the Eagle, above). English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Dheneb el ‘Okáb, the Eagle’s tail”.

Southern Tail of the Sea Monster:

There are two Arabic stars with the name “al-dhanab al-qayṭas al-janūbī” (ذنب القيطس الجنوبي), “Dhanab ul-Qayṭus ul-Janūbīyy”:

- One is Beta (β) Ceti (Diphda) in the IAU constellation Cetus, later latinized to “Deneb Kaitos”:
  - “Dhanab Qītus” was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
  - This star is listed as or “Dhanab al-qītus al-janūbi” on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992).
  - The star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985) lists the Hebrew name “qase zenav kokhav qaytus”.
  - The *Alfonsine Tables* list “Denebcaiton” (Kunitzsch 1986).
  - A 14th century Christian Spanish astrolabe #4560 lists the abbreviated form “Dnp Caitos” (King 2002).
  - The rete of the 14th century Spanish astrolabe NMM AST0570 in the National Maritime Museum lists “Denebcaitoz” (Dekker 2000).
  - The Sloan astrolabe BM SL 54 in the British Museum which dates to 1290 – 1300 lists “Denebcaitoz” (Dekker 2000).
  - 14th century Greek geographer and astronomer Georgius Chrysococcas listed it as “Denebcation”.
  - This star is listed on gores of the globe of Petrus Plancius published in 1598 by Jodocus Hondius as “Deneb Kaitos”.
  - The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists this star as “Deneb Kaitos”.
  - Johann Bayer’s *Uranometria* (1603) lists “Deneb Kaitos” and “Ketos”.
  - This star is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as “Denebketos” and “Dhanbolkitosi”.
  - Robert Hues lists this as “Deneb Elkaitos” in his *A Learned Treatise on Globes* in 1659.
  - This star is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as “Daneb kaitos”.
  - John Hill lists this star as “Danab Alketus” in his *Urania* in 1754.
  - English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Dheneb Kaïtós jenúbi” which is translated as “south branch of the Whale’s tail”.
  - German astronomer Johann Elert Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this star as “Deneb Kaitos”.
  - American uranographer William Croswell (1760 – 1834) lists this star as “Deneb Kaitos” on his *Mercator Map of the Starry Heavens* in 1810.
  - Scottish uranographer Alexander Jamieson (1782 – 1850) lists this star as “Deneb Kaitos” in his *Celestial Atlas* in 1822.
  - American astronomer Winslow Upton’s *Star Atlas* (1896) lists this star as “Deneb Kaitos” and describes it as “Tail of the whale”.
  - Compare this to Northern Tail of the Sea Monster, above.
- One is Eta (η) Ceti in the IAU constellation Cetus, later latinized to “Dheneb Algenubi” (in the *Century Cyclopedia* of 1894).or “Dheneb”.

Southern Tent:

This Arabic asterism “Al Ḥibā Yamaniyyah” is a quadrilateral of stars in the IAU constellation Corvus: Beta (β), Delta (δ), Gamma (γ), and Epsilon (ε) Corvi. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists this as “al khibá al yemáni, the southern tent and attributes it to Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986).

Southern Tray of the Scale:

This Arabic star “Al Kiffah al Janūbiyyah” is Alpha (α) Librae (Zubenelgenubi) in the IAU constellation Libra:

- This was later latinized to “Kiffa Australis”.
- This is listed as “Kiffah janūbi” on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992): Savage-Smith translates this as “southern plate [of the balance]”.
- English Admiral Henry William Smyth’s *Prolegomena* of 1844 lists “Kiffa Australis” and his *Bedford Catalogue* in 1844 lists Kiffa Australis, from Kiffa al jenúbiyah, the southern scale”.
- “Al Kiffah al Janūbiyyah” is listed in R. H. Allen’s *Star Names* in 1899.

Southern Triangle:

This English asterism is the IAU constellation Crux as described by English author Thomas Blundeville (1522 – 1606). English explorer Francis Crozier (1796 – 1848) also used this name. R. H. Allen writes in his *Star Names* in 1899 that “Theodor and Bayer” also listed this, but that it was “composed of some unformed stars of Ara and Lupus”.

Southern Weight:

This Arabic star “Al Wazn al Janūbiyyah” is Alpha (α) Librae (Zubenelgenubi) in the IAU constellation Libra:

- Italian astronomer Giovanni Batista Riccioli (1598 – 1671) listed this as “Vazneganubi”.
- “Al Wazn al Janūbiyyah” is listed in R. H. Allen’s *Star Names* in 1899.

Southern Whale:

This Arabic asterism “Alhawt Aljanubiu” (الحوت الجنوبي) is made up of the stars of the IAU constellations Grus and Piscis Austrinus: the curve of stars starts at Delta (δ) Piscium Austrini, then runs through Beta (β), Tau (τ), and Mu (μ) Piscium Austrini, Gamma (γ) Gruis, Iota (ι), Theta (θ), Eta (η), and Epsilon (ε) Piscium Austrini, ending at Alpha (α) Piscium Austrini, which they call “the mouth of the fish” (“Fam Alsamaka” (فم السمكة).

Southern Wild Duck:

This Tongan asterism “Toloatonga” is the IAU constellation Crux.

Southern Wreath:

“Stephanos Notios” (Στεφάνος νοτιος) is the name that Ptolemy (c.100 – c.170) gave to the IAU constellation Corona Australis. He included Alpha (α) Telescopii of the IAU constellation Telescopium in this asterism.

Southerner:

See Blue Planetary Nebula, above.

Southernmost of the Triad of Leo:

This **telescopic** asterism "Triadonótius Leónis" is the intermediate spiral galaxy NGC 3627 (Messier 66) in the IAU constellation Leo. It was discovered by Charles Messier in 1780. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Southernmost Old Man:

This Chinese Chenzhuo xing guan "Laoren" ("Old Man") or "Nanjilaoren" ("Southernmost Old Man") is the star Alpha (α) Carinae (Canopus) in the IAU constellation Carina.

Southernmost Scale:

This Latin star "Lanx Meridionalis" is Alpha (α) Librae (Zubenelgenubi) in the IAU constellation Libra as listed in R. H. Allen's *Star Names* in 1899. Allen identifies this as a name from the 17th century.

Sow and her Piglets:

This Romanian asterism "Scroafa cu Purcei" is the Hyades cluster in the IAU constellation Taurus (Ottescu 2009).

Sower:

This Celtic (Gaulish) asterism "Siltarios" or "Samonios" or "Samoni Prinnios" ("harvest" or "gathering of the sower") is the IAU constellation Scorpius (Boutet 2001, 2014, 2017) and appears in the *Coligny Calendar*.

This Celtic asterism "Samoni" from the Sequani calendar is the Beehive cluster (Messier 44, see Beehive, above) in the IAU constellation Cancer. They used the full moon's passage past this open cluster to mark their cross-quarter festival day of Imbolc, halfway between the winter solstice and spring equinox, which is the origin of today's Ground Hog Day. It is related to their Goddess Brigid, Brigantia, or Brigantu.

Sower of Ursa Major:

This **telescopic** asterism "Sátor Úrsae Majóris" is the disrupted elliptical galaxy NGC 3180 (3184) in the IAU constellation Ursa Major. This was discovered in 1801 by English astronomer William Herschel who listed it as "I 286" in his catalogue. It is GC 1982 in the *General Catalogue* of 1864. Due to an error, it appears as both NGC 3180 and 3184 in the NGC Catalogue. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to "the wide open spiral arms". It is also known as the "Little Pinwheel Galaxy" (see above).

Sowers:

This Lithuanian asterism "Sėjikai", "Sėjukai", or "Sėjukas" is the Pleiades open cluster in the IAU constellation Taurus. An alternate translation of this is "Plovers".

Space Between the Shoulders of the Lion:

This Arabic manzil “Al Kāhil al Asad” is the stars Delta (δ) and Theta (θ) Leonis in the IAU constellation Leo as listed by R. H. Allen in his *Star Names* in 1899. It was also known as “Al Zubrah” (see Mane, above).

Spade:

This German asterism “Fossorium” is the IAU constellation Sagitta as listed by German astronomer Johann Bayer (1572-1625) in his *Uranometria* (1603) and listed in R. H. Allen’s *Star Names* in 1899.

This **telescopic** asterism from *Pattern Asterisms* by American astronomer John A. Chiravalle is a group of eleven stars found in the IAU constellation Ursa Major 1.6 degrees southwest of the star Phi Ursae Majoris. Szie 60’ X 25’:

- There are three stars in the “handle”: HIP 47799, 47705, and 47670, and
- There are eight stars the “shovel”: Including HIP 47475 and 47437.

Spadix of the Goddess Erua’s Date Palm:

This Babylonian asterism from the MUL.APIN tablets “Erua” and listed in the Babylonian star catalogue BM 78161 (5^{th} – 7^{th} century B.C.E.) as “e-ru” is the IAU constellation Coma Berenices. It appears in earlier Akkadian and later Seleucid sky lore. Gamma (γ) Comae Berenices is the 25^{th} ziqpu of “e-ru” in this tablet (Leitz 2019).

Spaghetti Nebula:

This **telescopic** asterism is supernova remnant is Simeis 147 (SH 2-240, LBN 822) in the IAU constellation Taurus. It was discovered in 1952 at the Crimean Astrophysical Observatory by astronomer Grigory Shajn.

Spangled of Canes Venatici:

This **telescopic** asterism “Aéola Cánum Venaticórum” is the edge-on spiral galaxy NGC 4220 in the IAU constellation Canes Venatici. William Herschel listed this as “I 209”. John Herschel listed it as h 1151 and later as GC 2811 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “the inner ring and central region of this galaxy is rather knotty, indicating star formation activity.”

Spanish Dancer:

This **telescopic** asterism is the galaxy NGC 1566 in the IAU constellation Dorado. It was discovered by Scottish astronomer James Dunlop in 1826. It is GC 844 in the General Catalogue of 1864. It is also known as the Very Beautiful of Dorado (see below).

Spare Tire Nebula:

This **telescopic** asterism is planetary nebula IC 5148 in the IAU constellation Grus about 1 degree west of Lambda (λ) Gruis. It was discovered by Australian amateur astronomer Walter Frederick Gale (1865 - 1945) in 1894. This is also known as the Ghost Ring Nebula.

Sparks:

This Kiribati star “Taukaro” is currently unidentified (Trussel and Groves 1978).

Sparrow:

This Latin asterism “Passer” is the IAU constellation Volans as listed by Johannes Kepler (1571 – 1630) in his *Tabulae Rudolphinae,* though he also listed the name “Piscis Volans”. Volans is given the alternate name “Passer Marinus” (“sea sparrow” in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch. John Hill lists “Passer” in his *Urania* in 1754. Hill also lists the name “Passer Marinus” (“marine sparrow”) for this constellation. Edward Sherburne lists this as “Sea Sparrow” in his *Sphere of Marcus Manilius* in 1675.

This **telescopic** asterism is the open cluster NGC 2301 in the IAU constellation Monoceros. It was discovered by William Herschel in 1786 who listed it as “VI 27” in his catalogue. It is GC 1465 in the *General Catalogue* of 1864. Size 12’ X 12’. In the 19th century it was known as “Copeland’s Golden Worm”. American astronomer Phil Harrington called it the “Great Bird Cluster” (see above) as to him it “resembles a bird in flight”: South African astronomer Carol Botha also describes it as a “Sparrow”. More recently astronomers who are fans of J. K. Rowling’s *Harry Potter* series named it “Hagrid’s Dragon” (see above).

Spatula:

This **telescopic** asterism from *Pattern Asterisms* by American astronomer John A. Chiravalle is found in the IAU constellation Pisces between the stars 96 and 110 Piscium:

- Four stars form the “blade”, including HIP 8545, and
- Five stars the curving “handle”, including HIP 8571 and 8528.

Spear:

This asterism “Iaculum” is the IAU constellation Sagitta. This name is listed in Johann Bayer’s *Uranometria* (1603).

See also Spear of the Spear Bearer, below.

Spear Bearing Sky Raiser:

See Uplifted One of the Lancer, below.

Spear of Antlia:

This **telescopic** asterism “Pilum Ántliae” is the edge-on spiral galaxy IC 2531 in the IAU constellation Antlia. It was discovered by Lewis Swift in 1898. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of “the narrow long straight edge-on galaxy resembling a spear.”

Spear of the Great One:

This Chinese xing guan from the Han dynasty is the stars Kappa (κ) Draconis, Lambda (λ) Draconis, and HIP 52425 in the IAU constellation Draco (Didier 2009). Didier writes that the last star may be 10 or 11 Draconis rather than HIP 52425. This is related to their xing guan “Tàiyǐ” (see Great One, above).

Spear of the Spear Bearer:

There are two versions of this Arabic asterism:

- One is the Arabic star ""Al Rumḥ al Rāmiḥ", translated as "Spear of the Spear Bearer" or "Lance of the Lance Bearer", which is Eta (η) Boötis in the IAU constellation Boötes as described by Syrian astronomer Tayyeb Tizini.
    - 13th century Persian astronomer Zakariyya' al-Qazwini (1203 – 1283) listed it as "Al Rumh" ("the Spear") in his *Wonders of the Creation and Unique of the Existence*.
    - Dorn (1829) describes it as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of al-Qazwini.
    - Compare this to Solitary One of the Lancer, below.
- One is the Arabic asterism "ar-rumh" (الرمح)" or "the Spear" which is part of the Arabic asterism Armed One (see above) This asterism is a line of three stars crossing the line of stars forming the "High One": Epsilon (ε) Boötis, Eta (η) Boötis, and Tau (τ) Boötis. At each end of the "spear" is a "tassel": The "Rear Spear Tassel" or "Flag of the High One" is the star Upsilon (υ) Boötis. The "Front Spear Tassel" is the star Rho (ρ) Boötis:
    - The rete of the 14th century Spanish astrolabe NMM AST0570 in the National Maritime Museum lists "Alramec" as Alpha (α) Boötis (Dekker 2000).
    - The Sloane astrolabe BM SL 54 in the British Museum which dates to 1290 – 1300 lists "Alramec" (Dekker 2000).
    - It is listed on the 14th century astrolabe #4560 from Christian Spain as "Alrame", and abbreviation for "Alramech" (King 2002) and associated with Alpha (α) Boötis (Arcturus).
    - The mid 15th century Wein, Oesterr. National Bibl., manuscript Lat 5415, ff.168v-169r lists Alpha (α) Boötis (Arcturus) as "Alrameth".
    - German uranographer Johannes Stöffler's Constance Celestial Globe (1493) lists Alpha (α) Boötis (Arcturus) as "Alramech".
    - Robert Hues lists Alpha (α) Boötis (Arcturus) as "Alramech" and "Alsamech" in his *A Learned Treatise of Globes* in 1659 and translates it as "the Launce bearer".
    - English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) labels Alpha (α) Boötis (Arcturus) as "Arture" and "Alramec".

Spear Thrower:

This Boorong asterism "Karik Karik", also known as the "Australian Kestrel", is made up of stars of the IAU constellations Sagittarius and Scorpius (Stanbridge 1858, Hamacher 2011).

- The tip of the "tail" is Lambda (λ) Scorpii,
- The "body" is a line running through the star Kappa (κ) Scorpii, and
- The "wingtips" are the stars Eta (η) Scorpii and Eta (η) Sagittarii.

Spearman:

This Estonian star "Odamees" is Beta (β) Leonis (Denebola) in the IAU constellation Taurus and appears in the *Sky of Ests (Chudes)* by Aleksander Heintalu (Sass of Vigala) (Kuperjanov 2006).

Speckled of Phoenix:

This **telescopic** asterism "Maculátus Phoenícis" is the dwarf spiral galaxy NGC 625 in the IAU constellation Cetus. This was discovered by James Dunlop in 1826 who listed it as number 471 in his catalogue. It became GC 369 in the *General Catalogue* of 1864. This name appears in *The Catalogue of*

One Thousand Named Galaxies by astronomers Gerard Bodifee and Michel Berger (2010): They named it this due to its "noticeable dark and bright spots".

Spectacle Lens of Centaurus:

This **telescopic** asterism "Perspicillum Centaúri" is the interacting lenticular galaxies NGC 5215 A and B in the IAU constellation Centaurus. This was discovered in 1836 by John Herschel who listed it as h 3529 and later as GC 3589 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the appearance of the galaxies NGC 5215A and B brings to mind a pair of glasses".

Spectatus:

This American asterism is made up of the stars of the IAU constellation Perseus and was created by Brad and Kathryn Templeton for *The Vault of Heaven* star map for the 2004 Burning Man event held in Black Rock Desert in Nevada (Kuperjanov 2006). They depict this as a man seated in a chair taking photographs with a camera.

Spectre Cluster:

This **telescopic** asterism is the globular cluster Messier 55 (NGC 6809) in the IAU constellation Sagittarius. It was discovered by French astronomer Nicolas Louis de Lacaille in 1752. French astronomer Charles Messier catalogued it in 1788. It is listed in John Herschel's General Catalogue of 1864 as GC 4503. It is also known as the Summer Rose Star.

Speech Yoke:

"Enisqiàs Uedon" or "Enispiàs Uedon" is a proposed early Celtic name for the IAU constellation Taurus from the Book of Ballymote through an etymological reconstitution (Boutet 2014).

Spermatozoon:

This **telescopic** asterism is a string of stars in the IAU constellation Taurus, 35 arcminutes east of the star Zeta (ζ) Tauri. A curve of 8th magnitude stars forms one side of an oval "sperm", including HIP 27214, 27205, 27120, with a curve of 10th magnitude stars the other side. A straight line of stars forms a "tail" starting at HIP 26967 and running through HIP 26912 to 26684. Its size is 21' X 2'. This is noted in Randy Pakan's *Midnight Ramblings 1A* logbook for 3 January 1989. This is Lorenzin 1 on American astronomer Tom Lorenzin's asterism list.

Sphere of Pisces:

This **telescopic** asterism "Sphaéra Píscium" is the lenticular galaxy NGC 524 in the IAU constellation Pisces. It was discovered by William Herschel in 1786. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010).

Spica:

See Ear of Grain, above.

Spica's Spanker:

This Western asterism is in the IAU constellation Corvus. The stars Gamma (γ) Corvi (Gienah), Epsilon (ε) Corvi (Minkar), Alpha (α) Corvi (Alchiba), Delta (δ) Corvi (Algorab) and Beta (β) Corvi (Kraz). Size

420’ X 300’. This name was listed in February 2023 in *Constellation Guide* (https://www.constellation-guide.com/category/asterism/). American astronomer Jeffrey Corder lists this as Corder 2338. It is also known as “the Sail”.

Spicy Virgin:

This asterism is the IAU constellation Virgo. “Spicifera Virgo Cereris” (“spicy virgin Ceres”) and the “Virgo spicea munera gestans” (“Maiden carrying spicy gifts”) were names used by 1st century astrologer Marcus Manlius. Johann Bayer’s *Uranometria* (1603) lists “Spicifera Dea” (“Spicy Goddess”).

Spider:

This Akimel O'odham asterism is the “W” in the IAU constellation Cassiopeia (see W below).

This Hawaiian asterism “Ku’uku’u” is the seven brightest stars of the IAU constellation Orion. It is also known as “Ka Hei-Hei o Na Keiki” (see Cat’s Cradle of the Children, above) or “Po” (see Night, above). Hawaiian navigators called the celestial equator “Ke Alanui o Ke Ku’uku’u” (“the roadway of the spider”) as the constellation Orion travels along the celestial equator.

There are four **telescopic** “spider” asterisms:

- One is PGC 31923 (UGC 5829) is an irregular dwarf galaxy in the IAU constellation Leo Minor. This name is posted on the *Deep Sky Forum* by American astronomer Jimi Lowrey in April 2023.
- One is the globular cluster Messier 4 (NGC 6121) in the IAU constellation Scorpius. It was discovered by Swiss astronomer Philippe Loys de Chéseaux in 1745. It was catalogued by French astronomer Charles Messier in 1764. It is listed in the *General Catalogue* of 1864 as GC 4183.
- This **telescopic** asterism is the open cluster NGC 3114 in the IAU constellation Carina. It was discovered by Scottish astronomer James Dunlop in 1827 who listed it as h 3224 in his catalogue. It is GC 2007 in the General Catalogue of 1664. South African astronomer Auke Slotegraaf described this in 1994 as a spider or octopus. It is also known as the Hand (see above).
- One is the globular cluster Messier 13 in the IAU constellation Hercules. This was discovered by English astronomer Edmund Halley in 1714. Finnish astronomer Timo Karhula (1996) describes it as a “Spider” in his observations noted in the DOCdb database.

Spider God:

This Blackfoot asterism is made up of the stars of the IAU constellations Corona Borealis and Hercules. The spider’s home is Corona Borealis, and its “web” is Hercules.

Spider Spit Cluster:

This asterism is open cluster NGC 3293 in the IAU constellation Carina. It was discovered by French astronomer Nicolas Louis de Lacaille in 1751. It is GC 2144 in the *General Catalogue* of 1864. It is also known as the Gem Cluster (see above), the Little Jewel Box (see above), the Hubbly Bubbly Pipe (see above), “U” (see below), and the Horseshoe (see above).

Spider Nebula:

This **telescopic** asterism is the emission nebula IC 417 in the IAU constellation Auriga. This was discovered by German astronomer Max Wolf in 1893.

Spider’s Web of Camelopardalis:

This **telescopic** asterism “Araneósus Camelopardális” is the barred spiral galaxy NGC 2336 in the IAU constellation Camelopardalis. It was discovered by William Tempel in 1876. This became GC 5372 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Spinal Cord:

This Caribou Inuit star “Qitirarjuk” is Alpha (α) Ursae Minoris (Polaris).

Spinal Vertebrae:

This Arabic asterism “al-fiqarat”,(الفقرات) or “al-faqār”, later latinized to “Al Faqar”, is the stars Epsilon (ε), Zeta (ζ) 1 and 2, Eta (η), Theta (θ), Iota (ι) 1 and 2, Kappa (κ), and Mu (μ) 1 and 2 Scorpii in the IAU constellation Scorpius. “al-Fiqarāt” and “Fiqra” are listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

Spindle:

There are five **telescopic** “spindle” asterisms:

- One is NGC 2686, a pair of interacting lenticular galaxies in the IAU constellation Ursa Major. It is GC 1715 in the *General Catalogue* of 1864. It is also known as the “Pancake” (see above).
- One is the field lenticular galaxy NGC 3115 (Caldwell 53) in the IAU constellation Sextans. This was discovered by English astronomer William Herschel in 1787 who listed it as “I 163” in his catalogue. It is GC 2008 in the *General Catalogue* of 1864. Steinicke (2022) lists it as the “Spindle Galaxy”.
- One is Messier 102 (NGC 5866), a galaxy in the IAU constellation Draco. This was originally discovered by French astronomer Pierre Méchain in 1781. It is also known as the Fool’s Gold Galaxy and the Straight Line of Draco. Stephen James O’Meara’s *Hidden Treasures Catalogue* (2007) lists this as the “Spindle”.
- One, Elácate Píscium (“Spindle of Pisces”) is the lenticular galaxy NGC 128 in the IAU constellation Pisces. It was discovered in 1790 by English astronomer William Herschel who listed it as II 854. It is GC 62 in the General Catalogue of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name due to its edge-on appearance.
- One is the intermediate spiral galaxy NGC 4216 in the IAU constellation Virgo. It was discovered by English astronomer William Herschel in 1784 who listed it as “I 35”. It is GC 2806 in the *General Catalogue* of 1864. This is part of O’Meara 60 in astronomer Stephen James O’Meara’s *Hidden Treasures Catalogue* (2007), what he calls the ”Stairway to Heaven”. O’Meara states that “it is one of at least three galaxies referred to as the Spindle Galaxy”.

Spindle of Crater:

This **telescopic** asterism “Fusifórmis Cratéris” is the edge-on lenticular galaxy NGC 3957 in the IAU constellation Crater. It was discovered in 1785 by British astronomer William Herschel who listed it as “II 294”. It became GC 2611 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “the edge-on galaxy has the form of a spindle”.

Spindle of Virgo:

There are two **telescopic** "Spindle of Virgo" asterisms:

- One, "Atractoïdes Vírginis" is the lenticular galaxy NGC 4179 in the IAU constellation Virgo. It was discovered in 1784 by William Herschel who listed it as "I 9". It became GC 2776 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).
- One, "Fúsus Vírginis", is the edge-on intermediate spiral galaxy NGC 4216 in the IAU constellation Virgo. It was discovered in 1784 by English astronomer William Herschel who listed it as "I 35". It is GC 2806 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). It is also known as the "Silver Streak" (see above). 12 15 +13 08

Spine of al-Jauzā':

This Arabic asterism "Faqār al-Jauzā'" is the Belt of Orion asterism in the IAU constellation Orion as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

Spinning Chariot:

This Latin asterism "Currus Volitans" is the asterism Argo's Ship (see above) as described by Catullus. Johann Bayer's *Uranometria* (1603) lists "Currus Volitans". "Currus Volitans" is listed in John Hill's *Urania* in 1754.

Spinning Wheel of the Sky:

This Finnish asterism "Taivaanrukki" is the IAU constellation Orion.

Spiral:

There are two **telescopic** "spiral" asterisms:

- One in the IAU constellation Cygnus is also known as the Red Necked Emu or Bent Fan. It is close to open cluster Do Dz 3. All the stars in this asterism are blue/white except one red star, and they are all 9th magnitude with the brightest star being 29 Cygni.
- One is Naillon 1 or Nagel 1 in the IAU constellation Andromeda. This includes the stars HIP 4390 and 4457. Size 33' X 33'.

Spiral Cascade:

This **telescopic** asterism is Vastagh 7, listed in 2009 by Hungarian astronomer László Vastagh, which is in the IAU constellation Leo Minor. Its apparent diameter is 1° 5'. Vastagh describes it as "A spiral-shaped cascade around the star HD 94218…. The smallest equilateral triangle I have observed so far, with side lengths of 1', can be seen 21', NNW from the mentioned bright star. This mini shape is located between the winding spiral rows. GX, NGC3414, can be seen halfway between the line connecting the last and first members of the constellation. The entire [asterism] consists of 30-35 members."

Spiral Cluster:

There are two **telescopic** "Spiral Cluster" asterisms:

- One is the open cluster Messier 34 (NGC 1039), discovered by Italian astronomer Giovanni Battista Hodierna before 1654 in the IAU constellation Perseus. French astronomer Charles Messier catalogued it in 1764. John Herschel lists this in his catalogue as h 248. The 1864 General Catalogue lists this as GC 584. *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns describes it as "a celestial aegis hung aloft in splendor".
- One is the open cluster NGC 2506 in the IAU constellation Monoceros. English astronomer William Parsons, the 3rd Earl of Rosse first described this as a spiral. Rosse described this in his second paper in 1861 as: "frequently observed, several observers have fancied that the stars exhibit some approach to a spiral arrangement, with cellular center, not unresolved neby".

Spiral Planetary Nebula:

This **telescopic** asterism is planetary nebula NGC 5189 in the IAU constellation Musca. It was discovered by Scottish astronomer James Dunlop in 1826. John Herschel listed it as h 3514 and later as GC 3570 in the *General Catalogue* of 1864.

Spirit of a Polar Bear:

This Inuit star "Nanurjuk" is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus (MacDonald 1998).

Spirit of Death:

This Kamilaroi and Euahlayi asterism "Yowee" is the stars of the Southern Cross in the IAU constellation Crux (Fuller et al 2014). Two of the stars of the Southern Cross are Yowee's eyes and the other two are the eyes of the first man to die. The nearby Pointer Stars are two cockatoos which were in the tree when Yowee lifted it into the sky (see Sulfur-Crested Cockatoos, below).

Spirit of GuRyoung:

This Korean asterism "Gulyeong-ui Jeongsin" (구령의 정신) in the IAU constellations Carina and Vela is a line of two stars with a pair of lines running off each end:

- The pair of stars in that central line are Delta (δ) and b Velorum,
- From b Velorum lines run out to Lambda (λ) and Gamma (γ) Velorum, and
- From Delta (δ) Velorum lines run out to Kappa (κ) Velorum and Epsilon (ε) Carinae.

Spirit of the Awara Palm:

This Lokono or Arawak asterism "Awarhakoya" is made up of stars of the IAU constellation Coma Berenices (Rybka 2018). The "trunk" of the palm tree is a line of stars with Beta (β) Comae Berenices at the base and 17 Comae Berenices at the top. A cloud of stars around 17 Comae Berenices are the palm fronds.

Spirit of the Black Curassow:

This Lokono or Arawak asterism "Hithikoya" is the IAU constellation Crux (Rybka 2018). "Yokharhin and Aleti" are their names for the Pointer Stars Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar)- See Pointers, above.

Spirit of the Blue Crab:

This Lokono or Arawak asterism “Kwakoya” is made up of stars of the IAU constellations Orion and Taurus (Rybka 2018):

- The “shell” of the crab is a long arc of stars from Phi (ϕ) and Lambda (λ) Orionis, through 110 and 116 Tauri, Omicron (ο) 1, 2 and 3 Orionis, and ending up with the curve of stars 23, 30, 33, and 38 Orionis, and
- Between Lambda (λ) Orionis and 23 Orionis is the blue/white star Gamma (γ) Orionis (Bellatrix), which might be the inspiration for this “blue crab”.

Spirit of the Bow and Arrow:

This Lokono star “Shimarhabokoya” is currently unidentified.

Spirit of the Cocoi Heron:

This Lokono or Arawak asterism “Anorhâkoya**”** is the Big Dipper asterism in the IAU constellation Ursa Major (Rybka 2018).

Spirit of the Four-Eyed Fish:

This Lokono or Arawak asterism “Kasorhowakoya” is the two stars Lambda (λ) and Upsilon (υ) Scorpii in the “tail” of the IAU constellation Scorpius (Rybka 2018).

Spirit of the Green Iguana:

This Lokono star “Yôwanakoya” is currently unidentified (Rybka 2018).

Spirit of the Green Sea Turtle:

This large Lokono or Arawak asterism “Katarokoya” is made up of stars from the IAU constellations Hercules, Corona Borealis, Boötes, and Serpens (Rybka 2018). The central star is Zeta (ζ) Herculis. From this star four lines of stars run out:

- The first is a short one ending in Epsilon (ε) Herculis,
- Another line runs out through Beta (β) Herculis (Kornephoros) and Gamma (γ) Herculis, and Gamma (γ) Serpentis, takes a bend at Beta (β) Serpentis (Nasak Shamiya), and ends at Kappa (κ) Serpentis,
- Another runs out through Eta (η) and Sigma (σ) Herculis, takes a bend at Tau (τ) Herculis, and ends at Phi (ϕ) Herculis, and
- The last line runs out through Epsilon (ε) Coronae Borealis, Delta (δ) Coronae Borealis, Gamma (γ) Coronae Borealis, Alpha (α) Coronae Borealis (Alphecca), and Beta (β) Coronae Borealis (Nusakan), takes a bend at Delta (δ) Boötis, and ends at the double star Mu (μ) Boötis.

Spirit of the Gun:

This Lokono star “Arakabosakoya” is currently unidentified (Rybka 2018).

Spirit of the Hyades:

This **telescopic** asterism found in the IAU constellation Taurus. René Merting describes it on the *Faint Fuzzies* website as “Geist der Hyaden” (“spirit of the Hyades”). This resembles the nearby larger Hyades cluster with the stars involved being HIP 20417, HIP 20349, 51, 53 and 56 Tauri, and HIP 20557. It forms one end of the asterism Harrington 16, which is known as “Davis’ Dog” (see above).

Spirit of the Jaguar:

This Lokono star “Kabadarokoya” is currently unidentified (Rybka 2018).

Spirit of the Lilac-Tailed Parrot:

This Lokono star “Yarheyarherokoya” is currently unidentified (Rybka 2018).

Spirit of the Little Cuckoo:

This Lokono star “Hikarowanakoya” is currently unidentified (Rybka 2018).

Spirit of the Marail Guan:

This Lokono star “Marodikoya” is currently unidentified (Rybka 2018). The Marial Guan or Cayenne Guan is a bird in the Cracidae family found in Brazil, French Guiana, Guyana, Suriname, and Venezuela.

Spirit of the Muscovy Duck:

This Lokono or Arawak asterism “Ifakoya” is made up of stars of the IAU constellations Scorpius, Sagittarius, and Corona Australis (Rybka 2018):

- Corona Australis forms much of the body of the “duck”,
- The “wingtip” is Epsilon (ε) Sagittarii, and
- The “neck” is Kappa (κ) and Iota (ι) Scorpii.

Spirit of the Ocelot:

This Lokono star “Korhirhwathekoya” is currently unidentified.

Spirit of the Pale-Throated Sloth:

This Lokono star “Hawkoya” is currently unidentified.

Spirit of the Parrot:

This Lokono star “Korherokoya” is currently unidentified.

Spirit of the Red Acouchi:

This Lokono star “Hadorhikoya” is currently unidentified.

Spirit of the Red-Handed Tamarin:

This Lokono star “Sûtukoya” is currently unidentified.

Spirit of the Red-Rumped Agouti:

This Lokono star “Hokorherokoya” is currently unidentified.

Spirit of the Scorpion:

This Lokono star “Imenarikoya” is currently unidentified.

Spirit of the Tortoise:

This Lokono star “Kasipenikoya” is currently unidentified.

Spirit of the Two-Toed Sloth:

This Lokono star “Warhemedokoya” is currently unidentified.

Spirit of the White-Faced Saki:

This Lokono star “Howakoya” is currently unidentified.

Spirit of the Yellow-Footed Tortoise:

This Lokono star “Hikorhikoya” is currently unidentified.

Spirit Tree:

This Kamilaroi asterism “Minggah” or “Mingga”, is the roots of the Yarran or Yarraan tree (river red gum, an Acacia (Eucalyptus camaldulensis)) of “Yarran-Doo”, which is the tree that their hero “Baayami” or “Byaame” took up to the Warrambul with the first man to die (Fuller et al 2014). This is the IAU constellation Crux. This asterism is centered on the Coal Sack Nebula (see Coal Sack Nebula, above), and the dark nebula is the hollow of the tree seen from below, with the roots spreading around. When someone dies and goes to Bulimah, they go through the hollow of the Yarran. Compare this to the Ngiyampaa asterism Nguu (see Tea Tree, below) and the Euahlayi asterism “Mullyan” (see Coolabah Tree above).

This Wiradjuri asterism “Yarran-doo” is the IAU constellation Crux (McKeown 1938, Leaman and Hamacher 2019).

Spirited Person

This Gaelic asterism “Meanmnach” is the Pleiades cluster in the IAU constellation Taurus as listed by R. H. Allen in his *Star Names* in 1899.

Spirograph Nebula:

This **telescopic** asterism is planetary nebula IC 418 in the IAU constellation Lepus. American astronomer Edward Charles Pickering (1846 – 1919) first recorded it. It is called this as its intricate pattern resembles one made by a spirograph. Its central star is HD 35914. It is O’Meara 26 in astronomer Stephen James O’Meara’s *Hidden Treasures Catalogue* (2007), where he lists it as the “Spirograph Nebula”. It is also known as the Raspberry Nebula, the Pink Planetary, and the Colored Contacts Nebula.

Splendor of Canes Venatici:

This **telescopic** asterism “Luculéntus Cánum Venaticórum” is the intermediate spiral galaxy Messier 106 (NGC 4258) in the IAU constellation Canes Venatici. It was discovered by French astronomer Pierre Méchain in 1781. English astronomer William Herschel listed it as “V 43”. It is GC 2841 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). It is also known as the “Pear” (see above).

Splendors of the Heavens:

This **telescopic** asterism is the open cluster Messier 6 in the IAU constellation Scorpius. It was first recorded by Italian astronomer Giovanni Battista Hodierna in 1654, although credit for the discovery is usually given to Swiss astronomer Jean-Philippe Loys de Chéseaux in 1746.

Splinter:

This **telescopic** asterism NGC 5907 is a spiral galaxy in the IAU constellation Draco. It was discovered in 1788 by English astronomer William Herschel who listed it as "II 759". John Herschel listed it as h 1917 and it became GC 4087 in his *General Catalogue* of 1864. It is viewed edge-on with a spiraling tidal stream of stars. NOTE: Lord Rosse thought he was looking at two objects separated by the dust lane, and created the name NGC 5907, but this was later discovered not to be a separate object. It is GC 4086 in the *General Catalogue* of 1864. NGC 5906 now refers to the fainter part of the galaxy west of the dust lane, which was recorded by George Johnstone Stoney in 1850. It is also known as the Cat Scratch Galaxy (see above), the Enveloped of Draco (see above), and the Knife Edge Galaxy (see above).

Split of Sextans:

This **telescopic** asterism "Fissus Sextántis" is the barred spiral galaxy NGC 3044 in the IAU constellation Sextans. It was discovered in 1784 by William Herschel who listed it as "III 254". It became GC 1958 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the split disk of this edge-on galaxy, especially at its western end".

Splitting Stars:

The stars of this Temuan asterism "Bintang Pecah Dua" are unidentified at present (Jaafar and Khairuddin 2014).

Sponge of Leo:

This **telescopic** asterism "Astridecórus Leónis" is the spiral galaxy NGC 3346 in the IAU constellation Leo. It was discovered in 1784 by William Herschel who listed it as "V 7". It became GC 2180 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Spooky Face Nebula:

This **telescopic** asterism is HII region Sh 2-54 in the IAU constellation Serpens.

Spoon:

This K'iche' asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Milbrath 1999).

This **telescopic** asterism is in the IAU constellation Ursa Major and is Ennis 54 on the observing list of Canadian astronomer Charles Ennis. Size 75' X 35'. This is a line of nine 6^{th} – 9^{th} magnitude stars starting at HIP 55936, and running through HIP 55950, HIP 55944, HIP 55994, HIP 56145, 58 Ursae Majoris, and HIP 56018 to HD 99327.

Spoonbill Bird:

This Carib asterism "Arapapayuman" or "Arapapa" represents the Spoonbill bird, but its present location is unknown (Magaña, and Jara, 1982).

Spoor of the Horn Star:

This Sotho asterism "Setlhako sa Naka" is the Large Magellanic Cloud, the "Horn Star" being "Naka" (Alpha (α) Carinae (Canopus)) in the IAU constellation Carina (Slotegraaf 2013). Alcock (2014)

translates it as “shield of the Horn Star”. Breutz (citing Breyer 1919) translates it as “sandal of the Horn Star”.

Spoor of the Little Horn Star:

This Sotho asterism “Setlhako sa Senakane” is the Small Magellanic Cloud, the “Little Horn Star” being “Senakane” (Alpha (α) Eridani (Achernar)) in the IAU constellation Eridanus (Slotegraaf 2013). Alcock (2014) translates it as “shield of the Little Horn Star.” Breutz (citing Breyer 1919) translates it as “sandal of the Little Horn Star”.

Spout:

This Latin asterism “Fusus” is Alpha (α) Virginis (Spica) in the IAU constellation Virgo. Compare this to Ear of Grain, below.

Spray:

This Arabic asterism “Al Rihadh” (أل رذاذ) is the IAU constellation Cygnus:

- It was later Latinized to “El Rided”, “Arided” (in the 15th century *Alfonsine Tables*), “Aridif”, and “Arrioph” and was used for Alpha (α) Cygni (Deneb).
- “Al Rihadh” as listed by French astronomer Joseph Justus Scaliger (1540 - 1609)
- Johann Bayer’s *Uranometria* (1603) lists the name “Arided” for Cygnus.
- Robert Hues (1659) lists this as “Arided” which he translates as “quasi redolens lilium” (“smelling like a lily”).
- “Al Rihadh” is listed in R. H. Allen’s *Star Names* in 1899. Allen writes “its signification is uncertain, although the word is said to have been found in an old Latin-Spanish-Arabic dictionary for some sweet-scented flower”.
- The 1st edition of British schoolmaster Arthur P. Norton’s *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list “Arided” for this star.

Spread Wings Eagle:

This Bedouin star “al-Nasr al-Basiṭ” (النسر الباسط) is Alpha (α) Aquilae (Altair) in the IAU constellation Aquila.

Spring:

This **telescopic** Moquoit star “Nosaxa” is HIP 31895 (HD 48265) in the IAU constellation Puppis (magnitude 7.52). It was given this name in the IAU NameExoWorlds campaign. It is derived from the words “nosahuec” (“renew”) and “ñaaxa” (“year”). It has an exoplanet named Naqaÿa, which is their term for a brother-family-relative.

Spring Bringer:

This German asterism “Vernus Portitor” is the IAU constellation as named by German poet Philipp von Zesen (1619 – 1689).

Spring of Indus:

This **telescopic** asterism “Pegórrhytus Índi” is the spiral galaxy NGC 7083 in the IAU constellation Indus. It was discovered by James Dunlop in 1826. John Herschel listed it as h 3870 and later as GC 4674 in his

General Catalogue of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): The name comes from the poetic Greek "πηγ_ρρυτος" (pègorrhutos – "flowing from a spring") and they called it this because "many spiral arms spring from the central flocculent region".

Spring Star:

This Kaurna star "Wilto" or "Wilto-willo" ("wedge tailed eagle") is Alpha (α) Leonis in the IAU constellation Leo. The rising of this star marks the autumn season, Wullutti.

Spring Trap:

This Meratus Dayak and Banjar asterism "Baur Bilah" is made up of the stars of the IAU constellation Orion (Jaafar and Khairuddin 2019): The spear of the trap is the stars of the belt of Orion and Pi (π) 3 and 4 Orionis, which points towards the wild boar's jaw "Ra'ang Bayi" (see Wild Boar's Jaw, below).

This Malay asterism "Belantik", "Balatic" (Magahat, Bilaan), "Balatik" (Bukidnon, Bilaan, Bagobo, Antique, Ibaloi, Tagalog, and Maguindanao (Santos et al 2019)), "Bayatik" (Mandaya), "Belatik" (Manobo), "Balbalays" (Mayawyaw Ifugao), "Gendaw Balatik" (Subanen), "Batik" (Jama, Sama in Mapun and Tawi-tawi (Masong 2017)), "Binawagan Bagasawad" (Palawan), and "Bintang Peyh" (Orang Asli/Semelai), or "P'lantek" (Orang Asli) is made up of the stars of the IAU constellation Orion: The spear of the trap is the stars of the belt of Orion and Pi (π) 3 and 4 Orionis (Jaafar and Khairuddin 2019). There are several different versions of the spring trap: "B'lantek parap" ("slapping spring-spear"), "B'lantek paut" ("draw-back spring spear"), and "B'lantek terbang" ("flying spring-spear").

This Orang Seletek asterism "Bintang Balatek" is the IAU constellation Orion (Jaafar and Khairuddin 2014).

Spring Triangle:

This Western asterism consists of stars in the IAU constellations Boötes, Leo, and Virgo: Alpha (α) Boötis (Arcturus), Alpha (α) Leonis (Regulus), and Alpha (α) Virginis (Spica). This name was listed in May 2016 in *Constellation Guide* (https://www.constellation-guide.com/category/asterism/).

Sprinter:

This **telescopic** asterism, also known as the Diamond, the Christmas Tree, and the Southern Beehive, is the open cluster NGC 2516 (Caldwell 96) in the IAU constellation Carina. It was discovered by French astronomer Abbé Nicolas Louis de Lacaille in 1751 who listed it as "Lac II 3". It is GC 1619 in the *General Catalogue* of 1864.

Sprot of Horologium:

This **telescopic** asterism "Spráttus Horológii" is the spiral galaxy NGC 1448 in the IAU constellation Horologium. It was discovered in 1835 by John Herschel who listed it in his catalogue as 2585 and later in his General Catalogue of 1864 as GC 776. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): The name refers to its resemblance to a sprot, a type of fish.

Sprout From Hiva:

This Rapanui asterism "Nga Rau Hiva" is the Hyades cluster in the IAU constellation Taurus (Edwards and Edwards 2010, Edwards and Edwards 2016, Edwards et al 2018). Hiva is the Rapanui homeland. It is also known as "the Twins" or "the Weak".

Spruce Pitch:

This Sahtúotine star “ts’I dzéh” is Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion (Cannon 2021) and is one of the components of an arrow.

Square:

This Estonian asterism “Nekiland” is the Great Square of Pegasus asterism in the IAU constellation Pegasus (Kuperjanov 2006).

This **telescopic** asterism is in the IAU constellation Cetus and is Corder 12 on the observing list of American astronomer Jeffrey Corder. Size 3’. This is a tiny square of four 10th magnitude stars.

Square Celestial Granary:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a bending line of stars in the IAU constellation Cetus: Starting at Upsilon (υ) Ceti it runs through Tau (τ) Ceti, Zeta (ζ) Ceti, Theta (θ) Ceti (the determinative star), Eta (η) Ceti, and Phi (ϕ) Ceti.

This Chinese xing guan “Tiāncāng” (天仓) is a bending line of stars in the IAU constellation Cetus: 57, 52, Zeta (ζ), Theta (θ), Eta (η) and Iota (ι) Ceti. The xing guan “Sickle” (see above) is at one end.

This Chinese Chenzhuo xing guan “Tiāncāng” is a bent line of stars in the IAU constellation Cetus: From Nu (ν) Ceti it runs through Tau (τ) Ceti, Zeta (ζ) Ceti, Theta (θ) Ceti, and Eta (η) Ceti to Phi (ϕ) 1 Ceti.

Squid Galaxy:

This **telescopic** asterism is the barred spiral galaxy Messier 77 (NGC 1068) in the IAU constellation Cetus. This was discovered by French astronomer Pierre Méchain in 1780 and listed by his colleague Charles Messier. William Herschel described it as a “star cluster” and his son John Herschel did also, including it on his list as h 262. It was listed in John Herschel’s 1864 *General Catalogue* as GC 600. It is also known as the “Fiery-Spirited of Cetus” (see above) and Cetus A.

Squidward Cluster:

This telescopic asterism is the Double Cluster, NGC 869 and NGC 884 (C 14) in the IAU constellation Perseus. Squidward Quincy Tentacles is a fictional character in Nickelodeon’s animated series SpongeBob SquarePants and first appeared in that series in May 1999. This was posted on *Cloudy Nights* by American astronomer Jordan “jrazz” in October 2023.

Squinter of Ursa Major:

There are two **telescopic** “Squinter of Ursa Major” asterisms:

- One, “Paétulus Úrsae Majóris” is the spiral galaxy NGC 4096 in the IAU constellation Ursa Major. It was discovered in 1788 by William Herschel who listed it as “I 207”. It became GC 2711 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “the nucleus of this galaxy is not in the geometric centre of the optical disk, accounting for its leering gaze”.

- One, “Strábo Úrsae Majóris” is the peculiar dwarf galaxy NGC 5474 in the IAU constellation Ursa Major. William Herschel listed this as “I 214”. It became GC 3783 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “this galaxy is not in the geometric centre of the optical disk, making it look like a squinter”.

Squirrel of Crater:

This **telescopic** asterism “Sciúrus Cratéris” is the barred spiral galaxy NGC 3905 in the IAU constellation Crater. It was discovered by British astronomer Andrew Ainslie Common in 1880. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of the “western spiral arm resembles a [squirrel’s] tail”

Sshil:

This Ayt Xebbac star (Arabic: esshil) is Alpha (α) Carinae (Canopus) in the IAU constellation Carina (Souag 2019).

Stable of Sky:

This Korean asterism “Haneul-ui Anjeong” (하늘의 안정) is an oval of stars in the IAU constellations Cygnus and Vulpecula: 52, 41, and 23 Cygni, and 24, 25, 28, 30, 31, and 32 Vulpeculae, and HIP 99824A.

Stack of Cereals:

This Korean asterism “Gogmul Deomi” (곡물 더미) is a triangle of stars in the IAU constellation Cetus: 48 Ceti and HIP 7679 and 8209A.

Staff:

This Norse asterism “Fiskikarlar” is the belt of Orion in the IAU constellation Orion. as listed by R. H. Allen in his *Star Names* in 1899.

This Estonian asterism is the Belt of Orion asterism in the IAU constellation Orion (Kuperjanov 2006). Some call it the “Staff Stars”.

Staff Ones:

This Finnish asterism “Sauvaset” is the Belt of Orion asterism in the IAU constellation Orion.

Staffs:

This Romanian asterism “Toiege” is the belt of Orion in the IAU constellation Orion (Ottescu 2009).

Stag:

This Babylonian asterism from the MUL.APIN tablets “MUL.LU.LIM”, “LU.LIM” (Bartel van der Waerden 1974, Anthony 1996), “Lulimu” (Anthony 1996), or “Lulimmu” is a triangle of stars in the IAU constellation Andromeda: Iota (ι), 50, and 51 Andromedae.

This Persian asterism “LU.LIM” or “Lu” from the list of Tikpi Stars from the K 250 and VAT 9418 lists of the Persian (Achaemenid) Period (539 – 331 B.C.E.) is described as the IAU constellations “Cassiopeia + Andromeda” plus an unknown group of stars (Boll 1918, Jeremias 1929). Ernst Weidner lists it as “lu-[lim]” in his *Fixsterne* in 1971. This means that it is incorporating stars of the Babylonian asterism Plough

(see above). Since the "W" of Cassiopeia has been used in other cultures as "antlers", I presume that this is what is happening here.

This Seleucid asterism is made up of stars of the IAU constellations Andromeda, Cassiopeia, and Perseus:

- The "body" is a bent oval of the stars 17 Andromedae, HIP 3293 (beside Messier 31, the Andromeda Galaxy), 41 Andromedae, HIP 5554, HIP 4298, Omicron (ο) Cassiopeiae, 20 Cassiopeiae, HIP 2900, HIP 2225, 22 Andromedae, Psi (ψ) Andromedae, and Kappa (κ) Andromedae.
- The "head" is a quadrilateral of the stars 49 Andromedae, Phi (φ) Andromedae, Xi (ξ) Andromedae and Omega (ω) Andromedae.
- Two "horns" run out:
    - One from Phi (φ) Andromedae to 25 Cassiopeiae, and
    - One from 49 Andromedae through 51 Andromedae to Phi (φ) Persei.

This Ainu Nociw ("asterism") "Siyapka: is the IAU constellation Orion. The belt of Orion is an arrow that was shot by the archer "Kimun kur-nociw" (see Archer, above).

Stairway to Heaven:

This **telescopic** asterism is the galaxies NGC 4206, 4216, and 4222 in the IAU constellation Virgo. NGC 4206 was discovered in 1784 by William Herschel who listed it as "II 165". It became GC 2795 in the *General Catalogue* of 1864. These are part of O'Meara 60 in astronomer Stephen James O'Meara's *Hidden Treasures Catalogue* (2007), where he lists them as the "Virgo Trio" and as the "Stairway to Heaven".

Stake from a Horse Threshing Area:

This Romanian star "Steajărul de la Arie" is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Ottescu 2009).

Stake in the Sky:

This Ukrainian star "Kilok u Nebi" (кілок у небі) is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor. It was seen as a pivot around which the rest of the sky rotated. It is also sometimes referred to as a stick (palytsya, палиця) or a pole (stovp, стовп). Later versions described this as a stake to which two horses, represented by Beta (β) Ursae Minoris (Kochab) and Gamma (γ) Ursae Minoris were tethered, perpetually circling the pole star. Compare this to the Kazakh asterism "Timir Qazyq" ("Iron Pole").

Staked Star:

The Chukchi see the star Alpha (α) Ursae Minoris (Polaris) as being staked down to render it immovable.

Stall:

This Arabic star "Al Maʾlaf" is Epsilon (ε) Cancri in the IAU constellation Cancer:

- This was later latinized to "Meleph" or "Almalaf".
- The IAU approved the name Meleph for the star Epsilon (ε) Cancri Aa.

- NOTE: R. H. Allen writes in his *Star Names* in 1899 that while this is now a name for Epsilon (ε) Cancri, that in “early Arabia” it was a name for the IAU constellation Crater.

Stamp:

This Chinese star “Yin” is Lambda (λ) Sagittarii in the IAU constellation Sagittarius and is part of their xiù (lunar mansion) “Dǒuxiù” (斗宿) – see Dipper, above.

Stand:

This Hindu asterism “Praṭishthana” (“stand” or “support”) is the Great Square in the IAU constellation Pegasus (see Great Square of Pegasus, above) and is attributed to German Sanskrit scholar Albrecht Friedrich Weber (1825 – 1901) by R. H. Allen in his *Star Names* in 1899.

Stand Alone:

This Māori star “Atutahi”, “Aotahi”, or “Atuatahi” is Alpha (α) Carinae (Canopus) in the IAU constellation Carina. They used the twinkling of this star as an indication of windy conditions.

This Rapanui star “Atutahi” is Alpha (α) Carinae (Canopus) in the IAU constellation Carina (Edwards and Edwards 2016, Edwards et al 2018). The Edwards translate this as “Wayward One” or “First Apprentice”.

Standard:

This German asterism “Standard” or “Roman Standard” is the IAU constellation Aquila as listed by German astronomer Wilhelm Schickard (1592 – 1635). John Hill lists this asterism in his *Urania* in 1754. Edward Sherburne lists it as “Ensign or Standard of the Roman Empire” in his Sphere of Marcus Manilius in 1675.

Standard of Centaurus:

This **telescopic** asterism “Nómimus Centaúri” is the spiral galaxy IC 3253 in the IAU constellation Centaurus. It was discovered by DeLisle Stewart in 1901. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “this Sc-type galaxy has the standard morphology of a multi-arm spiral pattern, according to the Carnegie Atlas”.

Standing Alone and Sacred:

This Hawaiian star “[Hiki] kaulana-o-meha” or “Kau-ano-meha” ("Standing alone and sacred"), is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major. It is also known as “A’a” (‘burning brightly”), “Hiki-kau-[e]-lia” or “Hiki-kau-e-lono” ("The-small-booby-bird-of-Lono"), “Hiki-kau-lono-meha” ("Star of solitary Lono"; also Lono or Lono-meha), “Hoku-kau'opae” ("Star for placing shrimp"), “Hoku-ho'okele-wa'a" ("Canoe-guiding star"), “Kaulu-lena” or “Kaulua-lena” ("Yellow star"), or “Kaulua[-i-ha'i-mohai]” or “[-a-ha'i-mohai]” ("Flower of the heavens").

Standing Gods:

This Babylonian asterism “MUL.DINGIR.GUB.BA.MESH” was a man with a serpent’s body instead of legs and was made up of stars of the IAU constellations Hercules and Draco. Bartel van der Waerden lists “AN.GUB.BAmesh” in in his *Science Awakening II: The Birth of Astronomy* in 1974 and Anthony Hope lists “DINGIR.GUB.BA.MESH” in his *A Guide to Ancient Near Eastern Astronomy* in 1996. The BM

78161 tablets list “dingir-ku-a-mes”. The Neo-Babylonian (Chaldean) Great Star List (636 – 539 B.C.E.) lists “mul.dingir.gub.ba.mes” (Koch-Westenholz 1995).

Standing Perpendicularly:

This Hawaiian star “Kumau” ("Standing Perpendicularly"), is Polaris (Alpha (α) Ursae Minoris) in the IAU constellation Ursa Minor. It is also known as “Hokupa’a” (“Fixed Star”), “Noho-loa” ("Eternal"), “Kio-pa'a” or “Kio-pa” ("Fixed projection"), “Kia-pa'akai” (Biblical: "Pillar of salt"), or “Maka-holo-wa'a” ("Sailing-canoe eye" or "Star of the sailing canoe").

Standing Still Star:

This Ininew (Plains Cree) star “Ekatachet Atchakos” is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor.

Star:

This Chinese xiù (lunar mansion) “Xīngxiù” (星宿) is made up of the stars of the IAU constellation Hydra:

- The “head” is the four stars Alpha (α) Hydrae (Alphard), 27 Hydrae, and 26 Hydrae and HIP 46744, and
- The “tail” is a line going out to Iota (ι) Hydrae.

In the *Han shu*, a history of the early Han dynasty that was finished in 111 C.E. this xiù “Qi Xing” (七星) was associated to matters concerning the San He territory. This xiù “Xīng” (星) appeared in the Tang Dynasty (618 – 907 C.E.) and was compared to the Vedic nakshatra Magha (Kotyk 2017, see Bountiful, above). This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This **telescopic** Sesotho, SeTswana, and SePedi star “Naledi” is WASP 62 in the IAU constellation Dorado (magnitude 10.21). It was given this name in the IAU NameExoWorlds campaign. Naledi is a name given to girls in the hope that they will bring light, joy, and peace to their communities. It has an exoplanet named Krotoa: Krotoa is the name of a community builder and educator in colonial times who was considered the “Mother of Africa”.

This **telescopic** Sami star “Násti” is HIP 40687 (HD 68988) in the IAU constellation Ursa Major (magnitude 8.19). It was given this name in the IAU NameExoWorlds campaign. It has an exoplanet named Albmi (“sky”).

This Arabic star “al-Kawkab” (كوكب) is Beta (β) Ursae Minoris in the IAU constellation Ursa Minor:

- “Kocab” was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- This was later latinized to “Kochab”, Kochah”, or “Kocab” (Hafez 2010).
- Johann Bayer’s *Uranometria* (1603) lists “Kochab” for this star.
- American uranographer Elijah Burritt (1794 – 1838) listed it as “Kochah”.
- American uranographer Elijah Burritt’s *The Constellations for each Month in the Year* (1835) lists this star as “Kochab”.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Kocab, from the Arabian Kaúkab al sehmáli, the north star”.

- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Kochab".
- This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Kochas": The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822.
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Kochab".
- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Kochab" and describes it as "Star".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists "Kocab" and "Kochab" for this star, but his 14th edition (1959) only lists "Kocab" for this star.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists "Kochab" for this star.
- The IAU approved the name Kochab for Beta (β) Ursae Minoris.

This Arabic asterism "an-najm" (النجم), later latinized to "Al Negim", "Al Najm" and "Negim" is the Pleiades cluster in the IAU constellation Taurus:

- "al-Najm" and "Nujūm al-Thurayyā" are listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- This appeared in the poetry of Muhalhil (d. 531 C.E.).
- John Hill listed it in his *Urania* in 1754
- R. H. Allen lists "Al Najm" in his *Star Names* in 1899.
- NOTE: In the Quran, chapter (surah) 50, verse 53, "Al Najm" is used for Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major.

This Anglo-Saxon asterism "Stjarna" is the Pleiades cluster in the IAU constellation Taurus (Bender 2020). While in the singular, the word is used to refer to a cluster of stars and was first listed by Magnussen in 1828. In 1874 Cleasby and Vigfusson noted that sailors called "the load-star Polaris" simply "the star".

This G/wi star "//xona" is Alpha (α) Carinae (Canopus) in the IAU constellation Carina (Alcock 2014). It is also known as "Star of Stars" (see below).

This Taíno star "Koeia" is HIP 12961 in the IAU constellation Eridanus and was given this name in the IAU NameExoWorlds campaign. It has an exoplanet named Aumatex: Aumatex was their God of the winds

This Turkish star "yıldız", "Yildun", or "Vildiur" is Delta (δ) Ursae Minoris:

- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Yildun" and claims that it is "miscopied from Hyde's notes on Ulugh Beigh for Yilduz, the star in Turkish.".
- The *Century Dictionary* of 1889 lists "Gildun".
- In 2016 the IAU approved the name Yildun for Delta (δ) Ursae Minoris.
- NOTE: The name "Yilduz" or "Yilduz Shemali" is sometimes used for Alpha (α) Ursae Minoris (Hafez 2010).

This Cherokee star "Noquisi" (ᏃᎧᏊ,) is the red dwarf star GJ 436 in the IAU constellation Leo. It received this name in the IAU's NameExoWorlds competition in 2022. This is the Cherokee name for "star". It has an exoplanet, GJ 436b, "Awohali" (ᎠᏬᏐᏁ,) which means "eagle".

This **telescopic** Zoque star "Matza" is the A2V type star HIP 65426 in the IAU constellation Centaurus (magnitude 10.67). It received this name in the IAU's NameExoWorlds competition in 2022. The name means "star in the sky" or "someone who shines within". It has an exoplanet HIP 65426b "Najsakopajk", which means "Mother Earth".

This **telescopic** asterism Do Dz 8 is a lopsided 5-pointed star in the IAU constellation Hercules. It includes the stars HIP 85335 and 85304.

Star Blanket:

This Ininew (Cree) asterism "Atchakos Ahkoop" is the Pleiades cluster in the IAU constellation Taurus (Buck 2016). They also call it "Pakone Kisik" (see Hole in the Sky, above).

Star Boy:

This Blackfoot star is unidentified at present (Chamberlain 2019). It is also known as Mistake Morning Star (see above) as it is near the Morning Star (see above).

Star Brothers:

This Palawa asterism is the stars Alpha (α) Carinae (Canopus) and Alpha (α) Canis Majoris (Sirius) in the IAU constellations Carina and Canis Major. One brother, "Droemerdeenne", is Sirius, and the other brother, "Moinee", is Canopus. They are the sons of the Sun and Moon.

Star Chain:

There are two **telescopic** star chain asterisms:

- One is Sánta 88, listed in 2007 by Hungarian astronomer Sánta Gábor, is a line of 10^{th} – 13^{th} magnitude stars in the IAU constellation Taurus including the star HD 281600. Gábor describes it as a "chain of stars".
- One is Sánta 156, listed in 2015 by Hungarian astronomer Sánta Gábor, is a line of 8 – 10^{th} magnitude stars in the IAU constellation Hercules. Gábor describes it as "a very long cascade of stars".

Star Cluster:

This Babylonian and Seleucid asterism "The Stars" or "The Star Cluster" is the Pleiades cluster in the IAU constellation Taurus.

Star Deer Crocodile:

When the Mayan asterism "Xibalbá Be" ("Path to the Underworld") is perpendicular to the horizon, it becomes the open jaws of "Way Pat Ahin" ("Star Deer Crocodile"). This is the Milky Way between the IAU constellations Scorpius and Cygnus, running through Sagittarius and Aquila.

Star Faced of Hydra:

This **telescopic** asterism "Astrópus Hýdrae" is the barred spiral galaxy NGC 2642 in the IAU constellation Hydra. It was discovered in 1830 by John Herschel who listed it as h 519 and later as GC 1686 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name in reference to "the three foreground stars on the face of this galaxy".

Star for Placing Shrimp:

This Hawaiian star “Hoku-kau'opae” ("Star for placing shrimp"), is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major. It is also known as “A’a” (‘burning brightly”), “Hiki-kau-[e]-lia” or “Hiki-kau-e-lono” ("The-small-booby-bird-of-Lono"), “Hiki-kau-lono-meha” ("Star of solitary Lono"; also Lono or Lono-meha), “[Hiki] kaulana-o-meha” or “Kau-ano-meha” ("Standing alone and sacred"), “Hoku-ho'okele-wa'a" ("Canoe-guiding star"), “Kaulu-lena” or “Kaulua-lena” ("Yellow star"), or “Kaulua[-i-ha'i-mohai]” or “[-a-ha'i-mohai]” ("Flower of the heavens").

Star Gazer Fish:

This English asterism “Uranoscopus” was created in 1754 by British botanist and natural philosopher John Hill and published in his *Urania: Or a Complete View of the Heavens.* It is made up of stars in the IAU constellations Auriga and Gemini:

- One side starts at Pi (π) Geminorum and runs through 66 Aurigae, and Psi (ψ) 7 and 5 Aurigae to Psi (ψ) 4 Aurigae, and
- The other side starts at Pi (π) Geminorum and runs through Omicron (ο) Geminorum, 65 Aurigae, 63 Aurigae, and Psi (ψ) 2 Aurigae to Psi (ψ) 4 Aurigae.

Compare this to the asterism Herschel’s Telescope (above).

Star Gun:

This **telescopic** asterism in the IAU constellation Monoceros is Stratton 1 on the asterism list of Troy Stratton of the Salt Lake Astronomical Society and Observing Program Coordinator of the Astronomical League:

- A line of stars from HIP 35712 through HIP 35436, 24 Monocerotis, and 23 Monocerotis, ending at 21 Monocerotis forms the “gun” with the star Delta (δ) Monocerotis as the “front sight”.
- The “butt” of this “gun” is the line of stars HIP 35751, 35576 and 35395.

Star in the Bull Towards the North:

This Babylonian star “Shur-narkabti-sha-iltanu” is Beta (β) Tauri in the IAU constellation Taurus as listed in R. H. Allen’s *Star Names* in 1899.

Star in the Bull Towards the South:

This Akkadian star “Shurnarkabti-sha-shūtū” (“the star in the bull towards the south” or “the southern star towards the chariot”') is Zeta (ζ) Tauri in the IAU constellation Tauri as listed in R. H. Allen’s *Star Names* in 1899.

Star in the Cloud on the Horse’s Back:

This is what Ptolemy (c.100 – c.170) called globular cluster NGC 5139 (Caldwell 80), Omega Centauri (“Quae est in principio scapulae”).

Star in the Chair:

This “Star in the Chayre” is Beta (β) Cassiopeiae (Caph) in the IAU constellation Cassiopeia as it appeared in the Middle Ages and as listed by R. H. Allen in his *Star Names* in 1899.

Star in the Middle of the Sky:

This Dene star “zheetl’an dha’aii” is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Cannon 2021).

Star is Strong:

This Ahtna star is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Cannon 2021).

Star Island:

This Dakelh asterism “Səmiłnu” is the Pleaides cluster in the IAU constellation Taurus (Cannon 2021).

Star Lizard:

This **telescopic** asterism, also known as the Lizard Cluster or Drunken Lizard Cluster, is the open cluster NGC 7209 in the IAU constellation Lacerta. It was discovered by William Herschel in 1787 who listed it as “VII 53”. It is GC 4755 in the *General Catalogue* of 1864.

Star Man of Fire:

This Euphratian star “Kakkab Mulu-izi” is Epsilon (ε) Virginis in the IAU constellation Virgo as listed in R. H. Allen’s *Star Names* in 1899.

Star Moves Up:

This Ahtna star “Son’kadghildzak” is Alpha (α) Aquilae (Altair) in the IAU constellation Aquila (Cannon 2021).

Star Mist Cluster:

This **telescopic** asterism is the open cluster NGC 7789 in the IAU constellation Cassiopeia. It was discovered in 1783 by English astronomer Caroline Herschel. John Herschel listed it as “”VI 30”. John Herschel listed it as h 2284 and later as GC 5031 in his *General Catalogue* of 1864.. It is also known as Caroline’s Rose, the White Rose, the Herschel’s Spiral Cluster, the Ghost Cluster, and the Screaming Skull Cluster.

Star of Abundance:

This Babylonian asterism “HÉ.GÁL-a-a” or “kakkab nushi” is listed in Anthony Hope’s *A Guide to Ancient Near Eastern Astronomy* in 1996 and identified as part of the IAU constellation Coma Berenices.

Star of Autumn:

This Greek star “Ὀπωρινός” or “ ” is Alpha (α) Canis Majoris in the IAU constellation Canis Major as listed by Homer in the *Iliad* (8th century B.C.E.).

Star of Ascent:

See Red One, above.

Star of Cleonaeus:

This Latin asterism “Cleonaeum Sidus” is the IAU constellation Hercules. It is named for Cleonae, the town near where Hercules killed the Nemean lion. Compare this to “Cleonaeus” (above).

Star of Elam:

This Chaldean star “mul min.ma” is listed in the *Great Star List* (Koch-Westenholz 1995) but the stars have not been identified. It also appears on this list as “kur.nim.ma[ki]” (“twelve stars of Elam”). Elam was an ancient civilization centered in the far west and southwest of modern-day Iran. Belmonte Esteve (2018) writes that this is an attribute of Nergal, a God associated with the planet Mars.

Star of Eridu:

This Babylonian star “Nun-ki” from the catalogue BM 78161 (Liechty 1988) is Lambda (λ) Velorum in the IAU constellation Vela which is one corner of their asterism Harrow (see above). Compare this to Hand of Nunki, above.

This Chaldean star “mul nunki” from the Great Star List (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period (Koch-Westenholz 1995) is Alpha (α) Carinae (Canopus) in the IAU constellation Carina. It was listed as “NUN-ki” in the *Three Stars Each* catalogue.

This Seleucid star is Alpha (α) Carinae (Canopus) in the IAU constellation Carina.

This star is Sigma (σ) Sagittarii in the IAU constellation Sagittarius. R.H Allen identified this as a Babylonian name in his *Star Names* in 1899. The name “NUN-ki” does appear in the *Three Stars Each* catalogue but is connected to the star Alpha (α) Carinae. The IAU approved the name Nunki for the star Sigma (σ) Sagittarii Aa.

Star of Fire:

This ancient Egyptian star “Seba en Sar” is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga.

Star of Gladness:

This Hawaiian star Hokule’a (“star of gladness” or “clear star”) is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes. This is the “zenith star” of Hawaii: It is directly overhead if you are at the latitude of the Hawaiian Islands.

Star of Hyantis:

This Latin asterism “Sidus Hyantis” is the Hyades cluster in the IAU constellation Taurus as listed in R. H. Allen’s *Star Names* in 1899. This is named for Hyas, who was the brother of the Hyades.

Star of Magellan:

This Portuguese star “Estrela de Magalhães” is Alpha (α) Crucis (Acrux) in the IAU constellation Crux.

Star of Mighty Destiny:

This Sumerian star “mulu-zal-la” is Beta (β) Aquarii (Sadalsuud) in the IAU constellation Aquarius as listed in the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015). Boutet (2014) lists it as “Great Star or Giant”.

This Akkadian star “kak-kab na-ma-ri” is Beta (β) Aquarii (Sadalsuud) in the IAU constellation Aquarius as listed in the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015).

This Persian asterism “Kakkab Nammaχ” is Beta (β) Aquarii (Sadalsuud) in the IAU constellation Aquarius as listed in R. H. Allen’s *Star Names* in 1899.

Star of Osiris:

This Egyptian star is star Alpha (α) Carinae (Canopus) in the IAU constellation Carina as listed in R. H. Allen's *Star Names* in 1899.

Star of Piercing Brightness:

This Arabic star "At-tariq" is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major and appears in chapter (surah) 86 of the Quran.

Star of Power:

This Hungarian asterism "Köqelat Csillag" is the IAU constellation Triangulum. The celestial map of Hungarian uranographer Sandor Nagy (1915) places this label next to a triangle which almost certainly represents Triangulum. The label may read "kogeset Csillag" ("death star"). NOTE: Nagy's 1915 chart is beautifully illustrated, but some of the labels are hard to make out and I find it difficult to match the hand drawn stars on his chart with actual star patterns in the sky.

Star of Saint Catherine:

This Eastern Orthodox star is Alpha (α) Carinae (Canopus) in the IAU constellation Carina as listed in R. H. Allen's *Star Names.* He writes that it was in use from the 6th century by pilgrims.

Star of Sigui:

This Dogon star "Sigu Tolo" is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Holberg 2007). Sigui is a key Dogon festival held every 60 years and this star is seen as a source of life. NOTE: French anthropologist Marcel Griaule wrote in the 50s that the Dogon (who didn't have telescopes and were far removed from the scientific community at that time) believed that this was a binary star system (which it is), but later analysis of Giraule's interviews of his four informants and modern interviews of Dogon elders suggests that Giraule (who was aware of the discovery of Sirius being a binary system) mis-interpreted his informant's information.

Star of Solitary Lono:

This Hawaiian star "Hiki-kau-lono-meha" ("Star of solitary Lono"), is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major. It is also known as "A'a" ('burning brightly"), "Hiki-kau-[e]-lia" or "Hiki-kau-e-lono" ("The-small-booby-bird-of-Lono") "[Hiki] kaulana-o-meha" or "Kau-ano-meha" ("Standing alone and sacred"), "Hoku-kau'opae" ("Star for placing shrimp"), "Hoku-ho'okele-wa'a" ("Canoe-guiding star"), "Kaulu-lena" or "Kaulua-lena" ("Yellow star"), or "Kaulua[-i-ha'i-mohai]" or "[-a-ha'i-mohai]" ("Flower of the heavens").

Star of Stars:

This Nyae Nyae !Kung star is Alpha (α) Carinae (Canopus) in the IAU constellation Carina.

This G/wi star is Alpha (α) Carinae (Canopus) in the IAU constellation Carina (Alcock 2014). It is also known simply as "Star" (see above).

Star of the Crossing of the Water Dog:

This Persian asterism "Kakkab Paldara", "Pallika", or "Palura" is Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor as listed by R. H. Allen in his *Star Names* in 1899.

Star of the Hero:

This Babylonian star “Kakkab Dan-nu” is Gamma (γ) Virginis in the IAU constellation Virgo as listed in R. H. Allen’s *Star Names* in 1899.

Star of the Horse:

This Kazakh star “Am Zhuldyzy” is Alpha (α) Pegasi (Markab) in the IAU constellation Pegasus.

Star of the Insane Lion:

This Latin star “Stella Vesani Leonis” is Alpha (α) Leonis (Regulus) in the IAU constellation Leo as listed by the Roman poet Horace and in R. H. Allen’s *Star Names* in 1899.

Star of the Mushrooms:

This Italian star “Este`la Bulera” is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major. The heliacal rising of Sirius coincides roughly with the period of the search for bo¨le` (mushrooms) in the summertime.

Star of the North:

This Arabic star “Al Kaukab al Shamāliyy” is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists this as “Al Kaukab-al-shemálí, the Northern Star”.

This Lacandón star “Sämän Ek’” is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor.

This Yucatec star “Xaman Ek” is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor. They also called it “Guide of the Merchants” or “Chimal Ek” (see Shield Star, above).

Star of the Poor:

This “Arabic” asterism with the latinized name “Kashi Deruishan” is the IAU constellation Corona Borealis as listed in John Hill’s *Urania* in 1754. Hill gives the Latin translation as “Stella Pauperum” (“star of the poor”). The Arabic asterism is actually called Bowl of the Poor (see above). Compare this to the Bedouin asterism “as qaṣʿat al-masākīn” (Dish of the Poor People, above).

Star of the Priest:

This Carib asterism “Asitjaniyman” represents a priest who fled into the sky after a shaman defeated him. Its present location is unknown (Magaña, and Jara, 1982).

Star of the Sailing Canoe:

This Hawaiian star “Maka-holo-wa'a” ("Sailing-canoe eye" or "Star of the sailing canoe") is Polaris (Alpha (α) Ursae Minoris) in the IAU constellation Ursa Minor. It is also known as “Hokupa’a” (“Fixed Star”), “Noho-loa” ("Eternal"), “Kumau” ("Standing Perpendicularly"), “Kio-pa'a” or “Kio-pa” ("Fixed projection"), or “Kia-pa'akai” (Biblical: "Pillar of salt").

Star of the Sea:

This English star “Stella Maris” is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor. It was given this name by English Franciscan monk Bartholomeus Anglicus around 1270. English Admiral Henry William Smyth lists “Stella Maris” in his *Bedford Catalogue* in 1844.

Star of the Spaniards:

This Carib star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Magaña, and Jara, 1982). It is believed to cause hurricanes. It is also known as Malirubana (see above).

Star of the Tail Tip:

This Babylonian asterism is the stars Alpha (α) Librae (Zubenelgenubi), Beta (β) Librae (Zubeneschamali), and Gamma (γ) Librae in the IAU constellation Libra as listed in R. H. Allen's *Star Names* in 1899. Allen writes that this may have been part of a "Hydra of Chaldaea" and "early Afr of Arabia".

Star of the Torch of the Sucker Catfish:

This Carib star "Pakamu turi-rï" is Alpha (α) Virginis (Spica) in the IAU constellation Virgo (Magaña, and Jara, 1982).

Star of the Two Equal Parts:

"Coscotoca Ch'aska" is an unidentified Quechua zenith star (Urton 1981).

Star of the Westland:

This is an Assyrian name for the IAU constellation Aries listed by the diviner Rašil (Belmonte Esteve 2018). It appears elsewhere as a name for Saturn.

Star of Vezdiv:

This Hungarian asterism "Vezdiv csillag" appears to be made up of stars of the IAU constellation Cepheus. It may be a specific reference to the 2.46 magnitude star Alpha (α) Cephei (Alderamin). The celestial map of Hungarian uranographer Sandor Nagy (1915) depicts this asterism as a woman walking with a basket in her right hand.

Star on Top:

This Diné star is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Childrey 2008).

Star Pole:

There are two Belarussian "star pole" asterisms:

- One, "Stazhar'e" or "Stazhar", is the star Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (Avilin 2009), which is part of their asterism "Small Cart" (see above). These are sticks on which the haystack is supported, so this star is a support.
- One, "Starhar'e" is the IAU constellation Ursa Major (Avilin 2009).

Star Queen:

This **telescopic** asterism is the nebula Messier 16 (NGC 6611, IC 4703, SH 2-49, RCW 165, LBN 67, Cr 375, Mel 198, Ced 159).in the IAU constellation Sagittarius. It was discovered by Swiss astronomer Philippe Loys de Chéseaux in 1745 — 6 and catalogued by French astronomer Charles Messier in 1764. It is listed in John Herschel's *General Catalogue* of 1864 as GC 4400. English astronomer Isaac Roberts records of it resulted in it becoming IC 4703 in the *Index Catalogue*. This is listed as the "Star Queen and Her Throne" by Robert Burnham in his *Burnham's Celestial Handbook* in 1978. It is also known as the Pillars of Creation.

Star Snake:

This Barasana asterism “Nyoko Anya” is stars near the IAU constellation Corona Australis (Hugh-Jones 2006): Corona Australis is their asterism Poisonous Snake (see above).

Star Star:

This Babylonian asterism from the MUL.APIN tablets **“**MUL.MUL” (which literally translates as “star star” but probably means “many stars”) is the Pleiades cluster in the IAU constellation Taurus and also appears in Assyrian star lore (Hunger 1992, Bartel van der Waerden 1974, Anthony 1996, Belmonte Esteve 2018). The Ura = hubulla XXII tablet lists the Akkadian name as MIN, ka-li-tum, or za-ap-pu (Yigal, Block, Horowitz 2015) and it appears on the K 8538 planisphere as “mulmul” (Koch 1989).

Star Striking Falcon:

This Persian asterism is the IAU constellation Aquila as described by the Persian astronomer Nasir al-Din al-Tusi.

Star That Does Not Move:

This Iroquois star is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (see Little Dipper, above). Compare this to the Pawnee asterism “Star That Does Not Walk” (see below) and Lakota asterism “Star that Stands Still” (see below).

Star That Does Not Walk:

This Pawnee star is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (see Little Dipper, above). Compare this to the Apache asterism “Not Walking Star” (see above) and the Lakota asterism “Star That Stands Still” (see below).

Star that Rises After the Sun:

This Sahtúotine star “sak’énaáɔa” is Alpha (α) Aquilae (Altair) in the IAU constellation Aquila (Cannon 2021) during it’s morning appearance after the Winter Solstice.

Star That Stands Still:

This Lakota star “Wichapi Owanjila” or “Wičháȟpi owáŋžila” is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor (see Little Dipper, above). Compare this to the Pawnee asterism “Star That Does Not Walk” (see above) and the Apache asterism “Not Walking Star” (see above).

Star the Priestess of Brave Heart:

This Tahitian star “Anâ-tahu'a-vahine-o-toa-te-manava” is Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor.

Star Thing:

See Star Woman (below).

Star Trek A:

See Ship (above).

Star Which has Come Up:

This Dëne Suhne star “tthén xáį ɔą” is unidentified at present (Cannon 2021).

Star Which is Already High:

This Quechua star “Alto piña ch’aska” is an unidentified Quechua zenith star (Urton 1981).

Star Woman:

This Barasana asterism “Nyokoaro” (“star woman” or “star thing”) is the Pleiades cluster in the IAU constellation Taurus (Hugh-Jones 2006, Urton 2016). It represents a wax gourd (“werea koa”) used by the first female shaman, Romi Kumu. This is a very important asterism, leader of the “New Star Path” of the Milky Way. It is also called Star Thing as it is in opposition to the leader of the “Old Star Path” (see Old Star Thing, above). An alternate Barasana name is Romi Kumu (see Woman Shaman, below).

Star Wreath:

This Hawaiian star Hokulei is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga.

Starbrow of Canes Venatici:

This **telescopic** asterism “Stéllifrons Cánum Venaticórum” is the galaxy NGC 4861 (Arp 266) in the IAU constellation Canes Venatici. It was discovered in 1785 by William Herschel who listed it as “IV 30”. It became GC 3340 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “This plume-like galaxy has one enormous star formation region at the front end.” NOTE: The morphology of this galaxy is problematic. Its mass, size, and rotational velocity are consistent with it being classified as a spiral, but its highly irregular shape means it is also often classified as a dwarf irregular galaxy.

Starburst Galaxy:

This **telescopic** asterism IC 10 (LBN 591, PGC 1305, UGC 192) is an irregular galaxy in the IAU constellation Cassiopeia. It was discovered by American astronomer Lewis Swift in 1887. It is also known as the “Fist Sized of Cassiopeia” (see above).

Starfighter:

This **telescopic** asterism also known as the Headhunter, is the open cluster NGC 2269 in the IAU constellation Monoceros. It was discovered by English astronomer William Herschel in 1784 who listed it as “VI 3” in his catalogue. It is GC 1444 in the *General Catalogue* of 1864. This is obviously a reference to the Headhunter type of Starfighter in the Star Wars series franchise created by George Lucas in 1977: We don’t know who chose this name at present.

Starfish:

Johann Bayer’s *Uranometria* (1603) lists “Stella Maris“ (“starfish”) as a name for Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor.

This Latin star “Marinus Aster” is Beta (β) Orionis (Rigel) in the IAU constellation Orion as listed in English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844.

This Hungarian asterism “Haldcsillag” is depicted as the tail of a fish caught in a fisherman’s net (see Fisherman, above) on the celestial map of Hungarian uranographer Sandor Nagy (1915) NOTE: Nagy’s 1915 chart is beautifully illustrated, but some of the labels are hard to make out and I find it difficult to

match the hand drawn stars on his chart with actual star patterns in the sky. The stars are currently unidentified.

There are eight **telescopic** "starfish" asterisms:

- One, also known as the Oblique Cross (see above) is the open cluster Messier 38 (NGC 1912), discovered by Italian astronomer Giovanni Battista Hodierna before 1654 in the IAU constellation Auriga. This was listed in the *General Catalogue* of 1864 as GC 1119. American astronomer Sherburne Wesley Burnham (1838 – 1921) noted in *Burnham's Celestial Handbook* that cluster's brightest stars form what is known as the Letter Pi Cluster, as they resemble the Greek letter π.
- One is the open cluster NGC 1245 in the IAU constellation Perseus. It was discovered by English astronomer William Herschel in 1786 and listed as "VI 25" in his catalogue. It is GC 658 in the *General Catalogue* of 1864. It has been named Patrick Starfish, a character from the animated television comedy series *SpongeBob SquarePants*, which started in May 1999. It is located 3 degrees southwest of the star Alpha (α) Persei (Mirfak).
- One is the globular cluster NGC 6544 in the IAU constellation Sagittarius. It was discovered by the English astronomer William Herschel in 1784 who listed it as "II 197". It is GC 4374 in the *General Catalogue* of 1864.
- One is the globular cluster NGC 6752 (Caldwell 93) in the IAU constellation Pavo. It was discovered by Scottish astronomer James Dunlop in 1826. John Herschel listed it as h 3778 and later as GC 4467 in the *General Catalogue* of 1864. New Zealand astronomer Marilyn Head describes it in the DOCdb database as "nicknamed the Starfish". It is also known as the Windmill (see below) and the Cartwheel (see above).
- One is the open cluster King 12 in the IAU constellation Cassiopeia. Size 3' X 3'. René Merting describes it on the *Faint Fuzzies* website: "At 72X evident, a nebulous patch west of two brighter stars standing close together- at 144X the cluster blooms, it appears irregular, and some arcs allow associations with a starfish."
- One is the open cluster Messier 93 (NGC 2447) in the IAU constellation Puppis. It was discovered in 1781 by French astronomer Charles Messier. It is listed in the 1864 General Catalogue as GC 1571 and in John Herschel's catalogue as h 3098. English astronomer Thomas William Webb described it as "a neat group of star fish shape" in his *Webb's Celestial Objects for Common Telescopes* in 1893, attributing this quote to "Admiral Smythe": This would be English astronomer William Henry Smyth (1788 – 1865).
- One is the "Little Starfish", the peculiar galaxy NGC 7569 in the IAU constellation Pegasus. American astronomer Jimi Lowrey lists this name in the *Deep Sky Forum* in October 2020.

Starfish and Triggerfish:

This Tahitian asterism is the dark nebula of the Milky Way between the Coal Sack Nebula (see Coal Sack, above) and the galactic bulge near the IAU constellation Scorpius. The Tahitians saw them as eating the dark mist.

Starfish Galaxy:

This **telescopic** asterism is the irregular galaxy NGC 6240 in the IAU constellation Ophiuchus. It was discovered by Édouard Stephan in 1871. It became GC 5833 in the *General Catalogue* of 1864. Astronomer Greg Crinklaw refers to it as the "Rumpled Starfish" in the Skyhound archive

(https://observing.skyhound.com/archives/jun/NGC_6240.html). It is also known as the "Cylon Spaceship of Ophiuchus".

Stargate:

There are two **telescopic** "stargate" asterisms:

- One, Canali 1, is found in the IAU constellation Corvus, 1 degree southwest of the Sombrero Galaxy, Messier 104. This is a triangle within a triangle with blue/white stars varying between magnitude 6.6 to 11. The outer triangle includes the stars HIP 61486 and the double star HIP 61449. The inner triangle includes the double star HIP 61466. Size 8' X 8'. It was first catalogued by Frederick Georg Wilhelm von Struve (1793 – 1864) as STF 1659 in his double/multiple star catalogue. This is Harrington 20 on the asterism list of American astronomer Phil Harrington. German astronomer Robert Zebahl lists it as Canali 1 on his *Faint Fuzzies* website. Jeffrey Corder lists it as Corder 2381.
- One is the open cluster NGC 6416 in the IAU constellation Scorpius. It was discovered by Scottish astronomer James Dunlop in 1827. John Herschel listed it as h 3702 and later as GC 4323 in the *General Catalogue* of 1864. It was given this name by American astronomer Wayne Schmidt.

Note: The first "stargate" appeared in the 1970's *Buck Rogers* TV series, so the name can't predate this. Stargate later became the name of a military science fiction franchise created by Roland Emmerich and Dean Devlin and first appeared as a film in October 1994.

Starry Night:

This **telescopic** Dutch star "Sterrennacht" is HAT-P-6 in the IAU constellation Andromeda (magnitude 10.47). It was given this name in the IAU NameExoWorlds campaign. It honors Vincent van Gogh's painting *The Starry Night.* It has an exoplanet named Nachtwacht ("night watch"), which is a famous painting by Rembrandt.

Starry One and Lightful One:

This Latin asterism "Astor and Polyleukes" is the IAU constellation Gemini as listed by R. H. Allen in his *Star Names* in 1899. Allen attributes this name to "Welke".

Starry Veil of Camelopardalis:

This **telescopic** asterism "Stellivelátus Camelopardális" is the intermediate spiral galaxy IC 342 (Caldwell 5) in the IAU constellation Camelopardalis. It was discovered by British astronomer William Frederick Denning in 1892. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "it is difficult to observe because it is hidden behind a veil of Milky Way stars." It is also known as the "Hidden Galaxy".

Stars:

This Egyptian asterism is the IAU constellation Scorpius as listed in the 19th dynasty *Cairo Calendar* (Hardy 2003). The *Cairo Calendar* passage reads: "Going forth of the stars, bitterly and openly". Leitz (1994) relates this to the Sethian decan and Locher (1981) as the middle decan of a large boat asterism containing Alpha (α) Scorpii (Antares). Davis (1985) also places the constellation of the boat in this part of the sky.

This Latin asterism “Astrya” (“stars”) is the IAU constellation Virgo as listed on the *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638)

This Japanese sei shuku or lunar station “Hotohori Boshi” is a bent line of stars in the IAU constellation Hydra. The line starts with Iota (ι) Hydrae and runs through Tau (τ) 1 and 2 Hydrae, Alpha (α) Hydrae (Alphard), and 27 Hydrae, ending at 26 Hydrae.

This Arabic asterism “Al Auʾā” is some stars below Beta (β) Aquarii (Sadalsuud) in the IAU constellation Aquarius as listed by Persian lexicographer Fairūzābādī (فیروزآبادی), also known as el-Fīrūz Abādī”, “al-Fayrūzabādī (الفيروزآبادي) and “Firuzbadi” (1329–1414) in his *al-Qamous* (القاموس) dictionary. R. H. Allen lists this in his *Star Names*.in 1899

This Polish asterism “Asterion” (Αστερίων) is part of the IAU constellation Canes Venatici. Polish astronomer Johannes Hevelius (1611 – 1687) created this constellation in his *Prodromus Astronomiae* (1690), which depicts two hunting dogs on leashes next to Boötes: Asterion corresponding to the star Alpha (α) Canum Venaticorum and Chara corresponding to the star Beta (β) Venaticorum. Hevelius was the first to list Canes Venatici as a separate constellation (see Canes Venatici, above, and Northern and Southern Dogs, above). Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists this as the name of one of two “jagdhunde” on leashes held by Boötes. Scottish uranographer Alexander Jamieson (1782 – 1850) lists this star as “Asterion” it in his *Celestial Atlas* in 1822. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 writes that “Hevelius had already made this the lucida of Chara’s collar”. The name Chara has now been assigned to Beta (β) Canum Venaticorum by the IAU, but the name Asterion is also used for this star. Alpha (α) Canum Venaticorum became “Cor Caroli” (see Charles’ Heart, above).

This **telescopic** U’wa star “Uúba” is the G type star LTT 9779 in the IAU constellation Sculptor (magnitude 10.55). It received this name in the IAU’s NameExoWorlds competition in 2022. Uúba is the U’wa word for “stars”, “seeds”, and “eyes”. It has an exoplanet LLT 9779b, “Cuancoá”, which is a reference to the morning star.

Stars Coming Out at Dawn:

This Basuto asterism “Ma-gakgala” was the stars Beta (β) Orionis (Rigel) and Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion, Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major, and Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor (Holbrook and Baleisis 2007, Slotegraaf 2013). When these stars were visible in the early evening it was time to harvest the corn. Other peoples who used this same asterism include:

- Lobedu: “Mahakala”,
- Northern Sotho: “Magakgala”, and
- Tswana: “Magakgala”.

Star’s Neighbor of Aries:

This **telescopic** asterism “Astrogíton Aríetis” is the elliptical galaxy NGC 821 in the IAU constellation Aries. It was discovered in 1786 by English astronomer William Herschel who listed it as “I 152”. It became GC 487 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). This name refers to the galaxy appearing near the 9.2 magnitude star HIP 9964.

Stars of Abundant Rain:

This Arabic asterism is three stars in the IAU constellation Gemini: Eta (η), Mu (μ), and Nu (ν) Geminorum.

Stars of Hope:

This Finnish asterism "Toivon Tähdet" is the Big Dipper asterism in the IAU constellation Ursa Major.

Stars of Phoebus:

This Latin asterism "Phoebi Sidus" is the IAU constellation Gemini as listed by 1st century Roman poet Marcus Manilius. The twins Castor and Pollux are called this as they are under Apollo's protection.

This Namaqua KhoiKhoi asterism is the Pleiades cluster in the IAU constellation Taurus (Slotegraaf 2013).

Stars of Summer:

This asterism is in the IAU constellation Sagittarius. *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), describes this as a "splendidly rich region around Sagittarius. This is probably a reference to the Scutum, and Sagittarius Star Clouds in this area of the sky.

Stars of the Cane:

This Estonian asterism "Sauatähde" is a line of three stars in the IAU constellation Orion (Kuperjanov 2006): Kappa (κ) Orionis, Alpha (α) Orionis (Betelguese), and Gamma (γ) Orionis (Bellatrix).

Stars of the Flock:

There are two Arabic asterisms with this name "al-kawākib al-firḳ":

- One is the stars Alpha (α) Cephei (Alderamin), Beta (β) Cephei (Alfirk), and Eta (η) Cephei in the IAU constellation Cepheus as listed by Persian astronomer Ulugh Beg Mirza (1394 – 1449).
- One, latinized to "Kabalfird" is the star Eta (η) Cephei in the IAU constellation Cepheus.

Stars of the North Pole:

This Japanese asterism "Hokkyoku" " is depicted on the ceiling of the 17th or 18th century Takamatsuzuka (Miyajima 2014).

Stars of the Shepherd:

This Romanian asterism is the Pleiades cluster in the IAU constellation Taurus (Ottescu 2009).

Stars of the Year:

This Carib asterism "Siritjo" is the Pleiades cluster in the IAU constellation Taurus (Magaña, and Jara, 1982).

Stars of Tištriia:

This Zoroastrian asterism "Tištriiaēinī" is the IAU constellation Canis Minor (Panaino 1999). Panaino notes that this was probably "a deformation, after paoiriiaēinī-, of an earlier (patronimic) stem like *tištriianī-, "the wives/daughters of Tištriia", "the stars who belong to Tištriia"".

Stars of the Three Maidens:

This Lithuanian asterism “Trejų mergelių žvaigždės” is the belt of Orion asterism in the IAU constellation Orion.

Stars of Three Kings:

This Lithuanian asterism “Trijų karalių žvaigždės” is the belt of Orion asterism in the IAU constellation Orion.

Stars of Water:

This ancient Egyptian asterism “Sebau nu mu” is found in the Ramesside star charts on the ceiling of three tombs in the Valley of the Kings (New Kingdom, 20th Dynasty) and Ethnoastronomers give two different versions of this ancient Egyptian asterism:

- One version is a quadrilateral of the stars 35 Cancri and HIP 42673, 42628A, and 42201 in the IAU constellation Cancer adjacent to Messier 44, the Beehive Cluster (see Beehive, above).
- The other version is Messier 44, the Beehive Cluster (see Beehive, above).

Star’s Queen:

This Romanian star “Regina Stelelor” is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra (Ottescu 2009).

Start of Dry Season:

This Anindilyakwa asterism is the stars Lambda (λ) Scorpii and Upsilon (υ) Scorpii in the IAU constellation Scorpius (Clarke 2009, Hamacher and Norris 2011). We know that it marked the beginning of the dry season, but Hamacher et al did not have a precise name for it.

Station of Boötes:

This **telescopic** asterism “Státio Boótis” is the barred spiral galaxy NGC 5544 (Arp 199) in the IAU constellation Boötes. William Herschel listed it as “II 419”. John Herschel listed it as h 1771 and later as GC 3833 in his *General Catalogue* in 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “NGC 5544 has a remarkable quiet aspect, although it is approached by its companion NGC 5545. This approach could be seen as the arrival of a train at a station.” It is also known as the “Exclamation Mark”.

Station of Descent:

This Coptic lunar mansion “Termelia” (“Station of Descent” or “Station of Influence”) is stars in the IAU constellation Cancer as listed by W.B. Yeats in *A Vision* in 1917, taking this from German Jesuit astronomer Athanasius Kircher’s *Lingua Aegyptiaca Restituta* in 1636, where Kircher described it as “statio discensus seu influentiae”. The degree values for location listed by Kircher were invalid, so it is difficult to say which stars this was meant to be.

Station of Horus:

This Coptic lunar mansion “Ôrias” is the Pleaides cluster in the IAU constellation Taurus as listed by English author W.B. Yates in *A Vision* in 1917, which was derived from German Jesuit astronomer Athanasius Kircher’s *Lingua Aegyptiaca Restituta* in 1636, in which Kircher describes as “statio Hori”

("station of Horus") and "the hen of the skies with her daughters/chicks". John Hill lists it as "Orias" and describes it as the entire constellation Taurus in his *Urania* in 1754.

Station of Love:

This Coptic asterism "Asphulia" is the stars Beta (β) Leonis (Denebola) and Theta (θ) Leonis in the IAU constellation Leo. R. H. Allen translates this as "perhaps tail" in his *Star Names* in 1899. Allen writes that German scholar Athanasius Kircher listed "Ἀσπολια" ("Áspolia") as a Coptic asterism in Virgo. W.B. Yeats lists it as "Mansion of Love" in *A Vision* in 1917, which George Yeats derived from German Jesuit astronomer Athanasius Kircher's *Lingua Aegyptiaca Restituta* in 1636, where Kircher listed it as "Statio Amoris" ("station of love"). It appears in the *Astronomica* of 1st century Roman poet Marcus Manilius, specifically an English translation by Edward Sherburne in 1675 as "Aspholia" and, is listed in John Hill's *Urania* in 1754 and by R. H. Allen in his *Star Names* in 1899.

Station of the Atonement:

This Coptic asterism "Chambalia" is made up of stars in the IAU constellation Libra. W.B. Yeats listed it as "Mansion of Propitiation" in *A Vision* in 1917, derived from German Jesuit astronomer Athanasius Kircher's *Lingua Aegyptiaca Restituta* in 1636, in which Kircher described it as "Statio Propitationis" ("Atonement Station"). John Hill lists it as "Λαμβαδία" ("Lamvadía" or "Lambadia") in his *Urania* in 1754.

Station of Isis:

This asterism "Ἰσιας" ("Isias") or "Statio Isidis" is the IAU constellation Scorpius as described by German Jesuit scholar and polymath Athanasius Kircher (1602 – 1680) and listed in R. H. Allen in his *Star Names* in 1899.

Stationary of Draco:

This **telescopic** asterism "Stásimus Dracónis" is the barred Magellanic spiral galaxy NGC 4236 (Caldwell 3) in the IAU constellation Draco. William Herschel listed this as "V 51". John Herschel listed it as h 1163 and later as GC 2825 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as "the redshift of this galaxy is zero (within the accuracy of measurement).

Statue of Liberty Nebula:

This **telescopic** asterism is HII region NGC 3576 in the IAU constellation Carina. It was discovered by English astronomer John Herschel in 1847 who listed it as h 3324 in his catalogue. It is GC 2333 in the *General Catalogue* of 1864. Dr. Steve Mazlin of the Star Shadows Remote Observatory gave it this name in 2009. It is also known as the Torch Bearer Nebula (see below) and the Little Tarantula (see above).

Stažary:

Variants of this Belarussian name is used for several asterisms (Avilin 2018):

- "Stožar", "Stažary", "Stažarje", and "Sažór" are all used for the IAU constellation Ursa Major,
- "Stažary", "Stažerka", "Stazherka", and "Stažarja" are used for the Pleiades cluster in the IAU constellation Taurus.

NOTE: There is an Estonian variant of this name used for the IAU constellation Corona Borealis (Avilin 2018).

Steadfast of Virgo:

This **telescopic** asterism "Fírmus Vírginis" is the edge-on galaxy NGC 5775 in the IAU constellation Virgo. William Herschel listed this as "III 554". John Herschel listed it as h 1885 and later as GC 4004 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "this galaxy forms a physical pair with NGC 5774 but is surprisingly not deformed". NOTE: Astronomer William Parsons, 3rd Earl of Rosse first recorded NGC 5774 (GC 4003).

Stealth Bomber:

This **telescopic** asterism is LeDrew 7 in the IAU constellation Ophiuchus. German astronomer René Merting lists it on the *Faint Fuzzies* website. Its size is 40' X 40'. Merting describes this asterism as resembling "an American stealth bomber flying north – the five brightest stars from a relatively equiangular south-opening triangle- within the triangle are three fainter stars tracing from NE to SW."

Stealthy of Virgo:

This **telescopic** asterism "Furtíva Vírginis" is the elliptical galaxy NGC 4261 in the IAU constellation Virgo. It was discovered in 1784 by William Herschel who listed it as "II 139". It became GC 2842 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name due to its unexpected radio and x-ray activity.

Steel Star:

This Sardinian star is Alpha (α) Canis Majoris in the IAU constellation Canis Major (Lite, Lodina, and Ignat 2018).

Steenbok:

The /Xam see the Magellanic Clouds as steenbok, one male, and one female (Alcock 2014). Other San tribes view the IAU constellation Pavo or the star Alpha (α) Pavonis as a female steenbok.

Steenbok Hunter:

This G/wi asterism "khwe g=ei/ui" ("man who shoots steenbok") is the IAU constellation Orion (Alcock 2014).

Steenboks:

This G/wi asterism is Alpha (α) Aquilae (Altair) in the IAU constellation Aquila and Alpha (α) Lyrae (Vega) in the IAU constellation Lyra (Alcock 2014). Altair is the Female Steenbok (see above) and Vega the Male Steenbok (see above).

Steering Star:

This English star is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor as listed in R. H. Allen's *Star Names* in 1899. Allen attributed this to "early English navigators".

Stepanian's Star:

This **telescopic** 14th magnitude flare star is LX Serpentis in the IAU constellation Serpens. It is named after Jivan A. Stepanian.

Stephan's Quintet:

This **telescopic** asterism is a quintet of galaxies in the IAU constellation Pegasus:

- Spiral galaxy NGC 7320,
- Distorted barred spiral galaxy NGC 7319,
- A pair of colliding galaxies, NGC 7318a and 7318 b, and
- Elliptical galaxy NGC 7317.

It is named for French astronomer Édouard Stephan who discovered it in 1877. It is also listed as Hickson 92 and Arp 319. NOTE: NGC 7319 appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010) as "Stephánicus Pégasi" ("belonging to Stephan") and NGC 7320 appears as "Pseudostephánicus Pégasi" ("apparently belonging to Stephan"), this latter name a reference to this galaxy being in front of the group.

Stephan's Test:

This **telescopic** asterism is in the IAU constellation Pegasus. It is a jagged line of faint stars (the faintest being magnitude 14.7) located 17 arcminutes NE of the compact galaxy group Stephan's Quintet (NGC 7320, 7319, 7318 (a & b), NGC 7317). It was used by French astronomer Édouard Jean-Marie Stephan (1837 – 1923) to test transparency.

Stephen:

This German asterism "Stephen" or "Saint Stephen the Martyr" is the IAU constellation Cepheus and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures. This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "S. Stephanus Al Cepheus". It later appears in Edward Sherburne's *Sphere of Marcus Manilius* in 1675 and in John Hill's *Urania* in 1754.

Steps in a Snowbank:

This Inuit asterism is the three stars of the belt of Orion in the IAU constellation Orion (MacDonald 1998). It is also known as "Runners" (see above).

Sterrennacht:

See Starry Night, above.

Stetson:

One is in the IAU constellation Horologium and is Ennis 59 on the observing list of Canadian astronomer Charles Ennis. Size 45' X 25'. The "brim" of the hat is the line of 8th to 9th magnitude stars including Gaia DR3 4745000948597002368, HIP 11702, HIP 11732, HD 15774, SAO 232797 and HIP 11661. The "top" of the hat is a curve stars including HD 15911, SAO 232810, HD 16135, HIP 11963 and the double star HIP 11877A. This includes stars of Corder 395 on Jeffrey Corder's list.

Stetsonus:

This American asterism is the IAU constellation Libra and was created by Brad and Kathryn Templeton for *The Vault of Heaven* star map for the 2004 Burning Man event held in Black Rock Desert in Nevada (Kuperjanov 2006). It is depicted as a Stetson cowboy hat.

Stick:

This Finnish asterism "Korento" is the Belt of Orion asterism in the IAU constellation Orion.

Stick Man:

This asterism is in the IAU constellation Carina and is Corder 1664 on the observing list of American astronomer Jeffrey Corder. Size 300' X 120'. The "head" is Epsilon (ε) Carinae, the hands the double stars HIP 42134A and 42129A. The "body" is HIP 42568. The "feet" are HIP 43783 and the double stars HIP 43937 and 441343.

There are four **telescopic** "stick man" asterisms:

- One is listed in the in the *Midnight Ramblings* 1A logbook of Edmonton RASC member Randy Pakan in August 1989. It is in the middle of one of the clusters that form part of the Double Cluster: Open cluster NGC 884 (the other half being open cluster NGC 869). A group of stars between magnitude 7 and 9 form a stick man figure with a semicircular "crown" of stars above his head.
- One is "Maas 3" from the asterism list of American astronomer Steve Mass in the IAU constellation Scorpius. Its size is 8'. The brightest star is HD 157486 (magnitude 6.14). This is listed on the SOCO (Sentinel of the Caprock Observatory) list.
- One is in the IAU constellation Centaurus and is Ennis 75 on the observing list of Canadian astronomer Charles Ennis. Size 15'. The "head" is the double star HIP 68575A and the "body" is the star HIP 68598. From this last star four lines form the "arms" and "legs": His "left hand" is Gaia DR3 6089291348211410176. His "left leg" is HD 122357 and HD 122377. His Right "knee" is HD 122295. Fainter stars form his right "arm". Jeffrey Corder lists these stars as a "y" shape, Corder 2589 (see "Y" below).
- One is Ennis 22 on the observing list of Canadian astronomer Charles Ennis and is in the IAU constellation Pegasus:
    - The stick man's "head" is a triangle formed by the double stars Alpha (α) Andromedae (Alpheratz) and HIP 544 and the star HIP 540.
    - The "neck" is HIP 540 and 502,
    - One "arm" runs from HIP 502 to HIP 778,
    - The other "arm" runs from HIP 502 to HIP 121
    - The stick man's "hips" are represented by the star HIP 410. From this star one "leg" runs out to a "foot" at the double star HIP 399 and the other to a "foot" at the double star 85 Pegasi.

Sticks:

This Sardinian asterism "sos bacheddos" is the belt and sword of Orion in the IAU constellation Orion. Compare to the Sardinian asterism Three Marias (see below) which is the belt of Orion in the IAU constellation Orion.

Sticky Ones:

This Finnish asterism “Keppiset” is the Belt of Orion asterism in the IAU constellation Orion.

Sting:

This Arabic star “al-Lasʿah” (اللسعة) is Upsilon (υ) Scorpii in the IAU constellation Scorpius:

- This was later latinized to “Lesath”, “Lesuth”, and “Alascha”.
- German astronomer Johann Bayer (1572-1625) lists “Leschat”.
- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) lists “Lessa Elaakrab”.
- “Alascha” is listed on gores of the globe of Petrus Plancius published in 1598 by Jodocus Hondius.
- Robert Hues lists “Leschat” and “Lesath” in his *A Learned Treatise of Globes* in 1659.
- Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists this star as ”Lesath”.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists this star as “Lesath” in his *Celestial Atlas* in 1822.
- This is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852 as “Lesath”: The author is unknown, but it is based on Jamieson’s *Celestial Atlas*.
- The IAU approved the name Lesath for Upsilon (υ) Scorpii.

This Coptic lunar station “Minamref” is the stars Lambda (λ) and Upsilon (υ) Scorpii in the IAU constellation Scorpius as listed by R. H. Allen in his *Star Names* in 1899.

This Babylonian asterism “dSAR.UR” or “MUL.SAR.UR” from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) is the star Lambda (λ) Scorpii in the IAU constellation Scorpius. It appears in the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period as “mul.sar-ru” (Koch-Westenholz 1995). NOTE: This is also translated by Koch-Westenholz as “liar”.

This Babylonian asterism “SHAR.UR” ” as listed in Anthony Hope’s *A Guide to Ancient Near Eastern Astronomy* in 1996 is described as “Lambda [λ] or Upsilon [λ] Scorpii [in the IAU constellation Scorpius]”.

This Seleucid star “Sharur” is Lambda (λ) Scorpii in the IAU constellation Scorpius. Compare this to the Akkadian asterism Sharuru, below and the Chaldean asterism Sarur, above.

This Akkadian star “Sharuru” or “Sarur” (Hunger 1992) from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) is Lambda (λ) Scorpii in the IAU constellation Scorpius. Compare this to the Seleucid asterism Sharur, above and the Chaldean asterism Sarur, above.

This Chaldean star “mul sar.ur” or “dSAR.UR” (Hunger 1992) from the *Great Star List* (Koch-Westenholz 1995) or “Sarur” of the Neo-Babylonian (Chaldean) period is Lambda (λ) Scorpii in the IAU constellation Scorpius. Compare this to the Seleucid asterism Sharur, below, and the Akkadian asterism Sharuru, below.

This Persian star “SAR.UR” from the list of Masu Stars from the K 250 and VAT 9418 lists of the Persian (Achaemenid) Period (539 – 331 B.C.E.) is Lambda (λ) Scorpii in the IAU constellation Scorpius (Boll 1918, Jeremias 1929). Ernst Weidner lists it as “sar-ur” in his *Fixsterne* in 1971.

Sting of Pisces:

This **telescopic** asterism “Acúleus Píscium” is the galaxy NGC 100 in the IAU constellation Pisces. It was discovered by American astronomer Lewis Smith in 1885. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010). It is also known as the “Ghostly Streak”.

Sting of the Scorpion:

This Babylonian asterism “ziqit GÍR.TAB” as listed in Anthony Hope’s *A Guide to Ancient Near Eastern Astronomy* in 1996 is Lambda (λ) and Upsilon (υ) Scorpii.

There are two Arabic asterisms with the name “ibrat al-‘aqrab” (“sting of the scorpion”) or simply “al-ibra” (الإبرة “the sting”):

- One is the stars Lambda (λ) Scorpii and Upsilon (υ) Scorpii in the IAU constellation Scorpius:
    - “al-Ibra” was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010): Hafez translates this as “needle”.
- Dorn (1829) lists this as “Sting of the Scorpion’s Tail” and describes it as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya’ al-Qazwini (1203 – 1283).
- One is the open cluster Messier 7 (NGC 6475) in the IAU constellation Scorpius. It was translated by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) as “the nebulous star to the rear of the sting” in his *Book of the Fixed Stars* in 964 as (Hafez 2010).

Stinger:

This Sumerian star “Sargas” is Theta (θ) Scorpii in the IAU constellation Scorpius. The meaning of this name is unknown. The IAU approved the name Sargas for Theta (θ) Scorpii A in 2016. Compare this to Sargaz, below.

This Babylonian star “MUL.SAR.GAZ” or “dSAR.GAZ” from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) is Nu (ν) Scorpii in the IAU constellation Scorpius. This star appears in later Seleucid sky lore.

This Chaldean star “mul sar.gaz” from the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period (Koch-Westenholz 1995) and “dSAR.GAZ” or “MUL.SAR.GAZ” from the *Astrological Reports to the Assyrian Kings* (Hunger 1992) is Upsilon (υ) Scorpii in the IAU constellation Scorpius.

This Babylonian star “SHAR.GAZ” as listed in Anthony Hope’s *A Guide to Ancient Near Eastern Astronomy* in 1996 is listed by Anthony as “Lambda [λ] or Upsilon [υ] Scorpii [in the IAU constellation Scorpius]”.

This Assyrian asterism “Sargaz” (Hunger 1992) from the *Astrological Reports to the Assyrian Kings* is Upsilon (υ) Scorpii in the IAU constellation Scorpius.

This Akkadian star “Shargaz” or “Sargaz” from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) is Upsilon (υ) Scorpii in the IAU constellation Scorpius. This star appears in later Seleucid sky lore.

This Persian star “SAR.GAZ” from the list of Masu Stars from the K 250 and VAT 9418 lists of the Persian (Achaemenid) Period (539 – 331 B.C.E.) is Upsilon (υ) Scorpii in the IAU constellation Scorpius (Boll 1918). Compare this to Sargas, above.

This Zoroastrian star “Vanant” is Iota (ι) 2 Scorpii in the IAU constellation Scorpius. Note: There have been a lot of early opinions on the identity of this star. R. H. Allen writes in his *Star Names* in 1899 that “Vanant” is a Persian name for Alpha (α) Aquilae (Altair) in the IAU constellation Aquila and cites “Mr. J. F. Hewitt’s Essays on the Ruling Races of Prehistoric Times”: This is English essayist J. F. Hewitt (1805 – 1938). Elsewhere in *Star Names* Allen gives it as a name for the IAU constellation Corvus, again citing Hewitt. Elsewhere Allen writes that the American astronomer William L. Elkin (1855 – 1933) lists “Vanand” as a Persian name for either the star Alpha (α) Canis Minoris (Procyon) or Alpha (α) Canis Majoris (Sirius). Still further on Allen suggests it may be a name for Theta (θ) Scorpii and then says that these names are “generally used for our Regulus [Alpha (α) Leonis]”. Basically, in Allen’s day they had no idea which star it referred to. Panaino (1999) lists it as Alpha (α) Lyrae (Vega) and translates “Vanant” as “the winner”. It is currently listed on Stellarium as Iota (ι) 2 Scorpii.

Stinging Scorpion:

See Scorpion, above.

Stingray:

This Kedahan and Mah Meri asterism, “Pari”, also known as “Muyang Pari” or “Ancestor of the Stingray” (Orang Asli) is the stars of the Southern Cross asterism in the IAU constellation Crux (Jaafar and Khairuddin 2019). This is related to a story of a boy born as a stingray to a poor family because he was originally a fairy prince. He later married a fairy princess, and they moved up into the sky.

This Sasak and Yolgnu asterism is the stars of the Southern Cross asterism in the IAU constellation Crux (see Southern Cross, above).

This Palawa asterism is the Coal Sack nebula in the IAU constellation Crux (see Coal Sack, above).

This Sama asterism “Mamahi Pagi” is the stars of the Southern Cross asterism in the IAU constellation Crux (Ambrosio 2008).

This Nuenone asterism “Larder” is the Coal Sack Nebula (Gantevoort 2015).

This Pyemmairrerener asterism “Pyerdreemme” or “Tonenermuckkellenner” is the Coal Sack Nebula (Gantevoort 2015).

This Paredarerme asterism “Larner” is the Coal Sack Nebula (Gantevoort 2015).

The stars of this Apinajé asterism “Bience d” or “Bieneyéd” are unidentified at present (Lima and De M. Figueirôa, 2007).

There are six **telescopic** “stingray” asterisms:

- One is the open cluster NGC 1342 in the IAU constellation Perseus. It was discovered by William Herschel in 1799 and listed in his catalogue as “VIII 88”. It is GC 717 in the *General Catalogue* of 1864. It is located almost halfway between Beta (β) Persei (Algol) and Zeta (ζ) Persei. It is also known as the Scorpion or the Sea Robin.
- Another is planetary nebula Hen 3-1357 in the IAU constellation Ara. It appeared in the 1980s. It was recorded by American astronomer, space scientist and astronaut Karl Gordon Henize in 1967.
- One is Ennis 10 in the IAU constellation Cetus, listed by Canadian astronomer Charles Ennis. It is the cluster Simonic 114. This is centered on HIP 10444, which forms the base of the “tail”, a line

of four 12th – 13th magnitude stars. The "body" is a pentagon of 9th – 10th magnitude stars including HIP 10444, SAO 148288, and Gaia DR3 5150317046680641280 with several 11th – 12th magnitude stars inside.

- One is in the IAU constellations Cassiopeia and Cepheus and is Ennis 30 on the observing list of Canadian astronomer Charles Ennis. The "body" is outlined by a parallelogram of stars: HIP 9568, double stars 47 and 49 Cassiopeiae and HIP 9494A, HIP 9147, HIP 8082, HIP 7557, HIP 6914, double star HIP 6661A, HIP 6347, HIP 6378, HIP 6379, HIP 6261, HIP 6718, double star HIP 7846, and HIP 8908. The "tail" runs from the double star HIP 5950 through 5070 to the "tip" formed by 23 and 21 Cassiopeiae.
- One is in the IAU constellation Taurus next to the Pleiades cluster and is Ennis 38 on the observing list of Canadian astronomer Charles Ennis. The "body" is the four stars HIP 18046, HIP 18106, HIP 18201, and the double star HIP 17954A. A curving line of six stars starting at HD 24152 and running through HD 24178, HD 24205, HIP 18163, and HIP 18230 to HIP 18330 forms the "tail". This includes stars of Corder 596.
- One, "Dasyátis Úrsae Majóris" ("Stingray of Ursa Major") is the merging galaxy UGC 5101 in the IAU constellation Ursa Major. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "this remarkable complex with its long straight tail and square body resembles a stingray."

Stirrer Up of Rain:

This Arabic star "al-mijdah" or "al-Mujdah" is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus. It sets about a week after the Pleiades, marking the beginning of another rainy period. In the older rain star calendar of Qushayr it is listed as an indicator of a period of summer heat. "al-Mijdah" is listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

Stomach:

This Chinese xiù (lunar mansion) "Wèixiù" (胃宿) is a triangle of stars in the IAU constellation Aries: 41, 39, and 35 Arietis. In the *Han shu*, a history of the early Han dynasty that was finished in 111 C.E. this xiù "Wèi" was associated to matters concerning the Xuzhou territory. This xiù appears in the Tang Dynasty as "Wèi" (胃) and is compared to the Vedic nakshatra Bharani (Kotyk 2017, see Bearer, above). This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore. The Koreans call this "Stomach of Tiger" (see below).

This Chinese Chenzhuo xing guan "Wèixiù" is a line of two stars in the IAU constellation Aries: 35, 39 and 41 Arietis.

This Japanese sei shuku or lunar station "Ekie Boshi" is a triangle of stars in the IAU constellation Aries: 35, 41 and 39 Arietis.

Stomach of Tiger:

This Korean lunar mansion "Wii" is identical to the Chinese xing guan "Stomach" (see above).

Stone of Destiny:

This Irish asterism is the IAU constellation Cepheus. This asterism is found in Julie Ormonde's *Constellation Stories of Ancient Ireland* (2015). This is a reference to the Lia Fáil, a coronation stone on the Hill of Tara in County Meath.

Stone of the Digging Stick:

See Digging Stick, above.

Stones Thrown at Birds:

This Gond asterism "Mogari", "Mongari", "Kutpari", "Thengari" or "Mundari", is the Pleiades cluster in the IAU constellation Taurus (Vahia 2014).

Stopping Place:

This Japanese moon station "Subaru" (昴) or "Subaru Boshi", sometimes translated as "united" or "getting together", is the Pleiades cluster in the IAU constellation Taurus (Renshaw and Ihara 2001).

Storage for Lady:

This Korean asterism "Sugnyeoleul Wihan Jeojang" (숙녀를 위한 저장) is a triangle of stars in the IAU constellations Aquila and Aquarius: 69, 70, and 71 Aquilae and 1 Aquarii.

Storage from the Puna:

This Quechua asterism "Puna Piura" is the Large Magellanic Cloud (Ciancia 2018)

Storage from the Valleys:

This Quechua asterism "Valli Piura" is the Small Magellanic Cloud (Ciancia 2018).

Store of Millet:

This Korean asterism "Gijang Gage" (기장 가게) is a line of four stars in the IAU constellation Taurus: Omicron (o), Xi (ξ), 4, and 5 Tauri.

Stored Water:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is the star 43 Persei in the IAU constellation Perseus.

This Chinese xing guan "Jīshuǐ" (积水) is the star Lambda (λ) Persei in the IAU constellation Perseus.

This Chinese Chenzhuo xing guan is the star Lambda (λ) Persei in the IAU constellation Perseus.

Storehouse:

There are three Quechua asterisms by this name:

- One Inca and Quechua asterism "Colla", "Collca", or "Qollqa" is the Pleiades cluster in the IAU constellation Taurus (Gamarra & Gamarra 2009, Brosseder 2010). They also called it "Oncoy" (see Disease, above), "Larilla", "Fur", and "Pugllaiguaico". They considered the Pleiades to be the mother of all stars and used this cluster as a signal regarding their maize harvest. Urton (1981) lists a version found in Misminay as "Collca".

- One Quechua asterism “Collca” from Quispihuara is the tail of the IAU constellation Scorpius (Urton 1981).
- One Quechua asterism “Collca” from Sonqo and Yucay is the Hyades cluster in the IAU constellation Taurus (Urton 1981).

Storehouse for Cereals:

This Korean asterism “Gogmul Chang-go” (곡물 창고) is a curve of stars in the IAU constellations Cetus, Pisces, and Taurus. The line starts at the star Lambda (λ) Ceti and runs through Mu (μ), Xi (ξ) 1 and 2 Ceti, HIP 9926 and 9576, Alpha (α) Piscium (Alrescha), and 60 Ceti, 66 Ceti, 75 Ceti, Delta (δ) Ceti, Gamma (γ) Ceti, Alpha (α) Ceti (Menkar), and Kappa (κ) 1 Ceti, ending at 10 Tauri.

Storehouse of Rain:

This Kongo asterism “za lunda emvula” (“storehouse or gathering place of rain”) is the Pleiades cluster in the IAU constellation Taurus.

Storehouse of Sky:

This Korean asterism “Haneul-ui Chang-go” (하늘의 창고) is a bending line of stars in the IAU constellation Cetus: Iota (ι), Eta (η), Theta (θ), Zeta (ζ), Tau (τ), and Upsilon (υ) Ceti.

Stork:

This Latin asterism “Ciconia” is the IAU constellation Ophiuchus as listed in the 1551 edition of the *Almagest*. Johann Bayer’s *Uranometria* (1603) lists “Ciconia Serpenti” (“serpent stork”) as an alternative name for this constellation. John Hill lists “Ciconia” as “one of the Arabian constellations” in his *Urania* in 1754. Hill claims that it was given this name as “they were not permitted by their law to draw human figures.” R. H. Allen lists it in his *Star Names* in 1899, but not as Arabic.

This Egyptian asterism “Pelargos” is one of the paranatellonta of the decans of Sagittarius as listed in *the Sphaera Barbarica* described by Teucros (Mosenkis, date n/k) and is the IAU constellation Cygnus.

This German asterism is the IAU constellation Grus as named by German poet Philipp von Zesen (1619 – 1689).

This Carib asterism “Iaboura” formed by three unidentified stars near the IAU constellation Ursa Major (Magaña, and Jara, 1982).

Storm Bird:

This Akkadian asterism “Urakhga” is the IAU constellation Lyra as listed by R. H. Allen in his *Star Names* in 1899.

Stormy Clouds:

This **telescopic** asterism is the HII regions LBN 20, LBN 21, and LBN 22 in the IAU constellation Ophiuchus.

Storm of Canes Venatici:

This **telescopic** asterism “Thyélla Cánum Venaticórum” is the dwarf galaxy NGC 5195 (Messier 51b) in the IAU constellation Canes Venatici which is interacting with NGC 5194 (Messier 51). It was discovered

by French astronomer Charles Messier in October 1773. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "this companion of NGC 5194 is in a state of turbulence because of the perturbations caused by its giant neighbour".

Stormy of Cetus:

This **telescopic** asterism "Procellósus Céti" is the spiral galaxy NGC 578 in the IAU constellation Cetus. This was discovered by John Herschel in 1835, who listed it in his catalogue as "2418". It became GC 339 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as it resembles "a giant hurricane".

Straight Arm of Andromeda:

This **telescopic** asterism "Ithýdromus Andrómedae" is the spiral galaxies NGC 90 and 93 (Arp 065) in the IAU constellation Andromeda. It was discovered by R. J. Mitchell, an assistant to the 3rd Earl of Rosse, in 1854. These are listed in the General Catalogue of 1864 as GC 40 and GC 42. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the remarkable straight arm caused by tidal interaction".

Straight Gate:

This Chinese Chenzhuo xing guan "Zhimen" is the star 27 Ursae Majoris in the IAU constellation Ursa Major. It is part of their xing guan Purple Forbidden West Wall.

Straight Line:

This asterism is in the IAU constellation Cetus and is Corder 143 on the observing list of American astronomer Jeffrey Corder. Size 240' X 40'. This is Phi (ϕ) 1, 2, 3, and 4 Ceti.

There are twenty-four **telescopic** "straight line" asterisms:

- One is Sánta 148, listed in 2009 by Hungarian astronomer Sánta Gábor, which is a straight line of 9th – 12th magnitude stars in the IAU constellation Gemini including HD 250813. Gábor describes it as "next to 1 [Geminorum], very nice straight line of 6… NS".
- One is Sánta 45, listed in 2009 by Hungarian astronomer Sánta Gábor, which is a straight line of nine 8th – 12th magnitude stars in the IAU constellation Cancer.
- One is Sánta 151, listed in 2009 by Hungarian astronomer Sánta Gábor, which is a straight line of eight stars in the IAU constellation Draco. At one end of the line is 5th magnitude star HIP 89981 and at the other end of the line is 6.35 magnitude star HIP 89943.
- One is Cseh 35, listed by Hungarian astronomer Viktor Cseh, which is in the IAU constellation Pictor. Cseh describes it as a "very nice star group with 5 bright members, size 8' X 4', small line of stars in NE – SW direction". Jeffrey Corder lists this as Corder 1137.
- One is Lorenzin 3 on American astronomer Tom Lorenzin's asterism list and is in the IAU constellation Sagittarius. Size 30' X 2'. One end of the line is HIP 89410.
- One is "1-C-2" in the IAU constellation Hydra and is Corder 1604 on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Corder attributes this to John Raymond. Size 35'. This is 1, 2, and C Hydrae.

- One is in the IAU constellation Triangulum and is Corder 254 on the observing list of American astronomer Jeffrey Corder. Size 40' X 30'. Corder describes this as a "chain that includes at least 12 stars between magnitude 7.5 and 11. There is a 7th magnitude star at each end of the chain": These are HIP 7374 and 6786. The chain also includes HIP 7356, 7245, 7090, 7003, and 6950.
- One is in the IAU constellation Camelopardalis and is Corder 625 on the observing list of American astronomer Jeffrey Corder. Size 60' X 15'. This is five stars in a line with the 5th magnitude HIP 19018 in the middle and the optical double HIP 18880 and 18871 at one end and an optical double (7.90/8.80 magnitude) at the other end.
- One is in the IAU constellation Cancer and is Corder 1588 on the observing list of American astronomer Jeffrey Corder. Size 45'. This is four 9th magnitude stars including HIP 41130.
- One is in the IAU constellation Ursa Major and is Corder 2183 on the observing list of American astronomer Jeffrey Corder. Size 40' X 30'. This is five 7th – 10th magnitude stars including HIP 55803 and the double star HIP 56063.
- One is in the IAU constellation Columba and is Corder 1020 on the observing list of American astronomer Jeffrey Corder. Size 60' X 20'. This is four 6th – 9th magnitude stars including HIP 29217 and 28838 and the double star Pi (π) 1 and 2 Columbae.
- One is in the IAU constellation Pyxis and is Corder 1771 on the observing list of American astronomer Jeffrey Corder. Size 35' X 15'. This is five 8th magnitude stars including HIP 45083.
- One is in the IAU constellation Antlia and is Corder 1913 on the observing list of American astronomer Jeffrey Corder. Size 20' X 10'. This is four 7th – 9th magnitude stars including the double star HIP 48105.
- One is in the IAU constellation Vela and is Corder 2013 on the observing list of American astronomer Jeffrey Corder. Size 100' X 35'. This is four 4th – 6th magnitude stars including HIP 50799, 50903, 51014, and 51077.
- One is in the IAU constellation Sagitta and is Corder 4079 on the observing list of American astronomer Jeffrey Corder. Size 8'. This is four 8th – 9th magnitude stars including HIP 99494.
- One is in the IAU constellation Capricornus and is Corder 4268 on the observing list of American astronomer Jeffrey Corder. Size 40' X 15'. This is four 7th – 8th magnitude stars including HIP 103224, 103166, and 103114.
- One is in the IAU constellation Vulpecula and is Corder 4284 on the observing list of American astronomer Jeffrey Corder. Size 20' X 10'. This is six 7th – 9th magnitude stars.
- One is in the IAU constellation Aquarius and is Corder 4335 on the observing list of American astronomer Jeffrey Corder. Size 125' X 20'. This is seven 6th – 8th magnitude stars including HIP 104395, 104774, 104869, and 104939, and the double stars HIP 104294 and 104657A.
- One is in the IAU constellation Pegasus and is Corder 4351 on the observing list of American astronomer Jeffrey Corder. Size 60' X 20'. This is seven 8th – 9th magnitude stars including HIP 104853 and the double star HIP 104748A.
- One is in the IAU constellation Pavo and is Corder 4379 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is four 10th magnitude stars including HIP 105297.
- One is in the IAU constellation Pegasus and is Corder 4661 on the observing list of American astronomer Jeffrey Corder. Size 40' X 15'. This is six 8th – 9th magnitude stars including HIP 110623.
- One is in the IAU constellation Lacerta and is Corder 4677 on the observing list of American astronomer Jeffrey Corder. Size 45'. This is four 7th – 8th magnitude stars including HIP 110931.

- One, “Lineáta Dracónis” (“Straight line of Draco”), is the lenticular galaxy NGC 5866 (Messier 102) in the IAU constellation Draco. This was originally discovered by French astronomer Pierre Méchain in 1781. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of the “conspicuous sharp, dark dust lane”. It is also known as the “Spindle” (see above) and the Fool’s Gold Galaxy” (see above).

Straining:

This Zulu star “iNtsantsa”, or “Insansa” (“straining” or “pulling”) is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Holbrook and Baleisis 2007).

Strange:

This Chaldean star “mul a-hu-u” is listed in the *Great Star List* (Koch-Westenholz 1995) but the stars have not been identified.

Stranger:

This star is Beta (β) Cassiopeiae (Caph) in the IAU constellation Cassiopeia as listed by R. H. Allen in his *Star Names* in 1899. Allen does not identify the culture that this name originates from.

Stratero:

This German asterism is the IAU constellation Piscis Austrinus as listed on the charts of the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

Straw Hat:

This **telescopic** asterism is the open cluster NGC 1528 in the IAU constellation Perseus. It was discovered by the English astronomer William Herschel in 1790 and listed in his catalogue as “VII 61”. It is GC 820 in the *General Catalogue* of 1864. It is one of the side-by-side clusters known as the M & M Double Cluster (see above), the other being NGC 1545. This is the name given to NGC 1528 by American astronomer Wayne Schmidt, who describes it as a straw hat 17 arcminutes across. Astronomer Stephen James O’Meara’s *Hidden Treasures Catalogue* (2007) lists this as O’Meara 23, but doesn’t reference it to any name.

Strawberry Nebula:

This **telescopic** asterism is planetary nebula NGC 1535 in the IAU constellation Eridanus. It was discovered in 1785 by English astronomer William Herschel who listed it as “IV 26” in his catalogue. It is GC 826 in the *General Catalogue* of 1864. It is also known as the “Celestial Jellyfish”, “Cleopatra’s Eye”, and the “Ghost of Neptune Nebula”. American science fiction writer Jeff Medkeff (1968 – 2008) wrote in the DOCdb that “I later learned that this pn is often called the ‘Strawberry Nebula’ because of its strong red colour”. NOTE: This is interesting since all of the other observers whose observations I’ve read indicate its bluish colour.

Streak Nebula:

This **telescopic** asterism is NGC 2736, a part of the Vela Supernova Remnant in the IAU constellation Vela. This was discovered by English astronomer John Herschel in March 1835 and listed it as h 3145. It is GC 1745 in the *General Catalogue* of 1864. Herschel described it as “an extraordinary long narrow ray

of excessively feeble light" It is also known as the Pencil Nebula (see below) and the Herschel's Ray (see above).

Stream:

This asterism is the asterism Pouring Forth of Water (see above).

Strength of Charles:

This star "Eta Roboris Caroli" or "Robur Caroli" is Eta (η) Carinae in the IAU constellation Carina. Scottish astronomer James Dunlop referred to this star by this name in his observations of 1827, attributing the name to German astronomer Johann Elert Bode (1747 – 1826).

Stretched Net:

This Japanese sei shuku or lunar station "Chiriko Boshi" is a bent line of stars in the IAU constellation Hydra. It starts at the star Psi (ψ) Hydrae, takes a bend at Mu (μ) Hydrae, another bend at Lambda (λ) Hydrae, yet another at 39 Hydrae, and ends at Kappa (κ) Hydrae.

Stretched Out of Puppis:

This **telescopic** asterism "Exténtus Púppis" is the spiral galaxy IC 2375 in the IAU constellation Puppis. This was first recorded by American astronomer Herbert Alonzo Howe (1858 – 1926). This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "this remarkable double Markarian object looks like two distant torches in the sky".

Stretcher:

This Pawnee asterism is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above).

Stribor:

This Croatian star is HIP 43674 (HD 75898) in the IAU constellation Lynx and was given this name in the IAU NameExoWorlds campaign. It is named for Stribog, the God of Winds. It has an exoplanet named Veles, who was their God of Earth, waters, and the underworld.

Stride:

This Japanese sei shuku or lunar station "Tokaki Boshi" ("stride" or "foot") is a ragged oblong of stars of the IAU constellations Andromeda and Pisces:

- One side starts at 35 Andromedae, running down through Mu (μ) and Beta (β) Andromedae (Mirach), 82 Piscium, Tau (τ) Piscium, Upsilon (υ) Piscium, and Phi (ϕ) Piscium, ending with 84 Piscium.
- The other side runs down from 35 Andromedae through 29, Delta (δ), Epsilon (ε), Zeta (ζ), and Eta (η) Andromedae, ending with 84 Piscium.

Striking Both Sides Stars:

This Japanese asterism "Kanatsuki no Ryowaki Boshi", also known as "Waki Boshi" ("Two Wooden Blocks") or "Hyoushigi" ("Wooden Blocks") is the IAU constellation Orion:

- The stars Alpha (α) Orionis (Betelgeuse), Zeta (ζ) Orionis (Alnitak) and Kappa (κ) Orionis (Saiph) form one block, and
- The stars Gamma (γ) Orionis (Bellatrix), Delta (δ) Orionis (Mintaka), and Beta (β) Orionis (Rigel) form the other.

String:

See String of Pearls, below.

String of Beads:

There are two Arabic asterisms by this name:

- One is the star "an-nazm", "an-Niżm" (النّظم), or "al-Nazhm" is the star Epsilon (ε) Orionis in the IAU constellation Orion and is the star in the middle of the three stars forming the "belt" of the IAU constellation Orion.
    - "al-Nazm","Nazm al-Jauzā'", and "al-Nizām" are listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 as a name for the Belt of Orion (Hafez 2010).
    - NOTE: There is an Arabic asterism "String of Pearls" ("Salasil Min Alluwlu" (سلاسل من اللؤلؤ) above) which includes the star Alnilam.
    - The modern name Alnilam is probably a mistranslation by Latin translators in the 12th century, mistaking it for "al-nilam" ("sapphire" النيلم).
    - A wooden precession globe (1730) by German uranographer Johann Georg Puschner (Dekker 2003) simply labels this star "Orion".
    - This was later latinized to "Alnilam", which R. H. Allen lists it as "Al Niṯhām, or "Al Naṯhm" in his *Star Names* in 1899.
    - Variations include "Anilam", "Ainilam", and "Alnihan".
    - English Admiral Henry William Smyth's Prolegomena of 1844 lists "Alnilam" and his *Bedford Catalogue* in 1844 lists this as "Al-Nidhám, or Nizám, the string of pearls", which is confusing this with the Arabic asterism "Salasil Min Alluwlu" (see String of Pearls below).
    - English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Alnilam".
    - The 1st edition (1910) and the 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) list "Alnilam" for this star.
    - The IAU approved the name Alnilam for the star Epsilon (ε) Orionis.
- One is the asterism "al-niẓām" or "Al Niṯhām", later latinized to Alnitham (I, II, II and IV), which is the stars Phi (ϕ) 1, 2, 3, and 4 Ceti in the IAU constellation Cetus.

Compare this to String of Pearls, below.

String of Fishes:

This Tongan asterism "Tuinga Ika" is Orion's sword in the IAU constellation Orion.

String of Jewels:

This Japanese asterism "Sumaru no Tama" or "Sumaru" is the Pleiades cluster in the IAU constellation Taurus (Renshaw and Ihara 2001). These jewels decorated trees around the deities dancing to lure the solar Goddess Amaterasu from her cave.

String of Pearls:

This Arabic asterism "Salasil Min Alluwlu" (سلاسل من اللؤلؤ) is the belt of Orion in the IAU constellation Orion. This is also known simply as "The String". Arabic poet Dhu r-Rumma (d. 735 C.E.) listed this name. It is also known as the Belt of Al Jawza' (see above) or the Jeweled Belt of Al Jawza' (see above) or the String of Beads (see above).

There are two **telescopic** "String of Pearls" asterisms:

- One is Alessi 11 from the lists of Brazilian astronomer Bruno Alessi is listed by René Merting on the *Faint Fuzzies* website and is in the IAU constellation Delphinus. Merting writes "at 20X I see a string of pearls, which is not dissimilar to the Arp 322 galaxy pearl necklace" (see Pearl Necklace, above).
- One is the galaxy NGC 55 (Caldwell 72) in the IAU constellation Sculptor. It was discovered by Scottish astronomer James Dunlop in 1827. It is GC 27 in John Herschel's 1864 *General Catalogue*. John Dreyer describes it in the *New General Catalogue* of 1888 as "trinuclear". The Latin form of this name, "Bacatus Sculptoris", appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010). They cite Carolyn Shoemaker as the creator of this name, which was subsequently used by O'Meara in 2002. It is also known as the Pencil (see above).

String of Shells:

This Kiribati asterism "Itua ni bure" is the IAU constellation Coma Berenices (Trussel and Groves 1978). They also called it "Joyous Glittering" (see above).

Strings of Pearl:

There are three **telescopic** "Strings of Pearl" asterisms:

- One, also known as the Hoopskirt, is the open cluster IC 2488 in the IAU constellation Vela. It was discovered by French astronomer Abbé Nicolas Louis de Lacaille in 1752. It ended up on the Index Catalogue after being recorded by American astronomer Solon Irving Bailey (1854 – 1931). It is located 30 arcminutes west of N Velorum, a 3rd magnitude star located near the False Cross asterism (see False Cross above).
- Dorn (1829) describes an Arabic asterism by the name "Strings of Pearl" as being "at the extremity of the Archer's cap… a spot in the heavens where there is an obscure star, not easy to be observed, and surrounded by six small dull stars". Dorn describes this as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283). It is clearly in the IAU constellation Sagittarius, but it is uncertain which stars he is referring to.
- One is the open cluster NGC 6124 (Caldwell 75) in the IAU constellation Scorpius. It was discovered by French astronomer Abbe Nicolas Louis de Lacaille (1713 – 1762) who listed it as Lac I 9. It is GC 4184 in the *General Catalogue* of 1864. South African astronomer Carol Botha (2010) describes it as "Opulence in abundance: the globular seems to be draped in strings of pearls". It is also known as "Two Stacked Saucers" (see below).

Stripe Eye:

This Belarussian asterism "Polosozar" is the Pleiades cluster in the IAU constellation Taurus (Avilin 2009).

Striped Dress of Coma Berenices:

This **telescopic** asterism "Trabeáta Cómae Bereníces" is the double barred lenticular galaxy NGC 4340 in the IAU constellation Coma Berenices. It was discovered in 1785 by William Herschel who listed it as II 85". It became GC 2891 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): The name refers to the conspicuous bar of this galaxy.

Stroller:

This **telescopic** asterism is in the IAU constellation Cassiopeia and is Ennis 27 on the observing list of Canadian astronomer Charles Ennis. The "basket" of the stroller is formed by the variable star Kappa (κ) Cassiopeiae, the double stars HIP 2716A, HIP 2717 and, HIP 2656A. The "wheels" are the two stars HIP 2756 and an 8.20 magnitude star. The "handle" runs from HIP 2717 through HIP 2409 to HIP 2320. The wedge shaped "basket" is Corder 110 on the observing list of American astronomer Jeffrey Corder.

Strong Arm of Pegasus:

This **telescopic** asterism "Fortibrachiátus Pégasi" is the spiral galaxy NGC 7678 (Arp 28) in the IAU constellation Pegasus. This was discovered by John Herschel in 1830: Herschel listed it as 2522 in his catalogue and later in the *General Catalogue* of 1864 as GC 4971. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of its "well developed southern arm".

Strong Arms of Eridanus:

This **telescopic** asterism "Lacertósus Erídani" is the barred spiral galaxy NGC 1300 in the IAU constellation Eridanus. It was discovered in 1835 by John Herschel who listed it as h 2522 and later as GC 689 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as "two strong arms spring from the ends of the bar of this galaxy".

Strong Man:

This Murrawarri asterism "Jadi Jadi" is the IAU constellation Orion (Fuller et al 2014). He is a strong man wearing a belt, carrying a shield, and a stone club. His name can also be translated as "cyclone".

Strong One:

This Arabic asterism "Al Babādur" is the IAU constellation Orion. Adjectives used to describe Orion include "Audax" ("bold"), "Bellator" ("male warrior"), "Bellatrix" ("female warrior, which is the name given to the star Gamma (γ) Orionis), "Fortis" ("strong"), "Fortissimus" ("very strong"), "Furiosus" ("crazy man"), and "Sublimatus":

- Johann Bayer's *Uranometria* (1603) lists the name "Bellator Fortissimus".
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Bellator".
- Both "Bellator" and "Bellatrix" are listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
- "Al Babādur" is listed in R. H. Allen's *Star Names* in 1899.

Strong Snake:

This asterism “Coluber Fortis” is the IAU constellation Hydra. This name is listed in Johann Bayer’s *Uranometria* (1603).

Struggling:

This Latin asterism “Nixus” is the IAU constellation Hercules:

- Johann Bayer’s *Uranometria* (1603) lists “Nixus” and “Nisus” for this constellation.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Nisus sive Nixus” as alternate names for Hercules.
- “Nixus” is listed in John Hill’s *Urania* in 1754.

Strung Together:

This Hopi asterism is the Belt of Orion in the IAU constellation Orion.

Struve’s Lost Nebula:

This **telescopic** asterism “Struve’s Nebula” or “Struve’s Lost Nebula” is the reflection nebula NGC 1554 (LBN 817, Ced 32a) in the IAU constellation Taurus. It was discovered by German Russian astronomer Otto Wilhelm von Struve (1819 – 1905). It is listed in the General Catalogue of 1864 as GC 839. NOTE: Some relate this to Hind’s Variable Nebula, NGC 1555, as at the original coordinates there is no nebula. However, there is a 14th magnitude star: It is possible that Struve discovered a variable star that occasionally flares on a long cycle.

Stung of Virgo:

This **telescopic** asterism “Mórsus Vírginis” is the spiral galaxy NGC 5054 in the IAU constellation Virgo. It was discovered in 1785 by William Herschel who listed it as “II 513”. It became GC 3473 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “the thin edge-on galaxy MCG-3-34-40 is situated at the top of the northern spiral arm of NGC 5054.”

Stupid:

This Lower German star “Dumke” is 80 Ursae Majoris in the IAU constellation Ursa Major as listed by R. H. Allen in his *Star Names* in 1899.

SU:

This Akkadian asterism “ŠU”, “dSal-bat-a-nu”, or “bi-ib-bi” from the Ura = hubulla XXII lists (Block, Yigal, and Horowitz 2015) is unidentified currently. The Sumerian names are “[mu]lueriduki” or “muludu-til”.

Sualocin:

This star is Alpha (α) Delphini in the IAU constellation Delphinus. It first appeared in Giuseppe Piazzi’s *Palermo Star Catalogue*. When it was first published in 1814, this was the name associated with this star. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Svalocin” as a “barbaric epithet” and comments that he was unable to find any authority that “enables one to form any rational conjecture as to the misreading, mis-writing, or mis-application, in which so strange a metamorphosis could have originated”. British astronomer Rev. Thomas Webb (1807 – 1885) later figured out that Piazzi’s assistant was Niccolò Cacciatore (the surname translating as “Nicolas Hunter” in English and

"Nicolas Venator" in Latin): This Latin given name, reversed, gives Sualocin. Webb notes this in the third edition of his *Celestial Objects for Common Telescopes* in 1873:

- American uranographer Elijah Burritt (1794 – 1838) listed it as "Scalovin".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Sualocin".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) lists this star as "Sulaocin".

The IAU approved the name Sualocin for Alpha (α) Delphini Aa.

Sublimated Snake:

This Latin asterism "Coluber Sublimatus" is the IAU constellation Hydra. Johann Bayer's *Uranometria* (1603) lists "Coluber Sublimatus".

Subra:

See Mane, above.

Suburbs of Virgo:

This **telescopic** asterism "Suburbána Vírginis" is the elliptical galaxy NGC 4564 in the IAU constellation Virgo. It was discovered in 1784 by William Herschel who listed it as "II 68". It became GC 3105 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it "is located near the outer edge of the Virgo Cluster".

Succubae of Pavo:

This **telescopic** asterism "Súccuba Pavónis" is the interacting intermediate spiral galaxy NGC 6769 in the IAU constellation Pavo. It was discovered in 1836 by John Herschel who listed it as h 3783 and later as GC 4476 in his *General Catalogue* of 1864. This galaxy is interacting with NGC 6770. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). It is one of the "eyes" of the Devil's Mask (see above).

Sucker Catfish:

This Carib asterism "Pakamuyuman" is the IAU constellation Scorpius, though some versions apparently include stars of Virgo or Boötes (Magaña, and Jara, 1982).

Sudrstri:

This Buddhist star Sudṛṣṭi is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor. This first emerged in the late Tang Dynasty in China (Kotyk 2017).

Suga:

This Samoan asterism is the globular cluster Messier 4 in the IAU constellation Scorpius (Fitisemanu 2022).Pae and Suga are a pair of hunters pursuing Toloa (see Wild Duck, below and Suga, below).

Sugano's Star:

This name has been associated with two **telescopic** variable stars in the IAU constellation Orion:

- One is V369 Orionis, and
- The other is V1143 Orionis.

Sugar Pile:

This **telescopic** asterism is the open cluster NGC 2360 (Caldwell 58) in the IAU constellation Canis Major. This was discovered by English astronomer Caroline Herschel in 1785. Her brother William Herschel listed it in his catalogue as "VII 12". It is GC 1512 in the *General Catalogue* of 1864. South African astronomer Magda Streicher (2005) described this as a "sugar-pile cluster". It is also known as Caroline's Cluster (see above).

Sugar Pops Nebula:

See Jewel Bug Nebula, above.

Sugia:

This asterism "Sugia" or "Asugia" is the IAU constellation Orion:

- R. H. Allen writes in his *Star Names* in 1899 that these names were thought by French scholar Joseph Justus Scaliger (1540 – 1609) to be corruptions of the Arabic "'ash-Shujaā'" (see Sea Serpent, above) which is their name for the star Beta (β) Draconis (Rastaban) in the IAU constellation Draco. Allen further suggests that these names might have been used to indicate that Orion was a strong man as many adjectives of this sort had been used to describe Orion (see Strong Man, above).
- John Chilmead in his *A Learned Treatise on Globes*, 1889, lists "Asugia" and translates it as "madman".

Suhail:

See Glorious, above.

Suhail of the South:

See Glorious, above.

Suhail of the Weight:

This Persian star "Al Suhail al Wazn", later latinized to "Alsuhail", is Lambda (λ) Velorum in the IAU constellation Vela as described by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986). Compare this to their asterism "Al-Wazn" (see Weight, below). In his *Star Names* in 1899 R. H. Allen describes this star as "one of the Muḥlīfaïn", but those are three different stars (see 'Al-Muḥlifayn, above).

Suhayl Balqayn:

This Arabic star is Tau (τ) Puppis in the IAU constellation Puppis.

Suhayl Hadari:

This Arabic star is Zeta (ζ) Puppis in the IAU constellation Puppis.

Suhayl Raqashi:

This Arabic star is Lambda (λ) Velorum in the IAU constellation Vela.

Suitable for Altar:

This Latin asterism “Apta Altaria” is the IAU constellation Ara.

Suitor on the Left Hand:

This Xhosa star “Isoka lasekohlo” is Alpha (α) Carinae (Canopus) in the IAU constellation Carina.

Suitor of the Right Hand:

This Xhosa star “Isoka lasekunene” is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major.

SUKKAL dA-nu-ni-tum:

This Akkadian asterism “SUKKAL dA-nu-ni-tum” from the Ura = hubulla XXII lists (Block, Yigal, and Horowitz 2015) is related to Anunitu (see above) but the stars are unidentified currently. The Sumerian name is “[mule-tu-r]a-am-me.

Sulacsus:

This Celtic (Gaulish) star “Sulacsus” or “Eulacsus” (“wisdom”) is Beta (β) Ursae Majoris (Merak) in the IAU constellation Ursa Major (Boutet 2014). Compare this to the Vedic asterism Pulaha (see above). This is the name of one of Seven Sages who are part of their asterism by that name (see Seven Sages, above).

Sulafat:

See Tortoise, below.

Sulev and his Children:

This Estonian asterism “Sulev” is the stars Xi (ξ) Tauri, Omicron (ο) Tauri, and stars nearby in the IAU constellation Taurus. It is found on the *Taeiva Kaart* of Estonian cartographer Ado Grenzstein (1886) which was created for the Estonian language *Olevik* newspaper and printed using the wood engraving technique. This is a reference to Sulev, the ancestor of a race of heroes in Estonian mythology.

Sulfur-Crested Cockatoos:

The Kamilaroi asterism “Muraay” and the Euahlayi asterism “Muyaay”, “Murai” (Ridley 1875), or “Murrai” is the Pointer stars Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) as listed by Stanbridge (1857), Morieson (1999), Hamacher and Frew (2010), and Fuller et al (2014). The Kamilaroi and Euahlayi believe these birds ended up in the IAU constellation Crux when their tree, the Yarran (see below), was dragged into the sky by Yowee, the Spirit of Death, with the first man to die (see Spirit of Death above). Compare to White Cockatoo, below.

Sullat:

This star “mul dsullat” in the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period (Koch-Westenholz 1995) is Alpha (α) Centauri (Rigil Kentaurus) in the IAU constellation Centaurus and is part of the “foot” of their constellation Numushda (see above). Compare this to the Seleucid star Shullat, below. It is listed as “dsullat” in the Babylonian star catalogue BM 78161 (Leichty 1988) but identified as the star Epsilon (ε) Centauri.

This Persian (Achaemenid Period 539 – 331 B.C.E.) star is Alpha (α) Centauri (Rigil Kentaurus) in the IAU constellation Centaurus as listed in Ernst Weidner's *Fixsterne* in 1971.

Sümbille:

This Kazakh star "Sümbille" or "Sumbule" is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major.

Summer:

This Sesotho asterism "Lehlabula" is either the Large Magellanic Cloud or the Coal Sack Nebula (see Coal Sack, above). It is unsure what the seasonal association is here.

Summer Beehive:

See Beehive, above.

Summer Egret:

This Barasana asterism "Kuma Yehe" is the stars surrounding Beta (β) Persei (Algol) in the IAU constellation Perseus (Hugh-Jones 2006).

Summer Rose Star:

This **telescopic** asterism is the globular cluster Messier 55 in the IAU constellation Sagittarius. It was discovered by French astronomer Nicolas Louis de Lacaille in 1752. French astronomer Charles Messier catalogued it in 1788. It is listed in John Herschel's General Catalogue of 1864 as GC 4503

Summer Thunderbird:

This Ininew (Cree) asterism "Nipin Pinisew" is the IAU constellation Cygnus (Buck 2016). **"**Nipinesis Meskinaw" ("Summer Bird's Path") is the Milky Way.

Summer's Things:

This /Xam asterism is the Pleiades cluster in the IAU constellation Taurus (Slotegraaf 2013, Alcock 2014).

Summer Triangle:

This asterism consists of stars from three different IAU constellations: Alpha (α) Cygni (Deneb- 19th brightest star) in the IAU constellation Cygnus, Alpha (α) Aquilae (Altair- 12th brightest star) in the IAU constellation Aquila, and Alpha (α) Lyrae (Vega- 5th brightest star) in the IAU constellation Lyra. These three stars are the first stars to appear in the Northern hemisphere summer skies at sunset, as they are all of 1st magnitude or greater. The summer triangle appears in the Sequani Calendar of the ancient Celtic peoples, recovered from 2nd century bronze tablets found in a well at the headwaters of the Seine in Coligny in 1897. All three of the stars were PRIN ("guiding stars") in the Sequani calendar (see Lunar Mansions, Stations of the Moon, Nakshatra, and Zodiacs above). Lithuanian archaeologist Marija Gimbutas (1996) identifies the summer triangle as three birds sacred to a Sky Goddess: the swan (Cygnus), the eagle (Altair), and the vulture (which is the ancient Roman view of this constellation, Aquila Cadens- see Vulture, below). This is related to the Norse asterism the Swan Maidens (see below). This asterism shows up as the Navigator's Triangle (see above) in Hawaiian star lore. Oswald Thomas (1882 – 1963), a well-known amateur astronomer in Austria, promoted the Summer Triangle, and it appears that Jesuit astronomer Christoph Scheiner (1575 – 1650) may also have recorded it. English astronomer Patrick Moore (1923 – 2012), popularized this asterism under this

name starting in the 1950s. Jeffrey Corder lists it as Corder 4014. The Halifax Centre of the RASC calls this “DAVe” (“Deneb, Altair, Vega”), a name attributed to Chris Young (Dave Chapman 2023).

Sun:

This **telescopic** Bribri star “Dìwö” is WASP 17 in the IAU constellation Scorpius (magnitude 11.6). It was given the name Dìwö in the IAU NameExoWorlds campaign. It has an exoplanet named Ditsö, which is the name the God Sibö gave to the first Bribri people.

This **telescopic** Slovakian star “Chasoň” is HAT-P-5 in the IAU constellation Lyra (magnitude 11.95). It was given this name in the IAU NameExoWorlds Campaign. This is an ancient Slovak name for “Sun”. It has an exoplanet named Králomoc, which is an ancient Slovak name for Jupiter.

This **telescopic** Waorani star “Nenque” is HIP 5054 (HD 6434) in the IAU constellation Phoenix (magnitude 7.71). It was given this name in the IAU NameExoWorlds campaign. This has an exoplanet named Eyeke (“near”).

Sun Border:

This Elvish asterism **“**Anarríma” is a constellation set in the heavens by Varda to enlighten the awakening of the elves in the works of J.R.R. Tolkien (1892 – 1973). The name seems to be a combination of “anar” (“sun”) and “ríma” (“edge, hem, border”). There is no definite asterism associated with this: some suggest the IAU constellation Corona Borealis, some the Great Square of Pegasus, and others Gemini. I think that Corona Borealis is a better fit for Durin’s Crown (see above). Pegasus and Gemini are both about the same distance from the ecliptic, but Gemini’s stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) are brighter stars and there are almost twice as many asterisms associated with Gemini compared to Corona Borealis, so I’m going with Gemini for this one.

Sun in the Sky:

This is an alternate Dane-zaa name, “Tsááyaa” for their asterism “Yèshta” (see Traveler, below (Cannon 2021)).

Sun Maiden:

This Vedic star ‘‘Sūryā” or “Sāvitrī” is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus in the Atharva Veda (Ivanković 2021). This is the daughter of Savitur, Savitar, or Savitr, who is a Vedic solar God.

Sun Star:

This Finnish star “Aurinkontähti” is Alpha (α) Boötis in the IAU constellation Boötes.

Sunburst Galaxy:

This **telescopic** asterism is a gravitationally lensed galaxy behind the galaxy cluster PSZ1 G311.65-18.48 in the IAU constellation Apus.

Sundial:

This Scottish asterism “Solarium” is the IAU constellation Reticulum. Reticulum was created by French astronomer Abbé Nicolas Louis de Lacaille (1713 – 1762, see Reticulum, above). Scottish schoolmaster Alexander Jamieson replaced de Lacaille’s Reticulum with Solarium, the sundial.

American uranographer Elijah Burritt’s *Southern Circumpolar Map for each Month in the Year* (1835) includes “Solarium the Sundial” and depicts it as a sundial.

This asterism was included in the works of American astronomical writer Hannah M. Bouvier (1811 – 1870).

Šûndre:

This Chakavian asterism is the IAU constellation Sagittarius.

Sunflower:

There are three **telescopic** sunflower asterisms:

- One is the planetary nebula NGC 6543 (Caldwell 6) in the IAU constellation Draco. It was discovered by English astronomer William Herschel in 1786 who listed it as IV 37”. It is GC 4373 in the *General Catalogue* of 1864. It is also known as the Cat’s Eye Nebula or the Snail Nebula. Size 0.3’ X 0.3’.
- One is the planetary nebula NGC 7293 (Caldwell 63) in the IAU constellation Aquarius. It was discovered by German astronomer Karl Ludwig Harding before 1824. It is GC 4795 in the *General Catalogue* of 1864. It is also known as the Helix Nebula or the Helical Nebula.
- One is Messier 63 (NGC 5055), a spiral galaxy in the IAU constellation Canes Venatici. It was discovered by French astronomer Pierre Méchain in 1774. American astronomer Sherburne Wesley Burnham (1838 – 1921) noted in *Burnham’s Celestial Handbook* that this galaxy “has received the popular name sunflower.” It is listed in the 1864 General Catalogue as GC 3474 and in John Herschel’s catalogue as h 1570. *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) simply describes this as a “Canes Venatici Cluster”. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010) as “Heliánthus Cánum Venaticórum” (“sunflower of Canes Venatici”).

Sunset of Canes Venatici:

This **telescopic** asterism “Occásus Cánum Venaticórum” is the edge-on spiral galaxy NGC 4217 in the IAU constellation Canes Venatici. William Herschel listed this as “II 748”. John Herschel listed it as h 1149 and later as GC 2807 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “the small bulge of this galaxy, hidden behind the thick dust layer, puts in mind a sunset.”

Superantennae Galaxy:

This **telescopic** asterism PGC 84913 is a galaxy in the IAU constellation Pavo.

Superb:

This Italian star “La Superba” is Gamma (γ) Canes Venaticorum in the IAU constellation Canes Venatici and was named by the Italian astronomer and priest Angelo Secchi (1818 – 1878). The IAU approved the name La Superba for Gamma (γ) Canes Venaticorum.

Superman Galaxy:

This **telescopic** asterism NGC 7479 (Caldwell 44) is a barred spiral galaxy in the IAU constellation Pegasus. It's "S" shape resembles the Superman logo. It was discovered by English astronomer William Herschel in 1784 who listed it as "I 55". It is GC 4892 in the *General Catalogue* of 1864. It is also known as the Propeller Galaxy (see above) and the Lawn Sprinkler (see above). It probably acquired this name due to its "S" shape.

Superposed Ones of Hydra:

This **telescopic** asterism "Superpósiti Hýdrae" is the barred spiral galaxy NGC 3313 in the IAU constellation Hydra. It was discovered by Ormond Stone in 1886. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as "a spiral galaxy is projected centrally against an earlier-type background galaxy".

Superwind Galaxy:

This **telescopic** asterism NGC 4666 is a spiral galaxy in the IAU constellation Virgo. It was discovered by English astronomer William Herschel in February 1784. It has this name due to its unusual stream of outflowing gas.

Supreme Judge:

This Chinese star "Sikou" from the 3 Kingdoms and Ming Dynasty Period is HIP 44504 in the IAU constellation Ursa Major and is part of their xing guan Administrative Center (see above).

Supreme One:

This Chinese Chenzhuo xing guan "Taiyi" is the star 4 Draconis in the IAU constellation Draco. It is part of their xing guan Purple Forbidden West Wall.

Supreme Palace Enclosure:

"Tàiwēiyuán" (太微垣) is one of the three enclosures in Chinese sky culture, the others being Heavenly Market Enclosure and Purple Forbidden Enclosure (see Lunar Mansions, Stations of the Moon, Nakshatra, and Zodiacs above).

Two asterisms mark the boundaries of this enclosure in the Yixiangkaocheng of the 18th century:

Supreme Palace Left Wall:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a curving line of five stars in the IAU constellations Coma Berenices and Virgo, each having a name:

- 42 Comae Berenices: "Dongshangjiang" ("Great Eastern General"),
- Epsilon (ε) Virginis: "Dongcijiang" ("Second Eastern General"),
- Delta (δ) Virginis: "Dongcixiang" ("Second Eastern Premier"),
- Gamma (γ) Virginis: "Dongshangxiang" ("Great Eastern Premier"), and
- Eta (η) Virginis: "Zuozhifa" ("Left Law Administrator").

This Chinese xing guan "Tàiwēizuǒyuán" (太微左垣) is a line of stars in the IAU constellations Coma Berenices and Virgo: Alpha (α) Comae Berenices (Alphecca), and Epsilon (ε), Delta (δ), Gamma (γ), and Eta (η) Virginis.

Supreme Palace Right Wall:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of five stars in the IAU constellations Leo and Virgo, each having a name:

- Delta (δ) Leonis: "Xishangxiang" ("Great Western Premier"),
- Theta (θ) Leonis: "Xicixiang" ("Second Western Premier"),
- Iota (ι) Leonis: "Xicijiang" ("Second Western General"),
- Sigma (σ) Leonis: "Xishangjiang" ("Great Western General"), and
- Beta (β) Virginis (Zavijava): "Youzhifa" ("Right Law Administrator").

This Chinese xing guan "Tàiwēiyòuyuán" (太微右垣) is a wavy line made up of stars of the IAU constellations Leo and Virgo: Delta (δ), Theta (θ), Iota (ι), and Sigma (σ) Leonis and Beta (β) Virginis (Zavijava).

In Chinese Chenzhuo skies the Supreme Palace (Taiwei (太微) consists of two asterisms marking the boundaries of this enclosure:

- **Supreme Palace Left Wall**: This is a curving line of stars in the IAU constellations Coma Berenices and Virgo: Alpha (α) Comae Berenices (Diadem), Epsilon (ε) Virginis, Delta (δ) Virginis, Gamma (γ) Virginis, and Eta (η) Virginis, and
- **Supreme Palace Right Wall**: This is a curving line of stars in the IAU constellations Leo and Virgo: Delta (δ) Leonis, Theta (θ) Leonis, Iota (ι) Leonis, Sigma (σ) Leonis, and Beta (β) Virginis (Zavijava).

Supreme Ruler:

This Hawaiian star "Mo'ikeha" is Alpha (α) Arietis (Hamal) in the IAU constellation Aries. Mo'ikeha is a famous ruler and navigator from Hawaiian legend.

Supreme Wife and Mother:

This Arami asterism "Kiimia" is the Pleiades cluster in the IAU constellation Taurus. Kiimia is the supreme wife and mother and her return in September marked the end of the dry season (Jellicoe, Puja, and Sombi 1967).

Surfboard:

This **telescopic** asterism is Messier 108 (NGC 3556), a barred spiral galaxy in the IAU constellation Ursa Major. It was discovered by French astronomer Pierre Méchain in 1781 or 1782. English astronomer William Herschel listed it as "V 46" in his catalogue. It is GC 2318 in the *General Catalogue* of 1864. It is also known as the "Owl's Neighbour" (see above).

Suri:

This Atacameño asterism One is dark nebulosity in the Milky Way stretching from its "head" in the Coal Sack Nebula (see Coal Sack Nebula, above), with the "body" extending to the IAU constellation Scorpius and the legs reaching the IAU constellation Sagittarius (Moyano 2011). This is their name for the Andean ostrich. Compare this to Rhea (above).

Surrounded by Dust:

This **telescopic** asterism "Conizónus Andrómedae" is the edge-on spiral galaxy NGC 891 (Caldwell 23) in the IAU constellation Andromeda. It was discovered by English astronomer William Herschel in 1784. It interacts with NGC 876. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). They gave it this name due to its "conspicuous dust lane". It is also known as the Outer Limits Galaxy, the Silver Sliver, and the Silver Needle.

Surrounded of Volans:

This **telescopic** asterism "Ampechómenus Volántis" is the edge-on spiral galaxy NGC 2788A in the IAU constellation Volans. It was discovered in 1835 by John Herschel who listed it as h 3150 and later as GC 1782 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to "the fact that the central region of this dusty edge-on galaxy is surrounded by a conspicuous dust belt".

Sururu Brothers:

This Xerénte asterism is the Pleiades cluster in the IAU constellation Taurus (Dechend 1975). It is related to their asterism Asare (see above).

Suspended:

This Hawaiian star "Kaulia" ("suspended" or "hanging") is Gamma (γ) Crucis (Gacrux) in the IAU constellation Crux**.**

Suspended Blossom:

This Hawaiian star "Puana-kau" is Beta (β) Orionis (Rigel) in the IAU constellation Orion.

Suspended Burden:

This Polynesian asterism from the island of Futuna, "Kau-amonga", is the IAU constellation Aquila. The "burden" that is suspended is "Amonga", the belt and sword in the IAU constellation Orion (see Burden, above).

Suur Look:

This Estonian asterism is the IAU constellation Hydra and appears in the *Sky of Ests (Chudes)* by Aleksander Heintalu (Sass of Vigala) (Kuperjanov 2006).

Suyuntuy:

This Inca star is Epsilon (ε) Orionis (Alnilam) in the IAU constellation Orion (Gamarra & Gamarra 2009).

Swallow:

This Babylonian asterism "SIM.MAH" or "shinunutu" as listed in Anthony Hope's *A Guide to Ancient Near Eastern Astronomy* in 1996 is described as the "western fish of [the IAU constellation] Pisces". This would be the triangle of stars Phi (ϕ), Upsilon (υ), and Sigma (σ) Piscium. Compare this to the Babylonian asterism Great Swallow, above.

This Seleucid asterism "KUN" or "SE IM ?" from the tablet SBTU II No 43 (W 22646) from the Seleucid (Hellenistic) period (275 B.C.E. – 116 C.E.) is the stars of the IAU constellation Pisces (Foxvog 1993). Hunger and Pingree in their *Astral Science in Mesopotamia* in 1999 describe this in much more detail. This asterism is made up of stars of the IAU constellations Pegasus and Pisces and is different than the

original Babylonian asterism “Great Swallow” (see above) which was made up of stars of the IAU constellations Aries, Cetus, and Pisces. This Seleucid asterism is made up of these stars:

- The “head” is a triangle of stars: Omega (ω), 32, and 26 Piscium,
- The “body” is a line of three stars: Omega (ω), Iota (ι), and Theta (θ) Piscium,
- The “wings” originate at Iota (ι) Piscium:
    - One “wing” runs through 77 Pegasi to 70 Pegasi, and
    - One wing runs through Lambda (λ) Piscium to 14 Piscium, and
- The “tail” originates at Theta (θ) Piscium and is two lines:
    - One line running out to Beta (β) Piscium (Fumalsamakah), and
    - One line running out through 59 Pegasi to 55 Pegasi.

Swallower:

There are two Arabic asterisms with this name:

- One is the Arabic star “al-Bāliʿ” (البالع), which is the star Epsilon (ε) Aquarii in the IAU constellation Aquarius:
    - This was later latinized to “Albali”.
    - R. H. Allen lists “Al Bali” in his second edition of *Star Names* in 1963.
    - The IAU approved the name Albali for the star Epsilon (ε) Aquarii.
- One is the Arabic asterism “al-bāliʿ”, later latinized to “Albulan”, is the stars Epsilon (ε), Mu (μ), and Nu (ν) Aquarii in the IAU constellation Aquarius.

Swan:

This Greek asterism “Κύκνος” (“Kýknos”) is the IAU constellation Cygnus as named by Eratosthenes (d.194 B.C.E.).

This German asterism “Schwan” is the IAU constellation Cygnus as depicted in Johann Elert Bode’s *Vorstellung Der Gestirne* (1782): Bode lists this constellation as ”Der Schwan” and depicts it as a swan in flight as viewed from below. The *Nördliche Sternhimmel* sky map of O. S. Reuters based on the work of German astronomer Johann Elert Bode (1747 – 1826) also lists this constellation as the “Schwan”.

This Norse asterism is the IAU constellation Cygnus and was created by Canadian Bjorn Jónsson (1920 – 1995) who was trying to reconstruct traditional Scandinavian skies (Kuperjanov 2006).

This Irish asterism is the IAU constellation Cygnus. This asterism is found in Julie Ormonde’s *Constellation Stories of Ancient Ireland* (2015). This is probably a reference to Derbforgaill, the lover of Cu-Chulainn.

This Persian asterism “Ghau” is the IAU constellation Taurus as listed in John Hill’s *Urania* in 1754. Edward Sherburne lists it as the IAU constellation Apus in his *Sphere of Marcus Manilius* in 1675, which makes more sense.

This Estonian asterism “Luik” is the IAU constellation Cygnus and appears in the *Sky of Ests (Chudes)* by Aleksander Heintalu (Sass of Vigala) (Kuperjanov 2006).

Swan Lace:

This **telescopic** asterism is the supernova remnant NGC 6992 (C 33, Ced 182b) in the East Veil Nebula in the IAU constellation Cygnus. William Herschel recorded this as "V 14". John Herschel listed it as h 2092 and later as GC 4616 in his *General Catalogue* in 1864. This name appeared in photos by French astrophotographer Irwing Airborne on the *ZWO Astrophotography* Facebook page on 11 and 25 August 2025. Also known as the Owl (see above), and the East Veil Nebula (see above).

Swan Maidens:

This Norse asterism consists of stars from three different IAU constellations: Alpha (α) Cygni in the IAU constellation Cygnus, Alpha (α) Aquilae in the IAU constellation Aquila, and Alpha (α) Lyrae in the IAU constellation Lyra. These three stars are the Summer Triangle (see above), the first stars to appear in Northern hemisphere summer skies at sunset, as they are all of 1st magnitude or greater. This relates to Norse stories of the Swan Maidens (Johnsen 2024).

Swan Nebula:

This asterism is the HII region Messier 17 (NGC 6618, SH 2-45, RCW 160, LBN 60, Cr 377, Ced 161) in the IAU constellation Sagittarius. It was discovered in 1745 by Swiss astronomer Philippe Loys de Chéseaux and catalogued by French astronomer Charles Messier in 1764. It is listed in John Herschel's 1864 *General Catalogue* as GC 4403. American astronomer Sherburne Wesley Burnham (1838 – 1921) noted in *Burnham's Celestial Handbook* gave it this name, writing "It requires only the slightest use of the imagination to transform this pattern into the graceful figure of a celestial swan floating on a pool of stars". *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this both as the "Omega Nebula" and the "Swan Nebula". It is also known as the Checkmark Nebula, Omega Nebula, Lobster Nebula, and Horseshoe Nebula.

Swan Progeny:

This Latin asterism "Cycno Generati" is the IAU constellation Gemini. This relates to her seduction by the Greek God Zeus, who came to her as a swan.

Swarm:

This Mordovian asterism "Vele" ("swarm" or "village") is the Pleiades cluster in the IAU constellation Taurus (Avilin 2018).

Swarm of Bees:

This Lithuanian asterism "Bičių spiečius" is the Pleiades open cluster in the IAU constellation Taurus.

Swarm of Gnomes:

This Hungarian asterism "Túnderök sordulöja" is possibly the IAU constellation Cancer, including the open cluster Messier 44. The celestial map of Hungarian uranographer Sandor Nagy (1915) depicts this asterism as a circle of people with their arms raised skyward.

Swastika:

This Mithraic asterism is made up of the stars of the IAU constellations Draco and Ursa Minor (Reza Assasi 2013) and is the centerpiece of a larger proposed asterism, the Celestial Quadriga (see above). It is a clockwise swastika with its center being the star Zeta (ζ) Draconis and it consists of four wings:

- A line running through 15 Draconis to a bend at Gamma (γ) Ursae Minoris (Pherkad) and ending at Zeta (ζ) Ursae Minoris
- A line running through Eta (η) Draconis (Athebyne) to a bend at Theta (θ) Draconis, ending at Iota (ι) Draconis (Edasich).
- A line running through 26 Draconis to a bend at Xi (ξ) Draconis (Grumium) and ending at Beta (β) Draconis (Rastaban).
- A line running through Omega (ω) Draconis and Phi (ϕ) Draconis to a bend at Upsilon (υ) Draconis, ending at Delta (δ) Draconis (Altais).

This Hindu asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Bhagwath 2019). Every 8 hours it turns a quarter of the way around the pole star and forms one arm of this "swastika".

Sweat Lodge:

This Ojibwe asterism "Madoodiswan" is the IAU constellation Corona Borealis (Lee et al 2014).

This Anishinaabe asterism "Madoodiswun" is the IAU constellation Corona Borealis (Lee et al 2014).

This Ininew (Cree) asterism "Matootsan" or "Matootisan" is the IAU constellation Corona Borealis (Buck 2016).

Sweat of Ophiuchi:

The Latin name of this **telescopic** asterism "Sudor Ophiuchi" means "Sweat of Ophiuchi" and it is listed as Lorenzin 2. The name is misleading because its stars are in the constellations Hercules and Ophiuchus. It is made up of eight stars in a curve resembling a mathematic integral sign (∫). One end is HIP 84036 and it runs through 60 Herculis, the double star 34 Ophiuchi, 32 Ophiuchi, HIP 83435, and HIP 83308 to HIP 83083. Size 180'. Jeffrey Corder lists this as Corder 3195.

Sweating Stones:

This Ojibwe asterism "Madoo'asinik" is the Pleiades cluster in the IAU constellation Taurus (Lee et al 2014). This is a reference to the heated stones for a sweat lodge.

This Ininew (Cree) asterism "Mahtootisan Assiniuk" is the Pleiades cluster in the IAU constellation Taurus (Buck 2016). This is a reference to the heated stones for a sweat lodge.

Swedish Bear:

This Estonian asterism is the Big Dipper asterism in the IAU constellation Ursa Minor (Kuperjanov 2006).

Swedish Horse:

This Estonian asterism "Rootsi Hobu" is the Little Dipper asterism in the IAU constellation Ursa Minor (Kuperjanov 2006).

Sweeper of Draco:

This **telescopic** asterism "Scopárius Dracónis" is the spiral galaxy NGC 6015 in the IAU constellation Draco. It was discovered in 1788 by William Herschel who listed it as "III 739". It became GC 4149 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Sweet Potato:

This Palawan asterism “Camote” is the belt of Orion in the IAU constellation Orion.

Sweetheart of Fornax:

This **telescopic** asterism “Delíciae Fornácis” is the lenticular galaxy NGC 1326 in the IAU constellation Fornax. It was discovered in 1837 by John Herschel who listed it as 2535 in his catalogue and later as GC 705 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Sweetheart Star:

This Shona and Ntshuna star “Ndemara” is Alpha (α) Piscis Austrini (Fomalhaut) in the IAU constellation Piscis Austrinus (Slotegraaf 2013). To these people its appearance is a warning to lovers to part before their parents discovered them.

Swelling of Leo:

This **telescopic** asterism “Oedésis Leónis” is the elliptical galaxy NGC 3640 in the IAU constellation Leo. It was discovered in 1784 by William Herschel who listed it as “II 33”. It became GC 2386 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name due to the “asymmetric form of this elliptical galaxy with a swelling at its western side and a small extension at the eastern side”.

Swelling Spiral:

This **telescopic** asterism is Messier 61 (NGC 4303), an intermediate barred spiral galaxy in the IAU constellation Virgo. It was discovered by Italian astronomer Barnaba Oriani in May 1779, six days before French astronomer Charles Messier recorded it. English astronomer William Herschel listed it as “I 139”. It is GC 2878 in the *General Catalogue* of 1864. It is also known as the “Hexagonal of Virgo” (see above).

Swiftest:

This Vedic nakshatra (lunar mansion) “Shravishthā”, “Shravista”, or “Sravishtāh” (as listed in the *Taittirīya Brāhmana)* is in the IAU constellation Delphinus and is the stars Alpha (α) Delphini (Sualocin) and Delta (δ) Delphini (Ivanković 2021). It is also known as Dhanishtha (see Most Famous, above).

Swift’s Polar Ring:

This **telescopic** asterism “Conspicábilis Vírginis” is the lenticular polar ring galaxy NGC 5122 in the IAU constellation Virgo. It was discovered by American astronomer Lewis Swift in 1887. This name was posted on the *Deep Sky Forum* by German astronomer Uwe Glahn in May 2017. It is also known as Deserving to be Seen of Virgo.

Swimming Alligator:

This **telescopic** asterism is the open cluster NGC 7160 in the IAU constellation Cepheus. It was discovered by William Herschel in 1789 who listed it as “VIII 67”. It is GC 4719 in the *General Catalogue* of 1864. It is also known as the Bruce Lee Cluster.

Swimming Ducks:

This Pawnee asterism is the IAU constellation Scorpius.

Swine:

This Macedonian asterism “Svinji” or “Sviŋi” (“the Swine” or “the Pigs”) is three stars in the Hyades cluster (see above) in the IAU constellation Taurus: Gamma (γ) Tauri, Delta (δ) 1 and 2 Tauri, and Epsilon (ε) Tauri (Cenev 2004 & 2014). The star Alpha (α) Tauri (Aldebaran) is either the fox hunting the pigs (See Fox, above) or it is the Swineherd (see below).

This Greek lunar mansion is listed in the *Magical Papyrus 121*, preserved in the British Museum, and dated to the 3rd century C.E. (Mosenkis, date n/k). The stars have not been identified.

This Romanian asterism “Porcii” is the Hyades cluster in the IAU constellation Taurus (Ottescu 2009).

Swineherd:

This Macedonian star, “Svinjar”, is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus (Cenev 2014). This is related to their asterism Svinji (see Swine, above). It is also known as “Lisica” (see Fox, above).

This Romanian star “Porcarul” is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus (Ottescu 2009). It is called this as the swine awake and start to grunt when it rises, signalling that day is approaching.

Swollen Eye of Virgo:

This **telescopic** asterism “Pachyblephária Vírginis” is the intermediate spiral galaxy NGC 4958 in the IAU constellation Virgo. It was discovered in 1786 by William Herschel who listed it in his catalogue as I 130. It is GC 3397 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it “resembles a swollen eye”.

Swollen Heart:

See Heart, above.

Swoosh:

This **telescopic** asterism from the Saguaro Astronomy Club asterism database is made up of the stars of the IAU constellations Aquila and Scutum: 14, 15, Gamma (γ), and 12 Aquilae and Eta (η) Scuti form a curved chain of stars that point at Messier 11 (NGC 6705). This was discovered by Steve Coe of the SAC Size 240’. This is listed on Bruno Alessi’s BDCC 7.6 list and is Corder 3740 on Jeffrey Corder’s list.

Sword:

This German star “Gladius” is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes as listed by German astronomer Johann Bayer (1572-1625).

This Latin star “Ensis” is Eta (η) Orionis (Saiph) in the IAU constellation Orion as listed by Cicero (106 – 43 B.C.E.) and in R. H. Allen’s *Star Names* in 1899.

This Celtic (Gaulish) star “Smertus” is Alpha (α) Cygni (Deneb) in the IAU constellation Cygnus (Boutet 2017).

There are three **telescopic** “sword” asterisms:

- One, Leiter 5 from the list of American astronomer Frank Leiter, is a line of stars in the IAU constellation Aquila. Size 12’ X 4’. Robert Zebahl lists it on his *Faint Fuzzies* website and notes

that it “was discovered by Klaus Spruck and Stefan Schuchardt” and René Merting notes that “at 85X the entire sword shimmers delicately but is still quite faintly visible- the pommel is easy to see and consists of three directly visible stars… at 160X the shimmer is preserved and… 6 stars stand out more clearly on the crossguard.”

- One is Vastagh 3, listed in 2009 by Hungarian astronomer László Vastagh, which is in the IAU constellation Gemini. Its size is 1° 06’ X 21’. Vastagh describes it thus: “Sword-shaped asterism… The number of members of the star association is approx. 20 pcs. The point of the sword is the 6.43 magnitude, HR 2692 star designates. The 7.75 mag HD 54127 is located at the junction of the handle and the blade. This is where the "hand guard" crosses the long axis of the sword. The hand guard is a double member. The grip is made up of faint objects.”
- This **telescopic** asterism is Corder 3536 in the IAU constellation Draco and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 50’ X 30’. The “sword” is the line of stars from HIP 89943 through a line of 8th to 9th magnitude stars to HIP 89981. An 8th magnitude star and a 9th magnitude star form the “crosspiece” on the “hilt”. This is also known as the Cross of Draco (see above).

Sword Hand of Perseus:

This asterism is the Double Cluster (see above) plus the stars 4, 9, Theta (θ) and Upsilon (υ) Persei in the IAU constellation Perseus as listed in the third edition of Rev. Thomas William Webb’s *Celestial Objects for Common Telescopes* in 1873 and in in R. H. Allen’s *Star Names* in 1899.

Sword Handle:

This is a name for the Double Cluster, NGC 869 and 884, in the IAU constellation Perseus. This is listed in *Burnham’s Celestial Handbook* in 1978. *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists the “Sword Handle”. Compare this to “Gyre in the Hilt of the Sword” (above).

Sword of Draco:

This **telescopic** asterism “Gládius Dracónis” is the barred Magellanic spiral galaxy NGC 4256 in the IAU constellation Draco. It was discovered in 1784 by William Herschel who listed it as “II 846”. It became GC 2839 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Sword of Heaven:

This Chaldean asterism “mul.gir.an.na” or from the Great Star List (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period is the IAU constellation Scorpius (Koch-Westenholz 1995).

Sword of Orion:

This asterism is made up of stars and nebulae of the IAU constellation Orion: It begins with the Coal Car Cluster (NGC 1981) and runs through the Great Orion Nebula (M 42) to the Lost Jewel of Orion (NGC 1980).

Sword of the Giant:

There are three Arabic asterisms with the name “sayf al-jabbār” (سيف الجبار), “Saif al Jabbar”, or “as-Sayf” (السيف):

- One is the star Kappa (κ) Orionis in the IAU constellation Orion, later latinized to “Saiph”:
    - NOTE: This star is not in what most would describe as the “sword” but is usually viewed in the West as one of the “feet” of Orion, the other “foot” being the star Beta (β) Orionis (Rigel).
    - *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as “Saiph”.
    - *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as “Saiph”.
    - *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this star as “Saiph”.
    - The IAU approved the name Saiph for Kappa (κ) Orionis.
- One, “Saif al-Jabbār”, is the Sword of Orion asterism in the IAU constellation Orion as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- One, is the star Eta (η) Orionis in the IAU constellation Orion: This star earlier bore this name, which later was transferred to the Sword of Orion asterism:
    - “Saif al Jabbar” and Algjebbah” are listed in R. H. Allen’s *Star Names* in 1899.

Swordfish:

This Greek asterism “Oxirinque”, “Oxyrhynque”, or “Oxyrhyncus” is the IAU constellation Capricornus as listed by R. H. Allen in his *Star Names* in 1899.

This German asterism “Xiphias” is the IAU constellation Dorado. It was German astronomer Johannes Kepler’s edition of Danish astronomer Tycho Brahe’s star list in the *Tabulae Rudolphinae* of 1627 that identified it as a “swordfish”, which he called Xiphias. English astronomers Edmund Halley (1656 – 1742) and John Flamsteed (1646 – 1719) used this name for the constellation. The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley’s pirated catalogue of Flamsteed’s observations of 1712, list this constellation as “Xiphias”. John Hill lists the names “Xiphias” and “Xyphias” in his *Urania* in 1754 as well as a Latin name “Serra Piscis”. It appeared on Stieler’s planisphere as “Schwedtfisch”.

There are two **telescopic** “swordfish” asterisms:

- One, “Swertfish” (“swordfish”), is listed by René Merting on the *Faint Fuzzies* website and is in the IAU constellation Andromeda. Merting describes it thus: “the star arrangement looks like a swordfish swimming to the west - two different star brightnesses can be seen in the pattern - multiple jagged star arrangement.” This includes HIP 11812, 12218, 12057, and 11682.
- One is O’Neal 1 in the IAU constellation Equuleus. Its size is 42’ X 13’. German astronomer René Merting lists it on the *Faint Fuzzies* web site and describes it as a “swordfish swimming northwest- a total of eight stars make up the pattern, two stars make up the south-pointing dorsal fin, three fainter stars make up the sword.” The “nose” of the swordfish is HIP 105399A. The “belly” is a line from HIP 105399A through HIP 105466 and HIP 105548 to HIP 105608. The “fin” is the stars HIP 105433 and HIP 105438A.

Swords of the Elector of Saxony:

This Saxon asterism "Gladii Electorales Saxonici" or "Kurfürstliches Schwert" was created from the stars between the IAU constellations Boötes, Serpens, Libra, and Virgo: Alpha (α) Boötis (Arcturus), Alpha (α) Serpentis, Beta (β) Librae (Zubeneschamali), Mu (μ) Virginis and Tau (τ) Virginis. It was created by German astronomer Gottfried Kirch in 1684 to win the patronage of Johann Georg III, Elector of Saxony.

Swordtail of Ursa Major:

This **telescopic** asterism "Xiphóphorus Úrsae Majóris" is the dwarf barred spiral galaxy NGC 4605 in the IAU constellation Ursa Major. It was discovered by English astronomer William Herschel in 1790 who listed it as "I 254". It is GC 3142 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of its "apparent resemblance to the popular aquarium fish xiphophorus, swordtail". It is also known as the Frankenstein Galaxy (see above) and the "Fabergé Egg" (see above).

Sycamine Tree:

This German asterism "Συκάμινος" or "Sykáminos" is the IAU constellation Canis Minor as listed by German astronomer Johann Bayer (1572-1625), who also lists the name "Morus" as an Arabic name for this tree in his Uranometria (1603). The actual Arabic name is Al Jummaizā.

Sylvester:

This Latin asterism "Sylvester" or "St. Sylvester" is the IAU constellation Boötes:

- Edward Sherburne lists this in his *Sphere of Marcus Manilius* in 1675 and attributes it to German uranographer Julius Schiller (c. 1580 – 1627).
- This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "S. Silvester al Bootes".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "St. Sylvester" and attributes this to the "Mosaicists".
- In his *Star Names* in 1899 R. H. Allen writes that this was used by "early Catholics".

Symmetry of Ursa Major:

This **telescopic** asterism "Symmetría Úrsae Majóris" is the edge-on barred lenticular galaxy NGC 4026 in the IAU constellation Ursa Major. William Herschel listed it as "I 223". John Herschel listed it as h 1047 and later as GC in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Syphon:

This **telescopic** asterism is PGC 40012, a galaxy in the IAU constellation Centaurus.

Syrian Sign:

This Arabic star "aš-ši'ra aš-šamiyah" (الشامية شعرى) or Ulugh Beg Mirza's "Al Shi'rā al Shāmiyyah" is Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor.:

- This was later latinized to "Al Shāmiyyah", or "Al Shira".

- 14th century Greek geographer and astronomer Georgius Chrysococcas listed it in Greek as "Σιαὴρ Σιαμὴ" ("Siaír Siamí")
- The *Alfonsine Tables* of 1521 list this as "Aschere", "Aschemie", and "Algomeysa" and the 1545 edition as "Prochion" and "Algomeyla".
- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) listed it as "Siaunder".
- The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch lists "Algomeysa", "Algomyso", and "Sycomorus vel sicus Sylvestrus".
- John Hill lists this as "Shiri Al Shamiya" and "Shira" in his *Urania* in 1754.

Syrian String:

This Arabic asterism appears in the IAU constellation Hercules. Dorn 1829) describes it as "near the left arm, extended across the breast" as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283). This appears to be the stars Eta (η) Herculis, c Herculis, HIP 83494, d Herculis and 53 Herculis.

Syrma:

See Train of a Garment, below. NOTE: John Raymond uses this name for the group of stars that he classifies as an asterism around the star Iota (ι) Virginis (Syrma).

T:

There are twelve **telescopic** "T" asterisms:

- One is Dunlop 545 in the IAU constellation Grus, listed by Scottish astronomer James Dunlop in his catalogue of 1828. A slightly curving line of four stars forms the upright of the "T" and a line of three stars with HIP 112059 in the middle forms the top.
- One is in the IAU constellation Musca and is Corder 2264 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is five 6th – 8th magnitude stars including HIP 57940, and 57963, and the double star HIP 57851A.
- One is in the IAU constellation Hydra and is Corder 2479 on the observing list of American astronomer Jeffrey Corder. Size 45'. This is seven 8th – 9th magnitude stars including HIP 64966, and 64912, and the double star HIP 64970A.
- One is in the IAU constellation Centaurus and is Corder 2498 on the observing list of American astronomer Jeffrey Corder. Size 35'. This is five 7th – 9th magnitude stars including HIP 65394, 65488, and 65425.
- One is in the IAU constellation Corona Borealis and is Corder 3020 on the observing list of American astronomer Jeffrey Corder. Size 45'. This is seven 7th – 8th magnitude stars including HIP 79701, and 79845 and the double star HIP 79677.
- One is in the IAU constellation Corona Australis and is Corder 3490 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is five 8th – 9th magnitude stars including HIP 89274.
- One is in the IAU constellation Cygnus and is Corder 4070 on the observing list of American astronomer Jeffrey Corder. Size 40'. This is ten 7th – 9th magnitude stars including HIP 99439 and 99420.

- One is in the IAU constellation Pegasus and is Corder 4368 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is five 6th – 8th magnitude stars including HIP 105141, 105179, 105254, and 105192.
- One is in the IAU constellation Aquarius and is Corder 4718 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is five 8th – 9th magnitude stars including HIP 111596 and 111697.
- One is in the IAU constellation Grus and is Corder 4734 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is seven 9th – 11th magnitude stars including HIP 112059.
- One is in the IAU constellation Aquarius and is Corder 4820 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is seven 7th – 9th magnitude stars including HIP 113744 and the double star HIP 113792A.
- One is open cluster NGC 2547 in the IAU constellation Vela. It was discovered by French astronomer Abbé Nicolas Louis de Lacaille in 1751 who listed it as Lac III 2 in his catalogue. It is GC 1636 in the *General Catalogue* of 1864. Lacaille described it in his 1755 catalogue as "five small stars, under the figure of a T, surrounded by nebulosity." It is also known as the Golden Earring (see above), Saint Peter's Cross (see above), the Malus Cluster (see above). Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) lists this as O'Meara 40.
- One is Llano 1 in the IAU constellation Virgo. René Merting describes it on the Faint Fuzzies website: "At 45x, a striking star line, only minimally curved - five stars form this line - at 144x, six stars are visible, the brightest are at the ends, in the center three fainter stars are slightly closer together". The line of stars that forms the top of the "T" has the star HD 111852 at one end.

Taba Bloom:

This Kiribati star "Kataba" or "Na Kataba" is an unidentified star in the IAU constellation Auriga (Trussel and Groves 1978).

Tabby's Star:

See Boyajian's Star (above).

Tabio:

This Kiribati asterism "Tabio" is three stars in the "tail" of the IAU constellation Scorpius (Trussel and Groves 1978), which would probably make them Lambda (λ), Iota (ι) 1, and Theta (θ) Scorpii.

Tabit:

See Endurer, above.

Table:

This Lithuanian asterism "Stalas" is the Great Square asterism in the IAU constellations Andromeda and Pegasus.

Table of Scorpius:

This **telescopic** asterism, also known as the False Comet, the Northern Jewel Box, and the Crocodile, is the open cluster NGC 6231 (Caldwell 76) in the IAU constellation Scorpius. It is located a half a degree north of Zeta (ζ) Scorpii. It was discovered by Giovanni Battista Hodierna before 1654, who called it

"Luminosae" (Italian for "bright"). It is listed in the *General Catalogue* of 1864 as GC 4245 and in John Herschel's catalogue as h 3652. Jeffrey Corder lists it as Corder 3156.

Tabuteora:

This Kiribati star "Tabuteora" is currently unidentified (Trussel and Groves 1978).

Tabutora:

This Kiribati star "Tabutora" is currently unidentified (Trussel and Groves 1978).

Tabwakum:

This Melanesian asterism from the Muyuw Trobriands (Woodlark Islands) is the Coal Sack Nebula (see Coal Sack, above).

Tadjeri:

This Kulin asterism "Tadjeri" or "Tarnung" is 2 stars in Sagittarius (Hamacher 2011).

Tadpole:

This Belarussian asterism "Apalonichak" is the IAU constellation Ursa Major (Avilin 2009).

There are four **telescopic** "Tadpole" asterisms:

- One is the globular cluster NGC 6642 in the IAU constellation Sagittarius. This was discovered by English astronomer William Herschel in 1784 who listed it as "II 205". It is GC 4414 in the *General Catalogue* of 1864.
- One is PGC 57129 (UGC 10214, Arp 188), a barred spiral galaxy in the IAU constellation Draco. It has this name as it has a long trail of stars 280,000 light years long. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010) as "Gyrínus Dracónis" ("Tadpole of Draco").
- One is in the IAU constellation Lynx and is Ennis 47 on the observing list of Canadian astronomer Charles Ennis. Size 12' X 2'. The globular cluster NGC 2419 forms the tadpole's "head" and a line of three 7^{th} – 9^{th} magnitude stars the "tail": HIP 37133, the double star HIP 37102, and Gaia DR3 899275205853066624. This is listed as Corder 1382 on the observing list of American astronomer Jeffrey Corder: Corder just describes this as an "attractive asterism".
- One is in the IAU constellation Delphinus. This is twelve 8^{th} – 11^{th} magnitude stars. This "mushroom" is next to the galaxy NGC 7025. South African astronomer Magda Streicher mentions this on the DOCdb database. Size 8 X 10'.

Tadpoles:

This **telescopic** asterism is IC 410 (SH 2-236, LBN 807, Ced 43) and NGC 1893 in the IAU constellation Auriga. NGC 1893 is GC 1101 in the *General Catalogue* of 1864. IC 410 was first recorded by German astronomer Max Wolf (1863 – 1932).

Taffy Galaxies:

This **telescopic** asterism is UGC 12914 and 12915, a pair of colliding galaxies in the IAU constellation Pegasus. It is also known as the "Dancing of Pegasus" (see above).

Tagai:

This Meriam Mir and Kala Lagaw Ya "Tagai" is their creator God and involves the IAU constellations Centaurus, Crux, Corvus, Lupus, and Scorpius (Hamacher et al 2017):

- Tagai's "canoe" is the IAU constellation Scorpius,
- Tagai's "body" is the IAU constellations Lupus and Centaurus,
- Tagai's "left hand" is holding a spear which is the IAU constellation Crux,
- Tagai's "right hand" is holding a Eugina or Kupa fruit which is the IAU constellation Corvus, and
- The water that Tagai's "boat" is sailing in is the Milky Way.

Compare to the Mabuiag asterism Theogay (see below).

Tagai's Crew:

This Meriam Mir and Kala Lagaw Ya asterism "Zugubals" relates to their creator God Tagai (see Tagai, above), who got so upset with his boat crew that he turned them into stars in the IAU constellations Taurus and Orion (Hamacher et al 2017). Thus, this has two parts:

- The first asterism, "Usual", is the Pleiades cluster in the IAU constellation Taurus, and
- The second asterism "Utimal" or "Seg", is the belt and sword of Orion.

Tagai's First Mate:

This Meriam Mir and Kala Lagaw Ya star "Kareg" relates to their creator God Tagai (see Tagai, above) and is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius (Hamacher et al 2017).

Tahi-ari'i:

This Tahitian star "Tahi'ari'I" is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga. Tahi-ari'i is the wife of Fa'a-nui (Auriga).

Tahiri's Club

This Rapanui star "Ko Para Tahiri" is probably Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes (Edwards and Edwards 2010, Edwards and Edwards 2016, Edwards et al 2018). The Edwards list alternate translations as "Para's Fan" or "Decayed Fan".

Tail:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a curving line of stars with a fork at one end in the IAU constellation Scorpius, each star having a name:

- Epsilon (ε) Scorpii: "Hou" ("Empress Consort"),
- Mu (μ) 1 Scorpii (determinative star): "Fei" ("Imperial Consort),
- Zeta (ζ) 1 and 2 Scorpii: "Fei" ("Imperial Consort),
- Eta (η) Scorpii: "Fei" ("Imperial Consort),
- Theta (θ) Scorpii: "Pin" ("Imperial Concubine"),
- Iota (ι) 2 Scorpii: "Pin" ("Imperial Concubine"),
- Kappa (κ) Scorpii: "Pin" ("Imperial Concubine"),
- Lambda (λ) Scorpii: "Qie" ("Minor Concubine"), and
- Upsilon (υ) Scorpii: "Qie" ("Minor Concubine").

This Chinese xiù (lunar mansion) "Wěixiù" (尾宿) is a curve of stars in the "tail" of the IAU constellation Scorpius: Upsilon (υ), Lambda (λ), Kappa (κ), Iota (ι), Theta (θ), Eta (η), Zeta (ζ), Mu (μ), and Epsilon (ε) Scorpii. In the *Han shu*, a history of the early Han dynasty that was finished in 111 C.E. This xiù was

associated to matters concerning the Youzhou territory. This appears in the Tang Dynasty (618 – 907 C.E.) as "Wěi" (尾) and was compared to the Vedic nakshatra Mula (Kotyk 2017, see Root, above).

This Chinese Chenzhuo xing guan "Wěi" is a curving line of stars with a "fork" at one end in the IAU constellation Scorpius: Starting at Epsilon (ε) Scorpii, it runs through Mu (μ) 1 & 2 Scorpii, Zeta (ζ) 1 & 2 Scorpii, Eta (η) Scorpii, Theta (θ) Scorpii, and Iota (ι) 1 & 2 Scorpii to Kappa (κ) Scorpii, where two lines split off: One to Lambda (λ) Scorpii, and the other to Nu (ν) Scorpii.

This Japanese sei shuku or lunar station "Ashitare Boshi" is a curving line of stars in the IAU constellation Scorpius. This is basically the "tail" of Scorpius; Epsilon (ε), Mu (μ) 1, Zeta (ζ) 1 and 2, Eta (η), Theta (θ), Iota (ι) 1, Kappa (κ), Lambda (λ), and Upsilon (υ) Scorpii.

There are three Arabic asterisms with the name "að-ðayl" (الذيل), meaning "tail" or "train of a garment":

- One, later latinized to "Al Dhail" or "Adhil" is the star Xi (ξ) Andromedae in the IAU constellation Andromeda:
    - In his *Star Names* in 1899 R. H. Allen reports that "Adhil" first appeared in a 1515 edition of the *Almagest*.
    - The IAU approved the name Adhil for Xi (ξ) Andromedae in 2016.
- One, "al-dhail", later latinized to "Thail", is the star 49 Andromedae in the IAU constellation Andromeda, which is close to Xi (ξ) Andromedae. English astronomer Francis Baily (1774 – 1844) thought that this star was the better location for this name according to R. H. Allen in his *Star Names* in 1899.
- One is the star Gamma (γ) Gruis in the IAU constellation Grus. 16th century Arabic astronomer Al Tizini saw this as the "tail" of nearby Piscis Austrinus.

This Greek star "Ἀλκαία" ("Alkaía") is Beta (β) Leonis (Denebola) in the IAU constellation Leo as listed in R. H. Allen's *Star Names* in 1899.

Tail Hair:

This Arabic asterism "al-hulba" (الهلبة) is the IAU constellation Coma Berenices (Adams 2016). There is a scattering of stars next to Gamma (γ) Comae Berenices as well as globular clusters Messier 3 and 53 that give the impression of a tuft of hair.

Tail Hair Strikes:

This Arabic asterism "darb al-asad bi hulbatihi" (ضرب الأسد بهلبته) is a group of stars in the IAU constellation Ursa Major: Xi (ξ), Mu (μ), Nu (ν), and Lambda (λ) Ursae Majoris (Adams 2016). This is seen as a place on the ground struck by the tail of their asterism "al-asad" (see Lion, above).

Tail of the Bellows:

This Ikoots star "Miwiil Roob" is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major.

Tail of the Dolphin:

This Arabic star "Dhanab al-dulfīn" is Epsilon (ε) Delphini in the IAU constellation Delphinus:

- This was listed on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992).

- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Dheneb el dulfin, the Dolphin's tail".
- This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 lists "Deneb al Delphin": The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822.

Tail of the Eagle:

This Arabic asterism "ðanab al-ʿuqāb" (ذنب العقاب), later latinized to "Deneb al Okab" or "al Dhanab al ʻʿOḳāb", is the stars Zeta (ζ) and Epsilon (ε) Aquilae in the IAU constellation Aquila.

This Persian star "ðanab aṭ-ṭā'ir" (ذنب الطائر), later latinized to "Dzeneb al Tair", is Zeta (ζ) Aquilae in the IAU constellation Aquila as listed in the *Calendarium* of Al Achsasi Al Mouakket in 1650.

This Latin star "Cauda Volantis" or "Cauda Vulturis" is Zeta (ζ) Aquilae in the IAU constellation Aquila.

Tail of the Goat:

This Arabic star "Dhanab ul-Jady" (ذنب الجدي) or Ulugh Beg Mirza's "Al Dhanab al Jady" is Delta (δ) Capricorni in the IAU constellation Capricornus:

- "Dhanab al-Jadī" is listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- This is listed as "Dhanab al-jadī" on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992).
- This was later latinized to "Deneb Algedi", "Deneb Algedi", or "Deneb al Giedi".
- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists "dhanab al-jady".
- The rete of the 14th century Spanish astrolabe NMM AST0570 in the National Maritime Museum lists "Libedeneb" and the Sloane astrolabe BM SL 54 in the British Museum which dates to 1290 – 1300 lists "Denebalgedi" (Dekker 2000).
- The *Alfonsine Tables* of 1521 listed "Denebalschedi", which later appeared as "Scheddi": Kunitzsch (1986) lists this *Alfonsine Table* entry as "Denebalchedi".
- Johann Bayer's *Uranometria* (1603) lists "Deneb Algedi" for this star.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Deneb Algedi".
- This star is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as "Denedbalgedi" and "Dhanbol-gaedi".
- Robert Hues lists it as "Denob Algedi" in his *A Learned Treatise of Globes* in 1659.
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Deneb Algedi".
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists this star as "Deneb Algedi" in his *Celestial Atlas* in 1822.
- This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Deneb el dschaldi": The author is unknown, but it is based on Jamieson's *Celestial Atlas*.
- German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this star as "Deneb Algedi".
- Ferdinand Reuter's star map in 1874 listed "Deneb Algethi".

- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Deneb Algiedi".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list "Deneb Algiedi" for this star.
- The IAU approved the name Deneb Algedi for the star Delta (δ) Capricorni Aa.
- NOTE: German astronomer Johann Bayer (1572-1625) incorrectly listed Gamma (γ) Capricorni as "Deneb Algethi".

Tail of the Hen:

This Arabic star "Dhanab ud-Dajājah" (ذنب الدجاجة) is Alpha (α) Cygni in the IAU constellation Cygnus:

- "Dhanab al-Dajāja" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- This is listed as "Dhanab al-dajālah" on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992): Savage-Smith translates this as "tail of the bird".
- The star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985) lists the Arabic name "dhanab al-dajāja" and the Hebrew name "zenav ha-tarnegolet".
- This was later latinized to "Denebadigege" in the Alfonsine Tables (Kunitzsch 1986), "Denebedigege", "Deneb Adige", and "Deneb".
- The 14th century astrolabe #456o from Christian Spain lists the abbreviated form "DNP" for "Denep" and the name "RADF" (King 2002).
- Johann Bayer's *Uranometria* (1603) lists the names "Deneb Adigege" and "Denebedegige" for this star.
- "Deneb adigegi", "Dhanbod digageti", and "Denebelezid" are listed as names of this star in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
- Robert Hues lists it as "Deneb Adigege" in his *A Learned Treatise of Globes* in 1659.
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Deneb".
- American uranographer William Croswell (1760 – 1834) lists this star as "Deneb" on his *Mercator Map of the Starry Heavens* in 1810.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists "Deneb" in his *Celestial Atlas* in 1822.
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich list this star as "Deneb".
- *An Improved Moveable Planisphere* (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, lists this star as "Deneb".
- Deneb is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on Jamieson's *Celestial Atlas*.
- English Admiral Henry William Smyth's *Prolegomena* of 1844 lists "Deneb" and his *Bedford Catalogue* in 1844 lists "Deneb… from dheneb ed dajájeh, hen's tail."
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as "Deneb".
- In his *Star Names* in 1899 R. H. Allen suggests that this name was derived from Al Dhanab al 'Okab, but this is their asterism "ðanab al-ʿuqāb" (see Tail of the Eagle, above).

- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Arided" and "Deneb Adiga".
- *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Deneb".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists "Arided", "Deneb", and "Deneb Adige" for Alpha (α) Cygni, but his 14th edition (1959) lists "Deneb" as a name for both Alpha (α) Cygni and Beta (β) Leonis, the latter being a reference to the name "Denebola".
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists "Deneb" for this star.
- The IAU has approved the name Deneb for Alpha (α) Cygni.

Tail of the Lion:

This Arabic star "Dhanab ul-Asad" (ذنب الاسد), "Al Dhanab al Asad", or "Dhanab al-Asad/al-Layth" (ذنب الاسد/الليث) is Beta (β) Leonis in the IAU constellation Leo:

- "Dhanab al-Asad" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- The star list of Abraham Bar Hiyya in 1104 (Goldstein 1985) lists the Hebrew name "zenav ha-ari" and the Arabic name "dhanab al-asad al sarfā".
- The star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985) lists the Arabic name "al-sarfa" (see Weather Change, below) and the Hebrew name "zenav ha-aryeh".
- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists "al-sarfa".
- An anonymous Hebrew star list from 1392 (Goldstein 1985) lists the Arabic name "al-sarfa" (see Weather Change, below) and the Hebrew name "zenav ha-aryeh".
- NOTE: Dorn (1829) describes two stars "under the tail of the Bear" (Ursa Major) labelled "tail of the lion" on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283).
- This was later latinized to "Denebola". Other variations include "Nebulasit", and "Alesit". It appears as "Denebalezeth" in the 15th century *Alfonsine Tables* (Kunitzsch 1986).
- A celestial globe (1522) of German polymath Johann Schöner (1477 – 1547) lists this star as "Denebalecid".
- German astronomer Johann Bayer (1572-1625) listed it as "Denebalecid", "Denebaleced", "Denebola", and "Nebolasit" in his *Uranometria* (1603).
- German astronomer Wilhelm Schickard (1592 – 1635) listed it as "Dhanbol-asadi".
- Robert Hues (1659) in his *A Learned Treatise on Globes* listed it as "Deneb Alased". Hues also listed the name "Asampha".
- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) omitted the first syllable and listed it as "Nebolellesed" and "Nebollassid" and claimed it was a "Nubian" name, also giving the name "Alazet" and attributing this to "Azophi" (which would be Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986)).
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Denebola".
- American uranographer William Croswell (1760 – 1834) lists this star as "Deneb" on his *Mercator Map of the Starry Heavens* in 1810.

- German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this star as Denebola.
- Scottish uranographer Alexander Jameison's *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822) lists Denebola.
- Denebola is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists "Denebola" in his *Celestial Atlas* in 1822.
- English Admiral Henry William Smyth's *Prolegomena* of 1844 lists "Denebola" and his *Bedford Catalogue* in 1844 lists "Denebola, from the Arabian dhanab al asad, the lion's tail".
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as "Denebola".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Deneb Aleet", "Denebola", and "Deneb".
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as "Denebola".
- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Denebola" and describes it as the "Tail of the lion".
- John Chilmead (1899) in his *A Learned Treatise on Globes* listed it as "Deneb Alased".
- *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Denebola".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists the names "Deneb", "Deneb Aleet", and "Denebola" for this star, but his 14th edition (1959) lists both "Deneb" and "Denebola" for this star.
- The IAU approved the name Denebola for Beta (β) Leonis.

This Latin star "Cauda Leonis" ("tail of the lion") is Beta (β) Leonis in the IAU constellation Leo:

- The Sloane astrolabe BM SL 54 in the British Museum which dates to 1290 – 1300 lists "Caudaleonis" (Dekker 2000).
- The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.168v-169r lists this star as "Cauda Leonis".
- The celestial globe (1480) of German mechanic Hans Dorn (c 1430 – 1506) lists this star as "CAVDA LEONES".
- The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists this star as "Cauda Leonis".
- This star is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as "Cauda Leonis" and "Cor Leonis".
- "Cauda Leonis" and "Cor Leonis" are listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661.
- *The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678* by English uranographer James Clerk lists "Cauda Leonis".

- The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer lists this star as “Cauda Leonis”.

Tail of the Raven:

This Babylonian and Sumerian star “tail of uga” is Alpha (α) Crateris (Alkes) in the IAU constellation Crater as listed in the star catalogue BM 78161 (Liechty 1988) and the K 8538 planisphere (Koch 1989).

Tail of the Sea Monster:

This Arabic star “dhanab qaytus” is Iota (ι) Ceti in the IAU constellation Cetus as listed on the star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003). Compare to Southern Tail of the Sea Monster and Northern Tail of the Sea Monster.

Tail of the Southern Fish:

This Arabic star “al-dhanab” (الذنب), later latinized to “Aldhanab” or “Al Dhanab” is Gamma (γ) Gruis in the IAU constellation Grus. The IAU Working Group on Star names approved the name Aldhanab for Gamma (γ) Gruis.

Tail of the Three Fire Lords:

This K’iche’ asterism is the belt of Orion in the IAU constellation Orion (Milbrath 1999).

Tailed:

This Turkish asterism “Koirūghi” is the IAU constellation Scorpius as listed in R. H. Allen’s *Star Names* in 1899. An alternate Turkish name is “Uzun Koirūghi” (“long-tailed”).

Tails:

This Babylonian asterism from the MU.APIN tablets, “MUL.KUN”, “KUN”, “MUL.ZIB”, “KUN.MES” (Parpola 1993), “Zibbatimesh” (Bartel van der Waerden 1974) or “ZIB” (literally “Ribbon of the Fishes”) is in the IAU constellation Pisces and is a precursor of that constellation (Boutet 2014). The *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) list it as “KUN.MES”. It consists of a long “V” shaped “tail” of stars with a triangle and a quadrilateral at one end:

- The “tail” starts at 31 Piscium and runs through 41, Delta (δ), Epsilon (ε), and Mu (μ) Piscium, takes a bend at the binary star Alpha (α) Piscium (Alrescha), and then continues through Omicron (ο) and Eta (η) Piscium and ends at Chi (χ) Piscium.
- At Chi (χ) Piscium there are two attachments:
- The triangle of stars Chi (χ), 64, and 72 Piscium, and
- The quadrilateral of Chi (χ), Phi (φ), Upsilon (υ), 68, Zeta (ζ), and Eta (η) Piscium.

NOTE: English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 frequently refers to a “kheït, or ribbon, connecting the two fishes”.

This Babylonian ziqpu “mulDIL”, “edu-sa KUN”, or “zibbati-su” from cuneiform text AO 6478 (Schaumberger 1952) is Beta (β) Leonis (Denebola) in the IAU constellation Leo.

This Akkadian asterism from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) is "Zibbati" (Parpola 1993), "Zibbātu" or "Zibbāt Sinūnūtu". R. H. Allen lists it as "Zibbat A" in his *Star Names* in 1899.

This Persian asterism from the list of Zodiacal Signs in VAT 4956 from the Persian (Achaemenid) Period (539 – 331 B.C.E.) is "zib" (Bartel van der Waerden 1974).

This asterism later appears in Seleucid sky lore.

Taiyangshou:

See Guard of the Sun, above.

Tak-sa-a-tu:

This Babylonian and Sumerian ziqpu from the BM 78161 tablet is Delta (δ) Herculis in the IAU constellation Hercules and is the 5th ziqpu on this list (Liechty 1988, Leitz 2019).

Taking Away:

This Vedic asterism "Apabháranī" is in the IAU constellation Aries and is the stars 35, 39, and 41 Arietis as listed in the *Taittiriya Samhita* and *Taittiriya Brahmana* (Ivanković 2021). This is an older name for their nakshatra "Bharani" (see Bearer, above).

NOTE: The name "Bharani" was assigned to the star 41 Arietis by the IAU Working Group on Star Names and Barani is the name given to the stars 33 Arietis (Barani I) and 35 Arietis (Barani II).

Takulua-Alofi:

This is the Tongan name for Alpha (α) Geminorum (Castor) in the constellation Gemini.

Takalua-Tua-Fanua:

This is the Tongan name for Beta (β) Geminorum (Pollux) in the constellation Gemini.

Takurua:

This Māori and Polynesian star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major.

Talitha:

See Third Leap of a Gazelle, below.

Tall One:

This Zulu asterism "oNdwenjana" ("tall object/man/tree/lily") or "iNdwendweni" is the sword of Orion in the IAU constellation Orion (Slotegraaf 2013, Holt and Slotegraaf 2022).

Talons:

There are two Arabic stars with the name"al-'aẓfār", "al-'Uẓfūr" (الأظفار), or "Al Aṭhfār" as listed by 13th century Persian astronomer Zakariyya' al-Qazwini (1203 – 1283) in his *Wonders of the Creation and Unique of the Existence*:

- One is the star Mu (μ) Lyrae in the IAU constellation Lyra, whose name was later latinized to "Al Athfar" or "Alathfar". The IAU is considering the name Alathfar for this star.

- One is the star Eta (η) Lyrae in the IAU constellation Lyra, whose name was later latinized to "Aladfar". The IAU approved the name Aladfar for Eta (η) Lyrae Aa.

Tamborine:

This Quechua asterism "Sonaja" ("tambourine" or "rattle") is probably the IAU constellation Corona Borealis (Urton 1981).

Tammech:

This asterism is the IAU constellation Gemini as listed by Italian astronomer Giovanni Battista Riccioli (1598 – 1671), who identified this as a "Chaldaean [sic]" name.

Tanager Bird:

This Karajá asterism "Xiau" is the belt of Orion and the stars Alpha (α) Orionis (Betelgeuse) and Gamma (γ) Orionis (Bellatrix) in the IAU constellation Orion (De Freita Mourão 2009).

Tanga's Breastplate:

This Rapanui star "Rei a Tanga" or "Ko Pu Tui" is Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion (Edwards and Edwards 2016, Edwards et al 2018). Tanga is wife and mother of men of Tautoru (the belt of Orion, see Three Handsome Ones, below). NOTE: The Edwards list this in both papers but in their 2010 paper they identify this star as Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius and mention this again in their 2016 paper.

Tanggong:

This Tawi-Tawi and Sama Mapun asterism is the stars of the belt of Orion (Margiza 2022). The three stars are three characters, Tongh, Masikila, and Mayuyu. Masikila and Mayuyu are the wives of Tohng. The Tawi-Tawi have two stories related to the origins of rice planting, each having Mayuyu being careless, meddlesome, or lazy, resulting in the three of them becoming stars.

Tangra:

This **telescopic** Bulgarian star is WASP 21 in the IAU constellation Pegasus (magnitude 10.085). It received this name in the IAU NameExoWorlds campaign. Tangra is a deity worshipped by the early Bulgars. It has an exoplanet named Bendida after the Great Mother Goddess of the Thracians.

Tania Australis:

See South Side of Second Leap of a Gazelle, above.

Tania Borealis:

See North Side of Second Leap of a Gazelle, above.

Tank Tracks:

This Western **telescopic** asterism is emission nebula NGC 2024 (SH 2-277, LBN 953, Ced 55p) in the IAU constellation Orion. It was discovered by English astronomer William Herschel in 1786 who listed it as "V 28" in his catalogue. It is GC 1227 in the *General Catalogue* of 1864. Size 30' X 30'. It is also known as the Maple Leaf (see below) and the Flame Nebula (see above).

Tannipi:

This Chinese phonetic translation of “Dhanus” from the Vedic *Candragarbha-parivarta* in 566 is the IAU constellation Sagittarius (Kotyk 2017).

Tanuma:

This Polynesian asterism from the island of Futuna is the IAU constellation Corona Australis.

Tapecue:

See Eternal Path, above.

Tapir:

This Tupi Guarani asterism, “Tapi’i” is also known as “Anta do Norte”. This is made up of the stars of the IAU constellations Cepheus, Cygnus, and Cassiopeia:

- The tapir’s “nose” is the star Alpha (α) Cygni (Deneb), and the “hind quarters” are the stars Beta (β) Cassiopeiae (Caph), Alpha (α) Cassiopeiae (Schedar), and Gamma (γ) Cassiopeiae (Navi),
- The tapir’s “ears” are tipped by the stars 72 and Tau (τ) Cygni,
- The “feet” are the stars Alpha (α) Cephei (Alderamin) and Iota (ι) Cephei and 32 and Delta (δ) Cassiopeiae, and
- The tip of the “tail” is Eta (η) Cassiopeiae.

The Kalinago see the Pleiades cluster in the IAU constellation Taurus as a woman who cuts off her husband’s leg, which is the belt and sword of Orion and runs away with a tapir, which is the Hyades cluster (Urton 2016).

This Karajá asterism “A-onidurarú” is the IAU constellation Taurus (De Freita Mourão 2009). It is being chased by the hunter “Doró botó” (see above). Some Karajá see the star Alpha (α) Tauri (Aldebaran) as the Tapir’s eye, while others see it as the tip of his teeth.

Urton (2016) writes that “certain tribes of Guiana” (he doesn’t specifically identify which ones) see dark spots in the Milky Way as representing a jaguar chasing a tapir chasing a dog.

This Kiribati star “Teba” or “Nei Teba” is an unidentified star near the IAU constellation Crux (Trussel and Groves 1978). Teba is the wife of Kama.

Tapir’s Eye:

This Karajá star is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus (De Freita Mourão 2009) and is part of their asterism “A-onidurarú” (see Tapir, above). NOTE: Some Karajá see this as the tip of the tapir’s teeth.

Tapir’s Head:

This Carib asterism “Maipuriyuman” or “Maipuri” is the Hyades cluster in the IAU constellation Taurus (Magaña, and Jara, 1982). Wawaiya is the wife of Serikoai. Wawaiya ran off with a tapir. Serikoia chased them caught the tapir and ate all of it except its head. Wawaiya and the tapir’s head (the Hyades) ran up into the sky where Serikoai chases them.

Tapster:

This English asterism “Skinker” is the IAU constellation Aquarius. This name appears in William Cock’s *Meteorologia, or The True Way of Foreseeing and Judging the Inclination of the Air and Alteration of the Weather* in 1703 and is listed in R. H. Allen’s *Star Names* in 1899. This is an old slang term for a bartender or tapster.

Taqiyah:

This **telescopic** Tunisian star “Chechia” is HIP 99894 (HD 192699) in the IAU constellation Aquila (magnitude 6.45). Chechia was approved as a name in the IAU NameExoWorlds campaign. A Chechia is a traditional red wool tat which is their national headdress, a form of taqiyah or araqchin. It has an exoplanet named Khomsa, which is the name of a palm shaped amulet popular in Tunisia.

Tarandus:

See Reindeer, above.

Taranis:

This Celtic (Gaulish) asterism is the big dipper asterism in the IAU constellation Ursa Major (Boutet 2017). Taranis was a God of thunder associated with the wheel.

Tarantula Nebula:

This **telescopic** asterism is the open cluster and HII region NGC 2070 (Caldwell 103) in the IAU constellation Dorado. This was discovered by French astronomer Nicolas Louis de Lacaille in 1755. Shapley and Lindsay, in *A Catalogue of Clusters in the Large Magellanic Cloud*, Irish Astronomical Journal, Vol. 6, 1963, refer to this asterism as the “Tarantula nebula”. *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., list this as the “Tarantula Nebula”. It is also known as the Great Looped Nebula, the True Lover’s Knot, and the 30 Dorado Cluster or 30 Dorado Association.

Tarazed:

See Beam of the Scale, above.

Tariao:

This Māori star, “Tariao”, is an unidentified star in the Milky Way (Thompson 2019).

Tarung:

This Palawan asterism “Tarung” is the IAU constellation Delphinus (Santos et al 2019).

Tarvos:

This Celtic (Gaulish) asterism may be the IAU constellation Taurus. Tarvos Trigaranus or Taruos Trigaranos, whose name means “bull”, is a God who appears on a relief panel of the Pillar of the Boatmen as a bull with three cranes on his back (Mosenkis, date N/K).

Tascheter:

This Persian star “Tascheter” (“watcher of the east) is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus and is part of their asterism Four Guardians of Heaven (see above). Compare to the Zoroastrian star “Tištar” (see General of the East, above).

Tassel:

This Chinese xing guan is the Pleiades cluster in the IAU constellation Taurus and appears in the turtle plastrons and ox scapulae from the reigns of the last few kings of the Shang Dynasty (1250 – 1450 B.C.E.).

This Arabic asterism “Al Halbah” (“tassel”) or “hulbat al-asad” (“Hair of the Tail of the Lion”) is a loop of stars that forms the end of the “tail” of their asterism “Lion” (see above). It starts at Gamma (γ) Comae Berenices and runs around through 14, 16, 17, 21, 23, 8, 7, and 4 Comae Berenices, HIP 59364, HIP 59489, and HIP 59923:

- “al-Halba” was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- “Al-dhu’āba is listed as a name for Gamma (γ) Comae Berenices in the star list of Abraham Bar Hiyya in 1104, who also gives the Hebrew names “me’ir beyn zenav ha-ari” and “veha-nitmakh kokhav” (Goldstein 1985).
- An anonymous Hebrew star list from 1392 (Goldstein 1985) gives the Arabic name “al-munīr” and the Hebrew name “ha-me’ir” to Gamma (γ) Comae Berenices.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Daphira, from al dafirah, the tuft of hair at the tail’s extreme”: This is confusing it with the Arabic asterism “aḍ-Ḍafiyrah” (See Braid, above).
- NOTE: Astronomer Stephen James O’Meara claims that “a long time ago” that “Arabian astronomers knew it as the “tuft” and part of “Leo the Lion’s Tail” and identifies it as “Melotte 111”.

Tara:

This Hindu star is Zeta (ζ) Draconis in the IAU constellation Draco. Tara is a Goddess married to Lord Brhaspati, the planet Jupiter.

Tarf:

See Eyes, above.

Target of Fornax:

This **telescopic** asterism “Scópus Fornácis” is the intermediate barred spiral galaxy NGC 1288 in the IAU constellation Fornax. It was discovered by John Herschel who listed it in his catalogue as 2520 and later in his *General Catalogue* of 1864 as GC 683. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it the name as it “bears some resemblance to a shooting target”.

Taro:

This Anutan asterism, which represents the Taro plant, is in the IAU constellation Scorpius, with Alpha (α) Scorpii (Antares), which the Anutan call “Te Kau” the stem. “Ona Rau” (the leaves) are formed by several stars:

- One “leaf” is the stars Beta (β) 1 Scorpii (Acrab), Delta (δ) Scorpii and the double star Rho (ρ) Ophiuchi, and
- One “leaf” is the stars Eta (η) Scorpii, Rho (ρ) Scorpii, and d Scorpii.

Tartar:

This asterism “Tartar” was created from the stars of the IAU constellation Caelum by German astronomer Erhard Weigel (1625 – 99) who produced his *Astrocopium Orbi Europaeo Sacrum* chart in 1661, 1681 and 1688 in which he tried to replace existing constellations a new system based upon the heraldry of the nation states and principalities of seventeenth century Europe, as well as of its principal hierarchies and social classes. It depicts an owl bearing a shield with yellow, white, and red bands.

Tātai o Matariki:

This Māori asterism, also known as “Matariki” (“chief’s eyes”, “small face” or “small eyes”), “Ao-Kai”, “Hoko-kumara” or “Huihui o Matariki” (“the assembly of Matariki”) is the Pleiades cluster in the IAU constellation Taurus.

Tatars:

This Huntarian asterism “Tatárdülas” is probably Mel 111 in Coma Berenices. The celestial map of Hungarian uranographer Sandor Nagy (1915) depicts this asterism as a troop of soldiers marching with three mounted cavalry men in Tatar dress accompanying them. NOTE: Nagy’s 1915 chart is beautifully illustrated, but some of the labels are hard to make out and I find it difficult to match the hand drawn stars on his chart with actual star patterns in the sky.

Tattoo on the Wrist:

This Arabic asterism “washm al-mi’sam” is the double cluster NGC 869 and 884 in the IAU constellation Perseus (see Double Cluster, above). It is part of their asterism Little Abundant One (see above).

Tau:

This **telescopic** asterism is in the IAU constellation Leo and was listed as Corder 2189 on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Corder attributes it to John Raymond. Size 55’ X 30’.This resembles the Greek letter Tau (τ). Corder describes this as starting “at 80 [Leonis] and travels south to [HIP 55769], then 83 [Leonis] before ending near… Tau (τ) [Leonis]”.

Taubukinikarawa:

This Kiribati star “Taubukinikarawa” is Beta (β) Orionis (Rigel) in the IAU constellation Orion (Trussel and Groves 1978). NOTE: This term also refers to the zenith.

Taumata-kuku:

This Māori star is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus.

Tauros Asterion:

The Uppsala Archaeoastronomical Project proposed the IAU constellation Taurus as the Minoan asterism “Tauros Asterion”. This asterism was passed on to me by Dana Corby of Ariadne’s Tribe in Tacoma, Washington in November 2023.

Taurus:

Taurus houses two of the brightest stars: Alpha (α) Tauri (Aldebaran- 14th brightest) and Beta (β) Tauri (Elnath- 27th brightest). The stars of Taurus show up in 1160 asterisms in this handbook.

This IAU constellation (IAU abbreviation Tau) was first mentioned in Aratus' poem *Phaenomena* (270 B.C.E.) and became one of Ptolemy's 48 original constellations in the 2nd century, which Ptolemy listed as "Ταῦρος" ("Tavros"- see Bull, above) in his *Almagest*. This bull was typically described as white, which explains the Latin name "Candidus Taurus" ("white Taurus"). Other adjectives used to describe Taurus include "πεπτηώς" ("peptiós" or "crouching") and "Κεραόν" ("Keraón" or "horned"), by Aratus, "Cornus" ("horned), by the Roman poet Ovid (b. 43 B.C.E.), "inflexoque genu" ("on bended knee") by Cicero (106 – 43 B.C.E.), "nixus" ("striving") by 1st century Roman poet Marcus Manilius.

The Temple of Khnum at Esna has a Latopolitan zodiac on the ceiling of the pronaos dating to the age of Ptolemy II Euergetes (246 – 221 B.C.E.) depicts Taurus as an entire bull running (Bullinger 1882, Seiss 1882).

The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) depicts this constellation as the front half of a bull facing right, as does the Mainz Globe from the eastern end of the Roman empire (c. 150 – 220 C.E.).

The French call it "le Taureau and the Italians "il Toro".

Indian astrologer and polymath Varāhamihira (c. 505 – c. 587) called it "Taouri", and Iranian astronomer Abu Rayhan Muhammad ibn Ahmad al-Biruni (973 – 1048) translated this later as "Tāmbiru". It originated in the Babylonian asterism Bull of Heaven (see above). It appears as the Egyptian asterism "Tauros", which is one of the paranatellonta of the decans of Scorpius as listed in *the Sphaera Barbarica* described by Teucros (Mosenkis, date n/k).

Taurus appears in the Leiden *Aratea* (816) as the front half of a bull facing to our left.

Taurus appears in the 8th century *Revised Aratus Latinus*:

- In several editions (Dresden DC 183, Paris BN 12957, Paris BN n.a. 1614, St Gall 250, St Gall 902, Gottweig 7 (146), Siena L. IV. 25.) Taurus is shown as the front half of a bull,
- In the Prague IC C 6 edition Taurus is a half bull lying down,
- In the Munich 560 edition Taurus is shown as an entire bull.

The 9th century Berlin 130, Madrid 3307, Monza F.9/176, Munich 210, Vienna ÖNB 387 and Vat lat 645 manuscripts of the *De ordine ac positione stellarum in signis* depict Taurus as an entire bull lying down.

The Maass 1898 manuscript of the 11th century *De signis caeli ("of the signs of heaven*") lists "Thaurus". The Oxford Laud 644, Padua 27, Laon 422, and Venice VIII 22 manuscripts of *De signis caeli* depict half a bull. The Klosterneuberg 685, Paris BN 5239, Paris BN 5543, Vat lat 643, and Zwettl 296 manuscripts of *De signis caeli* depict Taurus with his right leg tucked under him and his left leg extended. The Paris BN 5239, Paris BN 5543 and Vat lat 643 manuscripts depict a peculiar "X" on the face of the bull. The Freiburg im Breisgau 35 manuscript of *De signis caeli* depicts the entire bull with his tail curled between his legs.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi's son depicts both left and right profile views of Taurus, who is depicted as the front half of a bull.

Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) depicts Taurus as the front half of a bull.

A Hebrew translation of the Almagest from Catalonia (c1361), Philadelphia (USA), University of Pennsylvania Libraries, Lawrence Schoenberg Collection, ms. ljs057 (old Ms.Sassoon 823), ff.56v, 57r, depicts Taurus as the front half of a bull running to our right.

A quadrans novus found at the House of Agnes site in Canterbury in 2005 in soil dated to c 1375-1425 lists the abbreviated form "TAVR" for "TAVRVS" (Dekker 2007).

The Cusanus celestial globe of Cardinal Nicholas Cusa (1414) depicts Taurus as the front half of a bull running to our right.

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Taurus as the front half of a bull moving to our right.

The mid 15th century Wein, Oesterr. National Bibl., manuscript Lat 5415, ff.168v-169r depicts Taurus as the front half of a bull running to our right.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.70v-71r depicts "Taurus" as the front half of a bull facing to our right.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Taurus as the front half of a bull facing to our right.

The vault of the Old Sacristy of the Basilica di S. Lorenzo in Firenze, Italy (1442) depicts Taurus as the front half of a bull running to our left.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Taurus as the front half of a bull, running to our left, looking over its left shoulder.

A translation of The *Liber de signis* of Scottish polyglot Michael Scot (1175 – c.1232) in the second half of the 15th century, Darmstadt, Hessische Hochschulebibliothek, Ms 266, depicts "Taurus" as an entire bull, walking to our left, looking down as if grazing.

The Vault of Cappella de'Pazzi of the Basilica di S. Croce in Firenze, Italy (1459-60) depicts Taurus as the front half of a bull running to our left.

De Astronomica ("the astronomy"), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This depicts Taurus as the front half of a bull emerging from a cloud.

The *Germanicus Aratea* (Siciliensis, c. 1469) and the *Germanicus Aratea* with scholia Strozziana (c. 1475) depicts "Tharus" as the front half of a bull charging to our right out of a cloud.

The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts "THAVRUS" as a bull emerging to our right from a cloud.

Taurus appears on the *Imagines constellationum Australium* chart of Romanian theologian Johannes Honter (1498 – 1549) as the front half of a bull emerging to our left from a cloud and labelled with the astrological sign for Taurus.

The early 16th century Real Academia de Historia, manuscript D-97, f.101v depicts Taurus as the front half of a bull charging to our right. It is not labelled. Real Academia de Historia, manuscript D-97, f.104v – 105r depicts this reversed, with Taurus charging to our left.

The "Nuremburg Maps" *(Die Karte des Nördlichen Sternenhimmels* inv.-Nr. Hz 5576), a pair of celestial hemispheres made in 1503 by Conrad Heinfogel depicts "Taurus" as the front half of a charging bull emerging to our right from a cloud.

This is listed as "Thaurus" on the *imagines coeli septentrionales cum duodecint imaginibus zodiaci* ("images of the northern sky with twelve images of the zodiac"), commonly known as the *Northern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius (Dekker & Lippincott, 1999) depicts "Taurus" as the front half of a charging bull emerging to our right from a cloud.

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts "Taurus" as the front half of a bull charging to our right.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts Taurus as the front half of a bull facing to our right.

The *Horoscopion generale* (1533) of Petrus Apianus (1495 – 1552) depicts Taurus as the front half of a bull emerging from a cloud. It is moving to our left.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts Taurus as they do.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as the "Bull".

The Northern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Taurus as the front half of a bull charging to our right out of a cloud.

Jesuit German mathematician Christopher Clavius (1538 – 1612) listed in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts Taurus as the front half of a bull emerging from a cloud: He is facing to our right.

Dele Stelle Fisse ("Of the Fixed Stars") by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as "Del Tauro". The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

The Northern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Taurus as the front half of a bull charging out of a cloud towards our right.

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists Taurus in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts Taurus as the front half of a bull emerging from a cloud: He is facing to our right and is only labeled with the astrological symbol for Taurus.

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicts "Taurus" as the front half of a bull emerging to our right from a cloud.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts "le Taureau" as the front half of a bull emerging to our right from a cloud.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) depicts "Taurus" as the front half of a bull emerging from clouds, facing to our left.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts "Taurus" as a bull charging to our right out of a cloud.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts "Taurus" as a bull emerging from a cloud to our right.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) depicts "Taurus" as the front half of a bull emerging from clouds: He is running to our right.

Taurus is listed in Danish astronomer Tycho Brahe's *Astronomiae Instauratae Progymnasmata* (1602).

German uranographer Johann Bayer (1572 – 1625) depicts Taurus as the front half of a bull emerging from clouds in his *Uranometria* in 1603. Bayer lists these names for Taurus: "Taurus, Bubulum Caput, Io, Isis, Bos, Portitor Europae, Stier, Ataur, Altor".

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts "Taurus" as the front half of a bull facing to our right emerging from a cloud.

"Taurus" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and depicted as the front half of a bull emerging from a cloud moving to our left.

Giovanni Paolo Gallucci's *Theatrum Mundi, et Temporis* (1614) depicts "Tauro" as the front half of a bull emerging from a cloud. The bull is facing to our right.

Taurus is listed by German astronomer Johannes Kepler (1571 – 1630) in his *Tabulae Rudolphinae*, a new edition of Brahe's catalogue, in 1627.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the name "Taurus" for this constellation.

"Taurus" is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as the front half of a bull emerging from a cloud.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts "Taurus" as a bull charging to our right out of a cloud.

The huge *Gottorf Globe* (c1650) made for the Duke of Holstein, Frederick III, one of the world's first planetariums, depicts Taurus as a bull charging to our left out of a cloud.

This constellation is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "TAVRVS Alior" and depicted as the front half of a bull.

Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) depicts Taurus as the front half of a bull.

The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678 by English uranographer James Clerk depicts "Taurus" as the front half of a bull emerging from clouds.

English uranographer John Seller's *A coelestiall planisphere* (1678) depicts "Taurus" as the front half of a bull emerging from clouds facing to our right.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts "Taurus" as the front half of a bull emerging to our right from a cloud.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this "Le Taureau", "Taurus", and "Ταῦρος" and depicts it as the front half of a bull emerging from a cloud and charging to our right.

Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) depicts "Taurus" as the front half of a bull.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, depicts Taurus as the front half of a bull emerging from a cloud.

Taurus is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729: It is depicted as the front half of a bull.

A wooden precession globe (1730) by German uranographer Johann Georg Puschner (Dekker 2003) lists this constellation as "Taurus".

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts "Taurus" as the front half of a bull facing left, emerging from a cloud on the right.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Taurus as the front half of a bull emerging from a cloud. It is flying to our left.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) depicts "Le Taureau" as the front half of a bull emerging from a cloud.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts "Taurus" as the front half of a bull facing right.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "le Taureau" as the front half of a bull emerging to our left from clouds, as does the 1778 edition.

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "der Stier".

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as "Toro" in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts "Taurus" as the front half of a bull emerging from a cloud.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts "Taurus" as the front half of a bull facing right.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) and in various editions of his *Jahrbuch* lists this constellation as the "Stier" and depicts it as the front half of a bull.

American uranographer William Croswell (1760 – 1834) depicts "Taurus the Bull" on his *Mercator Map of the Starry Heavens* in 1810 as the front half of a bull.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Taurus in his *Celestial Atlas* and his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822): It is depicted as the front half of a bull.

"Taurus" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as the front half of a bull emerging from a cloud on the right.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts "Taurus" as the front half of a bull emerging from clouds to our right.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts Taurus as the front half of a bull.

Taurus is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822. Only the front half of the bull is depicted.

"Taurus" is listed in the *Atlas Coelestis* catalogue (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It is depicted as the front half of a bull moving to our left.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star on its charts as the "Bull" but in the text describes it as "Taurus consists of the head and shoulders of a *bull*, which is represented in the act of charging at Orion."

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Taurus, The Bull" as an official constellation "recognized in the catalogue of the British Association".

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as "Taurus, the Bull".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Taurus" in his *Star Atlas* (1893) and describes it as "The Bull".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Taurus" and describes it as a "Bull".

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Taurus" as "the Bull".

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) radically redesigned the lines of Taurus in his book *The Stars - A New Way to See Them* (1952). Standard IAU charts show this constellation with the Hyades cluster as the "head" and four star lines running out to Zeta (ζ) Tauri and Beta (β) Tauri (Elnath) to form "horns" and lines running out to the Pleiades and Omicron (o) Tauri to form the front half of a bull. Rey gives us an entire bull:

- His "head" is a large, roughly triangular shape formed by the stars Gamma (γ) Tauri, Alpha (α) Tauri (Aldebaran), Zeta (ζ) Tauri, Tau (τ) Tauri, Upsilon (υ) Tauri, Epsilon (ε) Tauri, and Delta (δ) 1 Tauri, which places the Hyades in one corner of this triangle,
- One "horn" runs from Tau (τ) Tauri to Beta (β) Tauri (Elnath),
- One "horn" runs from Upsilon (υ) Tauri to the Pleiades cluster,
- The "body" is the line of stars from Gamma (γ) Tauri through Lambda (λ) Tauri, to Xi (ξ) and Omicron (o) Tauri,
- His "tail" runs from Xi (ξ) Tauri to 5 Tauri,
- Two "back legs" are lines running out from Omicron (o) Tauri:
    - One runs to Nu (ν) Tauri, and
    - One runs to 10 Tauri,
- Two "front legs" are lines running out from Gamma (γ) Tauri:
    - One runs to Mu (μ) Tauri, and
    - One runs to a "knee" at 90 Tauri and ends at 88 Tauri.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Taurus in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* as simply the Hyades cluster as the "head" of the bull and two lines forming horns:

- One from Alpha (α) Tauri (Aldebaran) to Zeta (ζ) Tauri, and
- One from Epsilon (ε) Tauri to Beta (β) Tauri (Elnath).

Sky and Telescope Magazine, founded in 1941, depicts Taurus in their magazine and publications with the triangular Hyades cluster as the "head" with three lines running out of it and one beside this constellation:

- One "horn" runs from Alpha (α) Tauri (Aldebaran) to Zeta (ζ) Tauri,
- One "horn" runs from Epsilon (ε) Tauri to Beta (β) Tauri (Elnath),
- One runs from Gamma (γ) Tauri through Lambda (λ) and Xi (ξ) Tauri to Nu (ν) Tauri,
- One disconnected line runs from Omicron (o) to 10 Tauri.

Taurus Dark Cloud:

This **telescopic** asterism is Barnard 22 in the IAU constellation Taurus. It is also known as the Taurus Molecular Cloud or TMC-1.

Taurus Poniatovii:

See Poniatovski's Bull, above.

Taurus Poniatovii Cluster:

This **telescopic** asterism, the "Taurus Poniatovii Cluster" or the "Poniatowski's Bull Cluster" is the open cluster Collinder 359 (Melotte 186) in the IAU constellation Ophiuchus. It received this name as it is part of the obsolete constellation Taurus Poniatovii (see Poniatowski's Bull, above).

Tautanga-ufi:

See O-nga-tangata above.

Tavern:

This Sami asterism "Niallar" is the belt of Orion in the IAU constellation Orion as listed in R. H. Allen's *Star Names* in 1899. Allen calls this a "Lapland" asterism.

Tawaret:

This Egyptian Dendera asterism made up of stars in the IAU constellation Boötes, Corona Borealis, and Draco (Hoffman 2017): The star Alpha (α) Boötis (Arcturus) is referred to as "the Guard". Tawaret is a protective hippo Goddess who here is guarding the celestial pole and the nearby asterism Ox Thigh.

Taygeta:

This Greek star is 19 Tauri in the Pleiades cluster in the IAU constellation Taurus. Taygeta is one of the Pleiades sisters in Greek mythology:

- Scottish uranographer Alexander Jamieson (1782 – 1850) lists it as "Taigaeta" in his *Celestial Atlas* in 1822.
- This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Taigoeta": The author is unknown, but it is based on Jamieson's *Celestial Atlas.*
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists "Taygeta" for this star.
- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Taygeta",
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list this star as "Taygeta".
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this star as "Taygete".
- The IAU approved the name Taygeta for the star 19 Tauri Aa.

Te Kokota:

This Māori asterism is the Hyades cluster in the IAU constellation Taurus. It has also been used as a term for the Magellanic Clouds.

Te pou o te rangi:

This Rapanui star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Edwards 2016).

Te Purangi:

This Māori asterism “Te Purangi” is the Magellanic Clouds (Orchiston 2017).

Te Putea iti a Reti:

This Māori asterism is the Southern Cross in the IAU constellation Crux.

Te Rua ō Māahu:

This Māori asterism is the Coal Sack Nebula (see Coal Sack Nebula, above).

Te Rua-patiki:

This Māori asterism is the Coal Sack Nebula (see Coal Sack Nebula, above).

Te Uru-o-tiki:

This Polynesian asterism (Tuamotu Archipelago) is the IAU constellation Delphinus.

Te Wale-o-Awitu:

This Polynesian (Cook Islands) asterism is the IAU constellation Corona Borealis.

Te Whai-atitipa:

This Māori asterism is the Coal Sack Nebula (see Coal Sack Nebula, above).

Tea Tree:

This Ngiyampaa asterism “Nguu” or “Zuu” is the IAU constellation Crux (Fuller et al 2014). Compare to the Kamilaroi asterism “Minggah” (see Spirit Tree, above).

This Weilwan asterism “Nguu” is the IAU constellation Crux (Clarke 2014).

Teacher:

This Ininew (Cree) asterism “Wesakayckak” is the IAU constellation Orion (Buck 2016). He is also known as “Mistapiw” (see Giant above). The three stars of Orion’s belt are the “Three Chiefs” (see below).

This Anishinaabe asterism “Nanabush Anung”, “Nanaboozhoo”, or “Misabe” (see Giant, above) is the IAU constellation Orion (Lee et al 2014). Nanaboozhoo is a shapeshifter and trickster God, a great hunter who often takes the form of a rabbit.

Teacup:

This **telescopic** asterism is the open cluster NGC 6664 in the IAU constellation Scutum. This was discovered by English astronomer William Herschel in 1784 who listed it as “VIII 12”. It is GC 4426 in the *General Catalogue* of 1864 . It was given this name by American astronomer Wayne Schmidt. It is also known as Santa’s Sleigh (see above), and the Figure Outline (see above).

Teapot:

This asterism is made up of the eight brightest stars in the IAU constellation Sagittarius:

- The main body of the “teapot” is made up of the four stars Phi (ϕ) Sagittarii (Namalsadirah I), Delta (δ) Sagittarii (Kaus Media, Kaus Meridionalis, Media or Kaus Medius), Epsilon (ε) Sagitarii (Kaus Australis- 38th brightest star), and Zeta (ζ) Sagitarii (Ascella).
- The “lid” is topped by the star Lambda (λ) Sagitarii (Kaus Borealis or Al Thalimain).
- The “spout” is tipped by the star Gamma (γ) Sagitarii (Alnasl) and the Milky Way appears as "steam" coming from this “spout”.

- The “handle” is formed by the two stars Sigma (σ) Sagitarii (Nunki or Sadira- 53rd brightest star) and Tau (τ) Sagitarii (Namalsadirah II).

The Norwegian name for the Teapot above is Tekannen. Jeffrey Corder lists it as Corder 3616.

There is a smaller **telescopic** teapot, Markov 1 on the list of asterisms created by Paul Markov of the Toronto Centre of the RASC, found in the IAU constellation Hercules just north northwest of Xi (ξ) Herculis. It is made up of nine 9th to 10th magnitude stars with HIP 87917 on the “handle” side and the double star HIP 87838 at the tip of the “spout” on the other side. Size 19’ X 8’.

Teardrop:

There are two telescopic “Teardrop” asterisms:

- One is in the IAU constellation Cepheus and is Corder 4877 on the observing list of American astronomer Jeffrey Corder. Size 70’ X 45’. This is ten 7th – 9th magnitude stars including HIP 115262, 114833, and 115202.
- One is the molecular cloud IC 423 (LBN 913, Ced 52) in the IAU constellation Orion.

Tearful Shi’ra:

See Teary-Eyed Woman, below.

Teary-Eyed Woman:

This Arabic star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major. This is also known as the “Southern Shi’ra” and the “Tearful Shi’ra”. Compare this to their star “Bleary-Eyed Woman” (see above). NOTE: This asterism and the asterism Teary-Eyed Woman (see below) are the “sisters” of Suhayl (see Glorious, above) who was the fiancé of Al Jawza (see Al Jawza, above). The star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985) lists the Arabic names as “al-shi’rā” and “al-‘abūr” and the Hebrew name as “’over ha-afudda” (“one who crosses the belt”) which is a reference to the story of Suhayl and the sisters.

This Bedouin (Northern Arabian Peninsula) star “Al-Shi’la” is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major.

This Turkish star “Rumeysa” is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major.

Teaspoon:

This asterism is found in the IAU constellation Sagittarius and is made up of Rho (ρ) 1 Sagittarii, 43 Sagittarii, Pi (π), Omega (ω) Sagittarii, and Xi (ξ) 1 and 2 Sagittarii. It is in the SAC database and is listed by Jeffrey Corder as Corder 3774. Size 480’ X 140’.

Teddy Bear Lollipop:

This **telescopic** asterism is Vastagh 10, listed in 2009 by Hungarian astronomer László Vastagh, which is in the IAU constellation Delphinus. Its size is 20.5’ X 12.5’. Vastagh describes it as a “Lollipop-shaped [asterism] with animal figures. If we look closely, we can see a teddy bear with outstretched arms, perched on top of a long stick. The exciting association consists of 16 members, and when observed, it appears to be leaning on its side... [It is] next to GH NGC7006.”

Teegarden's Star:

This **telescopic** 15th magnitude M-type red dwarf, (SO J025300.5+165258, 2MASS J02530084+1652532, LSPM J0253+1652) is in the IAU constellation Aries and is only 12 light years from earth. It was discovered in 2003 from NASA's Near Earth Asteroid Tracking program data. It is named in honor of American astrophysicist Bonnard J. Teegarden (b. 1940), who led the discovery team.

Teenagers and Little Ones:

This Wardaman asterism "Murabibi" is the Pleiades cluster in the IAU constellation Taurus (Cairns 1999). The Wardaman believe them to be the children of the sky god Nardi and Earth-Mother Doungdung and assign each star a gender, age, and name:

- Kagili, young woman,
- Ingaba, brother,
- Jabakka, eldest,
- Mungali, 11 years,
- Whadik, 12 years, and
- Marinyan, young woman.

Tegmine:

See Cocoon, above.

Teikui:

This Mabuiag asterism is the Small Magellanic Cloud.

Tejat:

This Arabic asterism "tiḥyāt" (an old Arabic word whose meaning is currently unknown) is stars in the IAU constellation Gemini: Eta (η), Mu (μ), Gamma (γ), Nu (ν), and Xi (ξ) Geminorum (Kunitzsch 2006).

Two stars from this Asterism now bear variations on this Arabic name:

- Eta (η) Geminorum: Tejat Prior.
- Mu (μ) Geminorum: Tejat, Tejat Posterior:
    - English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists this as "Tejat post, from Tahyáh".
    - The IAU approved the name Tejat for Mu (μ) Geminorum Aa in 2017

Tejat Posterior:

This Arabic star is the Mu (μ) Geminorum in the IAU constellation Gemini and part of their asterism Tejat (see above).

Tejat Prior:

This Arabic star is Eta (η) Geminorum in the IAU constellation Gemini and part of their asterism Tejat (see above).

Telephone Receiver:

This **telescopic** asterism is the spiral galaxies NGC 5278 and NGC 5279 (Arp 239) in the IAU constellation Ursa Major. It was discovered in 1789 by William Herschel who listed it as "II 798". It became GC 3639 in the *General Catalogue* of 1864. This is also known as the "Wrestler" and the "Little Wrestler".

Telescopium:

None of the stars of Telescopium are brighter than 4th magnitude and the stars of this constellation only show up in 36 asterisms in this handbook.

This IAU constellation (IAU abbreviation Tel) was created in 1751 by French astronomer Abbé Nicolas Louis de Lacaille, who called it "le Telescope": He did this to honor instruments which to him symbolized the Age of Enlightenment. It appears on his *Planisphère des Étoiles Ausralea* (1756) as a long thin telescope suspended from a pulley on a tall pole. In 1763 de Lacaille latinized his original name to the current one.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "le Telescope" as a refractor telescope mounted on a pole.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this asterism as "Astronomische Fernrohr". Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Telescop" on his charts and depicts it as a refractor mounted on a pole.

English astronomer Francis Baily (1774 – 1844) and American astronomer Benjamin Gould later reduced the size of Telescopium to its current size, repurposing Beta (β) Telescopii as Eta (η) Sagittarii, Gould repurposing Gamma (γ) Telescopii as G Scorpii, Theta (θ) Telescopii became d Ophiuchi, and Sigma (σ) Telescopii being moved to Corona Australis where it is now known as HR 6875.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists "Telescopium" in his *Celestial Atlas* in 1822.

American uranographer Elijah Burritt's *Southern Circumpolar Map for each Month in the Year* (1835) depicts "Telescopium the Telescope" as a refractor telescope on a pole mount.

"Telescopium" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875): He indicates the borders of this constellation on the chart but offers no illustration of it.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depict "Telescopium" as a refractor telescope pointing to our left.

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Telescopium, The Telescope" as an official constellation "recognized in the catalogue of the British Association".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Telescopium" and describes it as the "Telescope".

Standard IAU charts depict Telescopium as a line from Alpha (α) Telescopii to Zeta (ζ) Telescopii.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Telescopium in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* as the oval of stars Alpha (α), Zeta (ζ), Gamma (γ), Xi (ξ), and Iota (ι) Telescopii with an additional line running from Alpha (α) Telescopii to Epsilon (ε) Telescopii.

Sky and Telescope Magazine, founded in 1941, depicts Telescopium in their magazine and publications as a bent line of three stars: Epsilon (ε), Alpha (α), and Zeta (ζ) Telescopii.

Tell Me a Picture:

This Hungarian asterism "Kep Asszon" is the IAU constellation Virgo. Hungarian uranographer Sandor Nagy (1915) depicts this asterism as a woman in a long dress with a basket on her left forearm looking at a star (Spica) in her right hand.

Tempel's Nebula:

See Merope Nebula (above).

Temple:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a quadrilateral of stars in the IAU constellation Aquarius: Kappa (κ) Aquarii (the determinative star), HIP 111170, HIP 110532, and 44 Aquarii.

This Chinese xing guan "Xūliáng" (虛梁) is a line of four stars in the IAU constellation Aquarius: 44, 51, and Kappa (κ) Aquarii and HIP 113345.

This Chinese Chenzhuo xing guan is a curving line of four stars in the IAU constellation Aquarius: HIP 111170, HIP 110532, Rho (ρ) Aquarii, and HIP 110009.

This Latin asterism "Templum" is the IAU constellation Ara:

- "Templum" is listed in the 15th century *Alfonsine Tables*.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Templum".

This Hindu asterism is the Hyades cluster in the IAU constellation Taurus as listed by R. H. Allen in his *Star Names* in 1899.

Temple of the World:

This Latin asterism "Mundi Templum" is the IAU constellation Ara as listed by 1st century Roman poet Marcus Manilius.

Ten Sheaves:

This Belarussian asterism "Kuchki" is the Pleiades cluster in the IAU constellation Taurus (Avilin 2009).

Tennis Racket:

This **telescopic** asterism from *Pattern Asterisms* by American astronomer John A. Chiravalle is found in the IAU constellation Aquila 3 degrees east of the star 42 Aquilae. Size 45'. Jeffrey Corder lists this as Corder 3965. This is how it is made up:

- Six magnitude 8 – 10.6 stars form an oval "racket",
- Two 8th magnitude stars form a "handle" with HIP 97492 at the base, and
- The bright blue star HIP 97655 is the "ball".

Tent:

There are two Arabic asterisms with this name:

- One, “al-Khibā’” (الخباء) is the star Alpha (α) Corvi in the IAU constellation Corvus. This star is part of their asterism Southern Tent (see above):
    - This was later latinized to “Alchibah”, “Alchiba”, “Alchita”, or “Al Chiba”.
    - English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “al Khibá, the tent”.
    - English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists this star as “Alchiba”.
    - The 1st edition of British schoolmaster Arthur P. Norton’s *A Star Atlas and Telescopic Handbook* (1910) lists both “Alchiba” and “Al-khiba” for this star, but the 14th edition (1959) only lists “Alchiba”.
    - R. H. Allen lists “Al Chiba” in the second edition of his *Star Names* in 1963.
    - In 2016 the IAU Working Group on Star Names chose the name Alchiba for Alpha (α) Corvi.
- One, “Al Ḥibā‘” (ألحباع), later latinized to “Alhiba” (I, II & III), is the stars Mu (μ), Lambda (λ), and Rho (ρ) Aurigae in the IAU constellation Auriga as listed in 13th century Persian astronomer Zakariyya’ al-Qazwini’s *Wonders of the Creation and Unique of the Existence*.

Tents:

This Arabic asterism “al-Akẖbiya” (الأخبية) is the stars Zeta (ζ), Gamma (γ), Pi (π), and Eta (η) Aquarii in the IAU constellation Aquarius as listed by Persian astronomer Ulugh Beg Mirza (1394 – 1449) and 13th century Persian astronomer Zakariya al-Qazwini.

Tentus Majoris:

This American asterism is the teapot asterism in the IAU constellation Sagittarius and was created by Brad and Kathryn Templeton for *The Vault of Heaven* star map for the 2004 Burning Man event held in Black Rock Desert in Nevada (Kuperjanov 2006). It is depicted as a large tent.

Tentus Minoris:

This American asterism appears to be made up of stars of the IAU constellation Grus and was created by Brad and Kathryn Templeton for *The Vault of Heaven* star map for the 2004 Burning Man event held in Black Rock Desert in Nevada (Kuperjanov 2006). It is a small triangle of four stars.

Ṭepā-Kenmut:

This Egyptian decan “Ṭepā-Kenmut” was in the IAU constellation Cancer. In later Hellenistic texts it was named “ϹΙΤ” (“Seta”). In the Testament of Solomon, it became “Katanikotael”, Aristobulus of Paneas (2nd century B.C.E.) called it “Catarno”, in Greek Hermeticism it became “Ouphisit”, in Latin Hermeticism “Somachalmais”, 4th century Roman astrologer Julius Firmicus Maternus called it “Sith”, Cosmas of Maiuma (d. 760) called it “Herakles”, French scholar Joseph Justus Scaliger (1540 - 1609) called it “Syth” and German Jesuit astronomer Athanasius Kircher (1602 – 1680) called it “ЄΚϠΤΗ” (“Hecate”). It has been depicted as a woman with an avian body.

Ṭepā-khentet:

This Egyptian decan “Ṭepā-khentet” was in the IAU constellation Libra. In later Hellenistic texts it was named “ΤΠΗΧΟΝΤΙ” (“Tpa-χont”). In the Testament of Solomon, it became “Nathotho” or “Marderô”, Aristobulus of Paneas (2nd century B.C.E.) called it “Baham”, in Greek Hermeticism it became

"Nephthimes", in Latin Hermeticism "Chusthisis", 4th century Roman astrologer Julius Firmicus Maternus called it "Sepisent" or "Atebenus", Cosmas of Maiuma (d. 760) called it "Kairos", French scholar Joseph Justus Scaliger (1540 - 1609) called it "Aterechini" and German Jesuit astronomer Athanasius Kircher (1602 – 1680) called it "ѻнфђ" ("Omphta"). Variations include "Nephthimes". It has been depicted as a man wrapped from chest to ankles, holding a flask and standing on a fountain with four streams.

Ṭepā-semṭ:

This Egyptian decan "Ṭepā-semṭ" was in the IAU constellation Capricornus. In later Hellenistic texts it was named "Srat". In the Testament of Solomon, it became "Anoster", Aristobulus of Paneas (2nd century B.C.E.) called it "Salac", it Greek Hermeticism it became "Epitek", in Latin Hermeticism "Manethois", 4th century Roman astrologer Julius Firmicus Maternus called it "Epiemu" or "Epimen", Cosmas of Maiuma (d. 760) called it "Hygieia", French scholar Joseph Justus Scaliger (1540 - 1609) called it "Epima" and German Jesuit astronomer Athanasius Kircher (1602 – 1680) called it "ріроγфђ" ("Riruphta").It has been depicted as a man with a pig's head with a flask in his right hand and a sword in his left.

Terebellum:

See "Snail" and "Drill", above.

Teresa:

This Belarussian asterism "Teresa" or "Saint Teresa" is the IAU constellation Cygnus (Avilin 2009).

Termite Hole:

This **telescopic** asterism is the open cluster NGC 2477 (Caldwell 71) in the IAU constellation Puppis. It was discovered by French astronomer Abbé Nicolas Louis de Lacaille in 1751. It is GC 1593 in the *General Catalogue* of 1864. It is also known as the Electric Guitar (see above).

Terrestrial:

This Latin asterism "Terrestris" is Alpha (α) Carinae (Canopus) in the IAU constellation Carina. Johann Bayer's *Uranometria* (1603) lists the name "Terrestris" for this star.

Territory of Dog:

This Chinese xing guan "Gǒuguó" (狗国) is a diamond of stars in the IAU constellation Sagittarius: Omega (ω), 59, 62, and 60 Sagittarii. Their xing guan "Dog" (see above) is nearby. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan "Gǒuguó" is a diamond of four stars in the IAU constellation Sagittarius: 60, Omega (ω), 59, and 62 Sagittarii.

Test:

This Arabic star "Al Ṣadāk" ("the test" or "our riddle") is 80 Ursae Majoris in the IAU constellation Ursa Major as listed by Fairūzābādī (فیروزآبادی), also known as el-Fīrūz Abādī", "al-Fayrūzabādī (الفيروزآبادي) and "Firuzbadi" (1329–1414) whose al-Qamous (القاموس) dictionary was in use for five centuries. It is called this because it was a test of the acuity of a person's vision.

Tethered Aviator:

This American asterism is made up of stars of the IAU constellation Aquila and was created by Brad and Kathryn Templeton for *The Vault of Heaven* star map for the 2004 Burning Man event held in Black Rock Desert in Nevada (Kuperjanov 2006). This is depicted as a diamond of the stars Alpha (α) Aquilae (Altair), Zeta (ζ) Aquilae, Delta (δ) Aquilae, and Theta (θ) Aquilae, with a "tether" being the line between Delta () Aquilae and Lambda (λ) Aquilae.

Tethered Camels:

This Arabic asterism "al-sharāsīf", is a long line of stars in the IAU constellations Corvus, Hydra and Libra: Upsilon (υ) Librae, Sigma (σ) Librae, Pi (π) Hydrae, Gamma (γ) Hydrae, Beta (β) Corvi, Epsilon (ε) Corvi, Nu (ν) Hydrae, and Lambda (λ) Hydrae. It was described by 16th century Arabic astronomer Al Tizini. Midway along this line is their asterism Southern Tent (see above):

- The name was later latinized to "Al Sharasif".
- The name al Sharasif I has been assigned to Kappa (κ) Hydrae.
- The name Al Sharasif or Al Sharasif II has been assigned to Beta (β) Crateris (Kraz).
- Dorn (1829) lists this as "Ribs" and describes it as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283).
- In his *Star Names* in 1899 R. H. Allen translates this Arabic name as "the ribs" and attributes it to 'Abd al-Rahman al-Sufi (903 – 986).
- NOTE: The actual Arabic ribs asterism is "al-kharāt" (see Two Small Ribs, below).

Tevel:

See Universe, below.

Textile Ruler:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of two stars in the IAU constellation Hercules: 96 Herculis (the determinative star) and 101 Herculis.

This Chinese xing guan "Bódù" (帛度) is a line of two stars in the IAU constellation Hercules: 95 and 102 Herculis.

This Chinese Chenzhuo xing guan "Bódù" is two stars in the IAU constellation Hercules: 95 and 102 Herculis.

Tezcatlipoca:

This Aztec and Nahuatl asterism is the Big Dipper asterism in the IAU constellation Ursa Major. Tezcatlipoca, whose name means "Smoking Mirror", was a warrior God. He is usually depicted as missing his left foot, and the handle of the Big Dipper disappearing beneath the horizon at their latitude is a metaphor for this (Krupp 1983). NOTE: There is a similar figure in Mayan folklore, Ah Bocon Dzacab, who like Tezcatlipoca, is missing a foot (Krupp 1983).

Tha:

This Arabic asterism "al-Tahātī", "al-Tahiyat", or "al-Tahia" is Lambda (λ) Orionis (Meissa), and Phi (φ) 1 and 2 Orionis in the IAU constellation Orion. It is called this as it resembles the Arabic letter Tha (ث).

These are listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

Thaadoi:

This Mursi star is Beta (β) Crucis (Mimosa) in the IAU constellation Crux. They used it as part of a system to tell when the local Omo River would flood.

Thaba:

This Meitei asterism "Thaba" is the IAU constellation Musca.

Thamyris:

This Greek asterism "Thamyris" is the IAU constellation Hercules. In Greek mythology Thamyris was a Thracian singer who challenged the Nine Muses to a competition and lost:

- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Thamyris" as an alternate name for Hercules.
- "Thamyris" is listed as a name for Hercules in R. H. Allen's *Star Names* in 1899.

Thank You:

This Zambian star "Natasha" is HIP 48235 (HD 85390) in the IAU constellation Vela and was given this name in the IAU NameExoWorlds campaign. It has an exoplanet named Madalitso ("blessings").

Thara:

This Kulin Nations star "Thara" is Beta (β) Centauri (Hadar) in the IAU constellation Centaurus (Massola 1968, Hamacher 2011).

That Which Drives the Cattle:

Zulu star "iQhubankomo" or "iQubankomo" is Alpha (α) Virginis (Spica) in the IAU constellation Virgo.

That Which Follows the Sting:

This Arabic asterism "Tāli' al Shaulah" is open cluster Messier 7 (NGC 6475) in the IAU constellation Scorpius. It is given this name due to its location near the "stinger" of Scorpius:

- "Tāli' al Shaulah is listed by Persian astronomer Ulugh Beg Mirza (1394 – 1449).
- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists "al-tāir li-(?)".
- This was later translated into the Latin "Stella nebulosa quae sequitur aculeum Scorpionis" ("The misty star that follows the sting of Scorpio").

That Which is Behind Eridanus:

This **telescopic** asterism "Postícus Erídani" is the barred spiral galaxy IC 1953 in the IAU constellation Eridanus. It was discovered by DeLisle Stewart in 1899. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "this galaxy is situated almost behind the 4th magnitude star 19 Eridani."

That Which is Revolving:

This Koyukon asterism “Naagheltaale” or “Nosekgheltaale” is cognate with the Gwich’in asterism “Yahdii” (see Traveler, below). It is also known as “Ghededzuyhdle” (“those multiple objects which are moving along”) and “K’etetaalkkaanee” (“the one who paddled among things”). The whole asterism contains “body parts” in 18 different IAU constellations, with the principal constellations being Boötes, Canes Venatici, Leo, Lynx, Ursa Major, and Ursa Minor (Cannon 2021). These are the stars that make up Naagheltaale:

- His ”head” (betlee’) is 31 Lyncis,
- His “torso” (bedoghone’) is the stars bounded by Alpha (α) Ursae Majoris (Dubhe), Omicron (o) Ursae Majoris, Alpha (α) Lyncis, and Psi (ψ) Ursae Majoris,
- His “belly” (betsokk’e) is the stars bounded by Delta (δ) Ursae Majoris, Alpha (α) Ursae Majoris (Dubhe), Psi Ursae Majoris, and Chi (χ) Ursae Majoris,
- His “left arm” (tl’eghests’ene’ betl’eele’) is Alpha (α) Lyncis, Epsilon (ε) Leonis, and Gamma (γ) Leonis,
- His ”left hand” (tl’eghests’ene’ belo’) is Gamma (γ) Leonis and Alpha (α) Leonis (Regulus),
- His “right arm” (nelneyhts’ene’ betl’eele’) is Omicron (o) Ursae Majoris, HIP 47193, and Alpha (α) Ursae Minoris (Polaris),
- His “right hand” (nełneyhts’ene’ belo’) is Alpha (α) Ursae Minoris (Polaris),
- His “left leg” (tl’eghests’ene’ betl’ene’) is Chi (χ) Ursae Majoris, Beta (β) Canum Venaticorum (Chara), and Alpha (α) Canum Venaticorum (Cor Caroli),
- His “left foot” (tl’eghests’ene’ bekaa’) is Alpha (α) Canum Venaticorum (Cor Caroli),
- His “right leg” (nełneyhts’ene’ betl’ene) is Eta (η) Ursae Majoris, Zeta (ζ) Ursae Majoris, and Epsilon (ε) Ursae Majoris
- His “right foot” (nełneyhts’ene’ bekaa’) is Eta (η) Ursae Majoris and Theta (θ) Boötis,
- His “buttocks” (bebet) are stars not yet identified,
- His “backbone” (benene’) are stars not yet identified,

NOTE: Some Kokukon view what is listed above as the “right leg” of Naagheltaale as his “tail”. Another version of this asterism recorded by Jules Jetté in 1905 (Cannon 2021) lists these parts:

- His “head” (metlee) is Eta (η) Ursae Majoris
- His “buttocks” (melt’o’) is Alpha (α) Ursae Majoris (Dubhe) and Beta (β) Ursae Majoris (Merak),
- His “hand” (melo’) is Alpha (α) Ursae Minoris (Polaris),
- The area “between his shoulders” (meggontekk’et) or “crooked/humped” (k’ehudetlgets) is Zeta (ζ) Ursae Majoris.

That Which Moves Back and Forth:

Upper Kuskokwim asterism “Noghiltale” is cognate with the Gwich’in asterism “Yahdii” (see Traveler, below (Cannon 2021)).

That Which Moves Following Us:

This Tanacross asterism “Neek’e’elteen” is cognate with the Gwich’in asterism “Yahdii” (see Traveler, below (Cannon 2021)). It is also known as “Yaamaagh Telch’eegh” (see One Who Went Angrily Around the Sky, above) and “Tuumaagh Telch’eegh” (see One Who Went Angrily Around the Edge of the Water).

That Which Moves in a Circle Over Us:

This is an alternate Ahtna name, “Nek’e Nekeghaltaexi”, for their asterism “Nek’eltaeni” (see That Which Moves Over Us, below).

That Which Moves Over the Earth:

This is an alternate Ahtna name, “Nen’keltaeni”, for their asterism “Nek’eltaeni” (see That Which Moves Over Us, below).

That Which Moves Over Us:

This Ahtna asterism “Nek’eltaeni” is cognate with the Gwich’in asterism “Yahdii” (see Traveler, below). Before this figure went into the sky, he was known as “Yabaaghe Tezyaann” (“the one who went around the edge of the world”), “Yabaaghe Tuu Teeshyaay” (“the one who went around the edge of the water/ocean”), “Netseh Telyaanen” (“the one who leads us ahead”) or “Ciil Hywaa” (“smart young man”). Like the Gwich'in asterism known as "Yahdii" this asterism spans more than 130 degrees across the sky from nose to foot and is viewed as being in a crouched position with his arms embracing the sky. The whole asterism contains “body parts” in 18 different IAU constellations, with the principal constellations being Auriga, Boötes, Cassiopeia, Camelopardalis, Cancer, Draco, Gemini, Hydra, Leo, Lynx, Taurus, Ursa Major, Ursa Minor, and Virgo (Cannon 2021). He is also known as “Nek’e Nekeghaltaexi” (That [human] which moves over us”), “Nen’keltaeni” (“that which moves over the earth”), “Nek’e Nekeghaltaexi” (“that which moves in a circle following us”), or “Nekeghaltaexi”. The early dawn light is his wife “U’aa Uk’etayall” (“his wife will walk after him”). Here are the various parts of Nek’eltaeni:

- His “tail” (uce’) is the Big Dipper asterism,
- His “left arm” (tl’aghests’en uggaan’) is 31 Lyncis, Kappa (κ) Leonis, and Lambda (λ) Leonis,
- His “left hand” (tl’aghests’en ula’) is Alpha (α) Leonis (Regulus) and Omicron (ο) Leonis,
- His “right arm” (kuzuun ts’ene uggaan’) is Delta (δ) Aurigae, 2 Lyncis, Beta (β) Camelopardalis, HIP 17884, and Epsilon (ε) Cassiopeia,
- His “right hand” (kuzuun ts’ene ula’) is two unidentified stars in Cassiopeia,
- His “left leg” (tl’aghests’en uts’ene’) is Psi (ψ) Ursae Majoris, Nu (ν) Ursae Majoris, and Xi (ξ) Ursae Majoris,
- His “left foot” (tl’aghests’en uke’) is a “left heel” (uketatl’) of Beta (β) Leonis (Denebola) and “left toes” (ukelaghose’) of Delta (δ) Leonis and Theta (θ) Leonis,
- His “right leg” (kuzuun ts’ene uts’ene’) is Lambda (λ) Draconis, Kappa (κ) Draconis, Beta (β) Ursae Minoris (Kochab), Gamma (γ) Ursae Minoris and Zeta (ζ) Ursae Minoris,
- His “right foot” (kuzuun ts’ene uke’) is Beta (β) Draconis (Rastaban) and Gamma (γ) Draconis,
- His “left ear” (tl’aghests’en udzaghe’) is Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux),
- His “right ear” (kuzzun ts’ene udzaghe’) is Alpha (α) Aurigae (Capella) and Beta (β) Aurigae (Menkalinan),
- His “nose” (bentsiis) is the Pleiades cluster,
- His “eyes” (unaegge’) is Iota (ι) Aurigae and Beta (β) Tauri (Elnath),

- His “abdomen” (utsaadle’) is 15 Lyncis, Omicron (ο) Ursae Majoris, 23 Ursae Majoris, 36 Ursae Majoris, Theta (θ) Ursae Majoris, Iota (ι) Ursae Majoris, Kappa (κ) Ursae Majoris, and 31 Lyncis,
- His “kidney” (udzedze’) is an unidentified star near the “cup” of the Big Dipper,
- His “heart” (uciz’aani) is 27 Lyncis,
- His “walking stick” (utedze’) is Beta (β) Cancri (Tarf), Epsilon (ε) Hydrae, Zeta (ζ) Hydrae, Alpha (α) Cancri (Acubens), 31 Leonis, Rho (ρ) Leonis, Sigma (σ) Leonis, and Beta (β) Virginis (Zavijava), and
- His “backpack” (ughaele’) is Beta (β) Ursae Majoris (Merak), Psi (ψ) Ursae Majoris, Mu (μ) Ursae Majoris, Alpha (α) Lyncis, and 31 Lyncis.

NOTE: The Traveler shows up in many other First Nations cultures. To the Upper Tanana he is “Neek’e’eltiin” or “Yihdaa” (see Traveler, below), to the Tanacross he is “Neek’e’elteen” (see That Which Moves Following us, above), to the Lower Tanana he is “Nogheyoli” (see One Who Continuously Walks, above), to the Koyukon he is “Naagheltaale” or “Nosekgheltaale” (see That Which is Revolving, above), and to the Upper Kuskokwim he is “Noghiltale” (see That Which Moves Back and Forth, above). Modern day members of these nations often use these names just to describe the Big Dipper asterism in the IAU constellation Ursa Major (Cannon 2021). Compare to the Gwich’in asterism “Traveller” (below). Nek’eltaeni is described as “nen’k’eltaen” (“the leans with the world”), “ne’el teltaen” (“he leans with us”), “nen’ts’e’ c’udelnesi k’e (“he reaches/holds the earth”), and “necehw nelnes” (“he’s reaching around people”). He is also known as (That [human] which moves over us”), “Nek’e Nekeghaltaexi” (“that which moves in a circle following us”).

That Which Strikes Hard:

This Sotho and Tswana asterism “Morotlwa” is the IAU constellation Crux. This seems to be a relatively modern name.

Theano:

This Greek asterism is the IAU constellation Pegasus as listed by 5th century Greek poet Nonnus. “Theno” is listed in Johann Bayer’s *Uranometria* (1603) and attributed to Nonnus. “Theano” is listed in R. H. Allen’s *Star Names* in 1899. In Greek mythology Theano was the wife of the king of Icaria, who demanded that she bear him children or leave the kingdom. She presented the children of Melanippe (see above) as her own. Melanippe was later turned into a horse in the sky.

Thein:

This Myanmar yathi (zodiac constellation) “Thein” (သိဟ်) is the IAU constellation Leo.

Their Appearance in the Sky Marks the Time of New Yams:

This Erromanga (Sie) asterism “Owonian omontai narvin” is the Pleiades cluster in the IAU constellation Taurus (Ramík 2019).

This Olal (north Ambrym) asterism “Uaiu” is the Pleiades cluster in the IAU constellation Taurus (Ramík 2019).

Their Appearance in the Sky Marks the Time of Planting Yams:

This Sesivi (Daakaka) asterism “Véviép mbwéiagiag” is the Pleiades cluster in the IAU constellation Taurus (Ramík 2019).

Theemin:

See Bend in the River, above.

Themat-hert:

This Egyptian decan “Themat-hert” was in the IAU constellation Virgo. In later Hellenistic texts it was named “ⲧⲱⲙ” (“Tom”). In the Testament of Solomon, it became “Katrax” or “Atrax”, Aristobulus of Paneas (2nd century B.C.E.) called it “Angaf”, in Greek Hermeticism it became “Althoum”, in Latin Hermeticism “Zamendres”. 4th century Roman astrologer Julius Firmicus Maternus called it “Thumis” or “Thinnis”. Cosmas of Maiuma (d. 760) called it “Themis”, French scholar Joseph Justus Scaliger (1540 - 1609) called it “Thumi”, and German Jesuit astronomer Athanasius Kircher (1602 – 1680) called it “ⲓⲥⲓⲥ” (“Isis”). “Themis” is listed for this constellation in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch. Variations include “Athoum”. It has been depicted as a dog-faced man with a hot red body standing on a pedestal.

Themat-Khert:

This Egyptian decan “Themat-Khert” was in the IAU constellation Virgo. In later Hellenistic texts it was named “ⲟⲩⲉⲥⲧⲉ—ⲃⲓⲕⲱⲧⲓ” (“Uste-bikot”). In the Testament of Solomon, it became “Jeropa” or “Ieropaêl”, Aristobulus of Paneas (2nd century B.C.E.) called it “Bethapen”, in Greek Hermeticism it became “Brysous”, in Latin Hermeticism “Magois”, 4th century Roman astrologer Julius Firmicus Maternus called it “Tophicus” or “Tropicus”, Cosmas of Maiuma (d. 760) called it “Moirai”, French scholar Joseph Justus Scaliger (1540 - 1609) called it “Thopitus”, and German Jesuit astronomer Athanasius Kircher (1602 – 1680) called it “ⲡⲓⲟⲥⲓⲣⲓⲥ” (“Piosiris”). Variations include “Brusous”. It has been depicted as a goat headed man with a scepter in his right hand and a flask in his left.

Theme Camp:

This American asterism is made up of stars of the IAU constellation Ophiuchus and was created by Brad and Kathryn Templeton for *The Vault of Heaven* star map for the 2004 Burning Man event held in Black Rock Desert in Nevada (Kuperjanov 2006). The oval of stars of Ophiuchus is depicted as a geodesic dome.

Themes-en-khentet:

This Egyptian decan “Themes-en-khentet” was in the IAU constellation Scorpius. In later Hellenistic texts it was named “Sesme”. In the Testament of Solomon, it became “Nefthada”, Aristobulus of Paneas (2nd century B.C.E.) called it “Nacy”, in Greek Hermeticism it became “Oustichos”, in Latin Hermeticism “Turmantis”, 4th century Roman astrologer Julius Firmicus Maternus called it “Tepsisen” or “Asentatir”, Cosmas of Maiuma (d. 760) called it “Leto”, French scholar Joseph Justus Scaliger (1540 - 1609) called it “Tepiseuth” and German Jesuit astronomer Athanasius Kircher (1602 – 1680) called it “ⲙⲉⲣⲱϯ” (“Merota”). Variations include “Oustikhos”. It has been depicted as a man in a robe standing on a scorpion.

Theogay:

This Mabuiag asterism "Theogay" is their creator God and involves the IAU constellations Centaurus, Crux, Corvus, Lupus, and Scorpius (Hamacher et al 2017):

- Theogay's "canoe" is the IAU constellation Scorpius,
- Theogay's "body" is the IAU constellations Lupus and Centaurus,
- Theogay's "left hand" is holding a spear which is the IAU constellation Crux,
- Theogay's "right hand" is holding a Eugina or Kupa fruit which is the IAU constellation Corvus, and
- The water that Theogay's "boat" is sailing in is the Milky Way.

Compare to the Meriam Mir and Kala Lagaw Ya asterism Tagai (see above).

Theogay's Crew:

This Mabuiag asterism "Zugubals" relates to their creator God Theogay (see Theogay, above), who got so upset with his boat crew that he turned them into stars in the IAU constellations Taurus and Orion (Hamacher et al 2017). Thus, this has two parts:

- The first asterism, "Usual", is the Pleiades cluster in the IAU constellation Taurus, and
- The second asterism "Utimal" or "Seg", is the belt and sword of Orion.

Compare to the Meriam Mir and Kala Lagaw Ya asterism Tagai's Crew (above).

Theogay's First Mate:

This Mabuiag star "Kang" relates to their creator God Theogay (see Theogay, above) and is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius (Hamacher et al 2017). Compare to the Meriam Mir and Kala Lagaw Ya asterism Kareg (see Tagai's First Mate, above).

Theoretician's Nebula:

See Lemon Slice Nebula, above.

Theseus:

This Latin asterism is the IAU constellation Hercules. Theseus was the king and founder of Athens and slayer of the Minotaur:

- Johann Bayer's *Uranometria* (1603) lists "Theseus" for this constellation.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Theseus" as an alternate name for Hercules.
- "Theseus" is listed in R. H. Allen's *Star Names* in 1899 as a name for Hercules.

Theseus and Pirithoüs:

This Greek asterism is the IAU constellation Gemini. Theseus was the king and founder of Athens and slayer of the Minotaur. Pirithoüs was his best friend.

Thespia:

This Greek asterism "Thespia" or "Thesbia" is the IAU constellation Virgo as listed in R. H. Allen's *Star Names* in 1899. Thespia is the daughter of the river God Asopus.

Thessaly Arrow:

This Latin asterism “Thessalica Sagitta” is the IAU constellation Sagittarius as listed by 1st century Roman poet Publius Ovidius Naso (Ovid, b. 43 B.C.E.). Thessaly is the mythical birthplace of the Centaurs. Johann Bayer’s *Uranometria* (1603) lists “Thessalicae Sagittae”.

Theta:

One is Pothier 4 in the IAU constellation Cepheus. René Merting describes it on the Faint Fuzzies website: “At 45x, an elaborately curved chain of stars can be seen, like the Greek letter Theta (?), only without the curl - a good eight stars form the pattern, which could also be seen as a mirror-inverted question mark - one star in the east of the pattern shines slightly orange-pink”.

Thetas:

This **telescopic** asterism is made up of a pair of stars of the IAU constellation Taurus: Theta (θ) 1, and 2 Tauri. *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), labels these the “Thetas”.

They Go Inside:

This T’atsaol’ine and Wiidiideh star “wezhìı nàgede” is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes (Cannon 2021).

They Rose Far Up:

This Gwich’in asterism “Yeedàak Gahàajil” is Delta (δ) Boötis, Epsilon (ε) Boötis, and Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes (Cannon 2021). They also call this “It is Naming the Morning” (see above) and “They Rose Straight Up” (see below).

They Rose Straight Up:

This Gwich’in asterism “K’iidàk Gahàajil” is Delta (δ) Boötis, Epsilon (ε) Boötis, and Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes (Cannon 2021). They also call this “It is Naming the Morning” (see above) and “They Rose Far Up” (see above).

They Sit Together:

This T’atsaol’ine and Wiidiideh asterism “łą wedzà” or “ełexè whela” is the Pleiades cluster in the IAU constellation Taurus (Cannon 2021).

Thiazi’s Eyes:

This Icelandic asterism “Þjass auga” is the stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini (Cleasby and Vigfusson 1874, Allen 1963). Thiazi (Thjazi, Tjasse, Thiazzi, Thiassi, Old Norse “Þjazi”) was the son of the giant Ölvaldi, brother of giants Iði and Gangr, and the father of Skaði. Thiazi kidnapped the goddess Iðunn. Odin punished him by throwing his eyes into the sky. Bender (2020) speculates that the Anglo-Saxons may have named Pollux “right eye” or “riht éage” and Castor “left eye” or ”left éage” or “lyft éage”. In Norse that would make Pollux “réttr auga” and Castor “vinstri auga” (Cleasby and Vigfusson 1874, Hall 1916).

This Anglo-Saxon asterism “ge Twisan” ” is the stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini (Bender 2020).

This Saxon asterism ”Thiazis Augen” is the stars Alpha (α) Bootis (Castor) and Beta (β) Bootis (Pollux) in the IAU constellation Boötes as depicted in the *Nördliche Sternhimmel* sky map of O. S. Reuters based on the work of German astronomer Johann Elert Bode (1747 – 1826).

Thick Arms of Puppis:

This **telescopic** asterism “Crassibrachiátus Púppis” is the barred spiral galaxy NGC 2525 in the IAU constellation Puppis. It was discovered in 1791 by William Herschel who listed it as “III 877. It became GC 1623 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Thick Fingered of Lupus:

This **telescopic** asterism “Pachydáctylus Lúpi” is the intermediate spiral galaxy IC 4444 in the IAU constellation Lupus. First recorded by American astronomer DeLisle Stewart (1870 – 1941). This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of “its thick flocky spiral arms, to be compared with fat fingers”.

Thick Nucleus of Cetus:

This **telescopic** asterism “Pachynúcleus Céti” is the galaxy NGC 210 in the IAU constellation Cetus. It was discovered in 1785 by English astronomer William Herschel who listed it as II 452. It is GC 107 in the General Catalogue of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it has a “bright nucleus”. It appears to be becoming a ring galaxy.

Thief Bird:

This Sotho asterism “Ma-selatheko” is the stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini. This is the fork-tailed Drongo (Dicrurus adsimilis).

Thieves:

This Macedonian asterism “Aramii” is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above). They are called “the Thieves” because they circle Alpha (α) Ursae Minoris (Polaris) like thieves around a house “and never sleep” (Cenev 2004 & 2014). The star 80 Ursae Majoris (Alcor) is the “Small Thief”. Compare this to the Basque asterism Seven Thieves (see above). Cenev writes that this appears in parts of Bulgaria, Greece, Serbia and Boznia and Herzegovina and variations include Ajduci or Hajduci.

Thieves’ Crosses:

This Tzotzil (of Zinacantán) asterism is two crosses of stars (Milbrath 1999):

- One cross is the False Cross in the IAU constellations Carina and Vela (see False Cross, above)
- The other cross is made up of stars of the IAU constellation Lepus.

This K’iche’ (of Quetzaltenango and Momostenango) and Kaqchikel asterism has three parts (Milbrath 1999):

- One cross is the IAU constellation Crux,

- One is a cross made up of stars of the IAU constellation Sagittarius with Delta (δ) Sagittarii in the middle and the end stars being Epsilon (ε), Sigma (σ), Lambda (λ) and Gamma (γ) Sagittarii.
- The location of the third cross is uncertain.

Thieves' Dagger:

The Kaqchikel of Chinautla send their boys out at the age of six or seven to fight for the stars of a cross constellation. It is uncertain whether this is the Southern Cross (see Southern Cross, above) or the Northern Cross (see Northern Cross, above). Since some Mayan cultures recognize asterisms which they call Thieves' Crosses (see above), I'm listing it as the IAU constellation Crux.

Thigh:

This Arabic star "(al-)Fakhidh" (فخذ) or "Al Faẖdh" is Gamma (γ) Ursae Majoris in the IAU constellation Ursa Major:

- This was later latinized to "Phad", "Phecda", "Phacd", 'Phachd", "Phaed", "Phekda", "Phegda" or "Phekda" (Hafez 2010).
- American uranographer Elijah Burritt's *The Constellations for each Month in the Year* (1835) lists this star as "Phad".
- English Admiral Henry William Smyth's *Prolegomena* of 1844 lists "Phecda" and his *Bedford Catalogue* in 1844 lists "Phecda, from the Arabian Fekháh al dub al akbar, the thigh of the Great Bear".
- *An Improved Moveable Planisphere* (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, lists this star as "Phecda".
- This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Phachd": The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822.
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Phecda".
- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Phecda" and describes it as the "Thigh".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists this star as "Phecda" and "Phekha" but the 14th edition (1959) lists this star as "Phecda".
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists the names "Phecda" and "Phekda" for this star.
- The IAU approved the name Phecda for the star Gamma (γ) Ursae Majoris Aa.

This Naron star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Alcock 2014).

Thill Horse:

This star is Epsilon (ε) Ursae Majoris in the IAU constellation Ursa Major as listed English Admiral Henry William Smyth's *Bedford Catalogue* in 1844. A "thill" is a shaft and a "thill horse" is one that draws a wagon, in this case, as Smyth makes clear, "Charles' Wain", the Big Dipper asterism.

Thin Body of Draco:

This **telescopic** asterism "Leptosómus Dracónis" is the spiral galaxy NGC 6643 in the IAU constellation Draco. It became GC 4415 in the *General Catalogue* of 1864. It was discovered by German astronomer Eduard Schönfeld in 1858. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to "its small nucleus and thin spiral arms".

Thin Stars:

This Nuer asterism "QuelYuk" is the Pleiades cluster in the IAU constellation Taurus. To the Nuer, their watery appearance is associated with the rain that does not come until they disappear over the horizon for the season.

Third Donkey Colt:

This Latin star "Asellus Tertius" is Kappa (κ) Boötis in the IAU constellation Boötes and is part of their asterism Donkey Colts (see above). Compare this to the Arabic asterism Whelps of the Hyenas (see below). German astronomer Johann Bayer (1572-1625) listed it under this name. The IAU approved the name Asellus Tertius for Kappa (κ) Boötis.

Third Ibex:

- This is one of the asterisms found on the cave ceiling in Armintxe, Spain, estimated to be between 12,000 and 14,000 years old. It is made up of stars from the IAU constellation Cepheus. The central star is HIP 105898, from which three lines of stars emerge: One runs through HIP 105193 to HIP 102216,
- One runs to HIP 106227, and
- One runs to HIP 103359.

Third Leap of a Gazelle:

There are three Arabic asterisms with the name "al-Qafzat uth-Thālathah" or "al-qafza al-thālitha" (القفزة الثّالثة):

- One is the stars Iota (ι) and Kappa (κ) Ursae Majoris in the IAU constellation Ursa Major and is part of their asterism Three Leaps of a Gazelle. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Al Phikra Al Thálitha, perhaps for Al Kafzah al thálithah, the third spring, or leap of the ghazal", attributing this to Persian astronomer Ulugh Beg Mirza (1394 – 1449).
- One is the star Chi (χ) Ursae Majoris in the IAU constellation Ursa Major, whose name was later latinized to "Al Kaphrah" or "Alkafzah".
- One is the star Iota (ι) Ursae Majoris in the IAU constellation Ursa Major, whose name was latinized to "Talitha", "Talita", or "Talitha Borealis":
    - English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists Iota (ι) Ursae Majoris as "Talitha".
    - The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists "Talitha" and "Talita" for Iota (ι) Ursae Majoris, but the 14th edition (1959) only lists "Talitha" for this star.
    - The IAU has approved the name Talitha for Iota (ι) Ursae Majoris Aa.

NOTE: English astronomer William Henry Smyth (1788 – 1865) claimed that Persian astronomer Ulugh Beg Mirza (1394 – 1449) listed the name "Al Phikra al Thalitha" and translated that as "third vertebrae".

Third of the Virgins:

This Arabic star "taalit al-aðārii" (تالت ألعذاري) in the *Calendarium* of Al Achsasi Al Mouakket in 1650, its name later latinized to "Thalath al Adzari" or "Udra" is the star Omicron (ο) 1 Canis Majoris in the IAU constellation Canis Major.

This Latin star Tertia Virginum, is Omicron (ο) 1 Canis Majoris in the IAU constellation Canis Major.

Third of Warida:

This Persian star Thalith al Waridah" or "Thalath al Waridah" is Epsilon (ε) Sagittarii in the IAU constellation Sagittarius and was listed in the *Calendarium* of Al Achsasi al Mouakket in 1650. This is part of the asterism Going Ostriches (see above).

Third Returning Ostrich:

This Arabic star "Thalath al Sadirah", later latinized to "Tertia τού al Sadirah" is listed in the *Calendarium* of Al Achsasi al Mouakket in 1650 and is Zeta (ζ) Sagittarii in the IAU constellation Sagittarius.

Thirsty Camels:

This Arabic asterism "Al Ḥawāʾim" is the stars Theta (θ), Zeta (ζ), and Nu (ν) Pegasi in the IAU constellation Pegasus as listed in R. H. Allen's *Star Names* in 1899. Allen writes that this appears on the Dresden Globe of 1259.

Thirteenth Pearl Nebula:

This **telescopic** asterism is reflection nebula NGC 1999 (vdB 46, LBN 979, Ced 55i) in the IAU constellation Orion. This was discovered by English astronomer William Herschel in 1785: Herschel described it as "a star with milky chevelure or vB nucleus with milky nebulosity" and listed it as "IV 33" in his catalogue. It is GC 1202 in the *General Catalogue* of 1864. The Helwan Observatory Bulletin No. 21 of 1920 describes it as a "dense glove with an absolutely dark triangular hole cutting into it." It is also known as the Black Eye Nebula (see above), the Rubber Stamp Nebula (see above), the Keyhole Nebula (see above) and "Africa" (see above).

This is a Blessing:

This asterism "Afeic hius" is the IAU constellation Ophiuchus. This name is listed in Johann Bayer's *Uranometria* (1603).

Thisbe's Veil:

This asterism is the Coma Berenices Cluster, Melotte 111. It is a reference to the ancient Greek myth of the lovers Thisbe and Pyramus.

Thomas:

This German asterism "Thomas" or "Saint Thomas the Apostle" is the IAU constellation Leo and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures. This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "S. Thomas Al Leo". It later appears in Edward Sherburne's *Sphere of Marcus Manilius* in 1675 and in John Hill's *Urania* in 1754.

Thommes' Nebula:

This **telescopic** asterism is the reflection nebula LBN 1022 in the IAU constellation Monoceros. It was discovered in an image taken by American astrophotographer Jim Thommes in November 2009. It surrounds the star V900 Monocerotis.

Thong:

This Tawi-Tawi star is Zeta (ζ) Orionis (Alnitak) in the IAU constellation Orion and represents one of the brothers in their asterism Tanggong (see above).

Thorn:

This Arabic star "aš-šawkat" (الشوكة) is 31 Lyncis in the IAU constellation Lynx:

- This was later latinized to "Alsciaukat" and "Al Shaukah", and as "Masbuthat", and "Mabsūṭah" by translator Giuseppe Simone Assemani (1687 – 1768).
- The IAU Working Group on Star Names approved Alsciaukat as a name for 31 Lyncis in 2017.
- NOTE: Hafez (2010) gives "Alsciaukat" as a name for 35 Ursae Majoris.

Thorn of Puppis:

This **telescopic** asterism "Spína Púppis" is the edge-on lenticular galaxy NGC 2310 in the IAU constellation Puppis. It was discovered in 1835 by English astronomer John Herschel who listed it as 3069 and later as GC 1472 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to its interaction with NGC 2292.

Thorn Puller of Leo:

This **telescopic** asterism "Spinárius Leónis" is the intermediate spiral galaxy NGC 3368 in the IAU constellation Leo. John Herschel listed it as h 749 and later as GC 2194 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as "a distant edge-on galaxy at the northeastern edge of NGC 3368 looks like a thorn" and "the curved spiral arm extending to this side brings to mind the curved posture and legs of the famous Hellenistic bronze sculpture of a boy pulling a thorn from his foot".

Thorn Stars:

This Namaqua KhoiKhoi asterism is the Pleiades cluster in the IAU constellation Taurus (Alcock 2014).

Thorny Devil Lizard:

This Kokatha and Ngalea asterism "Kunggara" or "Yugarilya" was listed by Leaman and Hamacher in 2014 and is part of the larger asterism "Nyeeruna Nyiruna" ("hunter of the seven thorny devil sisters"), which is the IAU constellation Orion (see Hunter of the Seven Sisters, above). This asterism is the Pleiades cluster in the IAU constellation Taurus. The other part is "Yugarilya" or "Kambugudha", which is the Hyades cluster (see Eldest Mingarri Sister, above).

Thor's Helmet:

This **telescopic** asterism is HII region NGC 2359 (SH 2-298. RCW 5, LBN 1041, Ced 94b) in the IAU constellation Canis Major surrounding the Wolf Rayet star WR7. Size 10' X 15'. It was discovered by

English astronomer William Herschel in 1785 who listed it as “V 21” in his catalogue. It is GC 1511 in the *General Catalogue* of 1864. It is also known as the “Duck Nebula”, the “Duck Head Nebula”, the “Flying Eye Nebula”, the “Bust Silhouette”, the “Fan”, “M”, or the “Whistle Nebula”.

Thor’s Lightning:

This **telescopic** asterism is alongside the dark nebula Barnard 11 in the IAU constellation Camelopardalis. It is listed under this name by astrophotographer Justin Tolboe.

Thor’s Mjolnir:

This **telescopic** asterism is in the IAU constellation Cassiopeia and is Ennis 29 on the observing list of Canadian astronomer Charles Ennis. It resembles the hammer of the Norse God Thor and includes stars of Corder 206 from Jeffrey Corder’s list.

- The “hammer head” is a rectangle formed by HD 236678, HIP 5863, double star HIP 5829, HIP 5768, and HIP 5882, and
- The “handle is formed by Gaia DR3 510417525536676864, Gaia DR3 510416426025078144, and HD 7010.

Thor’s Wagon:

This Swedish asterism “Karlwagen” is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above) and is related to the God Thórr, who is described in old chronicles as “Thor statt naken som ett barn, siu stjernor i handen och Karlewagn” (“Thor stepping into his chariot holds the seven stars in his hand”) (Teutonic Mythology ch. 22). Thor had the heiti (synonym or nickname) “Karl” (“man”) as he was sometimes referred to as “Karla-Þórr” (“Old Man Thórr”). R. H. Allen notes this connection in his *Star Names* in 1899.

Those Born of Feet:

This Inca asterism “Chuchuqoyllor” is the IAU constellation Gemini (Gamarra & Gamarra 2009).

Those Multiple Objects Which Are Moving Along:

This is an alternate Koyukon name, “Ghededzuyhdle” for their asterism “Naagheltaale” (see That Which is Revolving, above (Cannon 2021)).

Those That Are Following Something:

This Koyukon asterism “K’enodele” is the belt of Orion in the IAU constellation Orion (Cannon 2021).

Those Who Stand Together:

This Namaqua KhoiKhoi asterism “/Khunuseti” or “/Khũseti” is the Pleiades cluster in the IAU constellation Taurus (Alcock 2014). They were the daughters of Tsui //Goab, the Sky God. Another version of this story has Kunuseti being the wives of Tsui //Goab (the star Aldebaran). Tsui //Goab goes out with bow and arrow (Pi (π) 1 to 6 Orionis) to shoot three zebras (the belt of Orion, see Three Zebras, below). His sandals (“//haron”) are Epsilon (ε) and Delta (δ) Orionis. Unfortunately, he misses, his arrow lying on the ground (sword of Orion). He doesn’t retrieve it as a lion (the star Betelgeuse) is waiting in ambush. Alternate translations include “those who stand together like fingers” and “those who are heaped together”, and “those who cluster together”.

Thoth:

This proposed Egyptian asterism “wnt” or “Unet” (which is the name of their rabbit Goddess) from the Old Kingdom (3100 B.C.E.) is related to the nome (district) by that name, to the solar God “ḫpri” worshipped in the capital Heliopolis and related to Thoth and the IAU constellation Lepus (Berio 2014).

This Egyptian star is Alpha (α) Coronae Borealis (Alphecca) in the IAU constellation Corona Borealis as listed in the 19th dynasty Cairo Calendar (Hardy 2003).

Thoth’s Baboon:

This Egyptian Dendera asterism is made up of stars of the IAU constellations Camelopardalis and Perseus (Hoffman 2017). Thoth was an Ibis or Baboon headed Egyptian God of the Moon, wisdom, writing, art, and judgment. Thoth is depicted at Dendera in his baboon aspect. This is an irregular hexagon of the stars Alpha (α) Persei (Mirfak), Delta (δ) Persei, Mu (μ) Persei, Beta (β) Camelopardalis, Alpha (α) Camelopardalis, and Gamma (γ) Persei. From Gamma (γ) Persei a line runs out to a bend at Eta (η) Persei and on to Theta (θ) Persei. From Mur Persei a line runs out through Xi (ξ) Persei to Zeta (ζ) Persei.

Thousand Ruby Galaxy:

This **telescopic** asterism is Messier 83 (NGC 5236), a barred spiral galaxy in the IAU constellation Hydra. French astronomer Charles Messier added it to his catalogue in 1781, but it was first observed by French astronomer Nicolas Louis de Lacaille in February 1752 who listed it as Lac I6. It is GC 3606 in the *General Catalogue* of 1864. It is also known as the Southern Pinwheel, its name coming from its resemblance to the Pinwheel Galaxy, Messier 101.

Thousands:

This ancient Egyptian asterism is the Pleiades cluster in the IAU constellation Taurus. It appears on star tables on coffin lids c. 2000 B.C.E.

Thread Bearer of Cetus:

This **telescopic** asterism “Filifera Céti” is the spiral galaxy NGC 309 in the IAU constellation Cetus. It was discovered by Wilhelm Tempel in 1876. This is GC 309 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to its “characteristic threadlike arms”.

Thread Straw:

This Korean asterism “Sil Ppaldae” (실 빨대) is the IAU constellation Corona Borealis.

Thread Suspender of Aquarius:

This **telescopic** asterism “Mitocremástus Aquárii” is the galaxy PGC 72139 (MCG-01-60-22, Arp 295) in the IAU constellation Aquarius. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “this galaxy is located at the northeastern end of a long narrow thread like bridge that connects MGC 1-60-22 with MGC 1-60-21”.

Threading Coins:

This Korean asterism “Seuleding Dongjeon” (스레딩 동전) is an oval of stars in the IAU constellation Aquarius: 41, 47, and 49 Aquarii and HIP 109375, 109737, 109990, and 110746. Ancient Korean coins had holes in the middle so that they could be threaded together on a string.

Three:

This Tongan (Pukapuka Islands) asterism “Tolu” is three stars in the IAU constellation Aquila: Alpha (α) Aquilae (Altair), Beta (β) Aquilae (Alshain), and Gamma (γ) Aquilae.

This Finnish asterism “Kolmonen” is the Belt of Orion asterism in the IAU constellation Orion. It is also known as “Kolmoset” (The threes) or “Kolmioiset” (The triangle ones).

Three Arms of Antlia:

This **telescopic** asterism “Tribrachiátus Ántliae” is the barred spiral galaxy NGC 3095 in the IAU constellation Antlia. It was discovered in 1836 by John Herschel who listed it as h 3216 and later as GC 1993 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Three Babies:

This Yakut asterism is the Belt of Orion in the IAU constellation Orion.

Three Balls:

This Romanian asterism “Trei Bile” or “Deșteptătorul”, also known as the “Alarm Clock” (see above) is the Hyades cluster (see above) in the IAU constellation Taurus (Ottescu 2009, Lite, Lodina, and Ignat 2018). Ottescu associates this name with the star Alpha (α) Tauri (Aldebaran) and not the whole cluster. It is called this as its rising the cockerels start crowing to announce the start of day.

Three Brother Star:

This Malay asterism “Bintang Tiga Beradik” is the IAU constellation Orion.

Three Brothers:

This Wiradjuri asterism “Gibirgang” is the belt of Orion in the IAU constellation Orion. They chase the “Malandyang” (see Seven Sisters, above). Compare this to the Yolgnu asterism Berai Berai (see Seven Young Men, above) or the Kamilaroi/Euahlayi asterism “Birray Birray” (see Uninitiated Boys, below).Matthews listed it as “Gibabang” in 1904.

This Tsilhqot’in asterism is the belt of Orion in the IAU constellation Orion (Cannon 2021).

Three Brothers and Three Sisters Pursuing an Elk:

This Yukaghir asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Berezkin 2005).

Three Canoe Paddlers:

This Tongan asterism “Alutolu” (“three oared boat” or “three canoe paddlers”) is the belt of Orion in the IAU constellation Orion.

Three Castles with the Golden Vellere:

This German asterism “tria Castella cum Aureo Vellere” was created from the stars of the IAU constellation Leo by German astronomer Erhard Weigel (1625 – 99) who produced his *Astrocopium Orbi Europaeo Sacrum* chart in 1661, 1681 and 1688 in which he tried to replace existing constellations a new

system based upon the heraldry of the nation states and principalities of seventeenth century Europe, as well as of its principal hierarchies and social classes. It represents Spain and is depicted by three round castle towers and a golden fleece.

Three Chiefs:

This Ininew (Cree) asterism is part of their asterism "Mistapiw" (see Giant above) which is their name for the IAU constellation Orion (Buck 2016). He is also known as "Wesakayckak" (see Teacher, above). The three stars of Orion's belt are the "Three Chiefs".

Three Daughters:

In Nama sky lore the star Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus represents the husband of the daughters of the sky god. The three daughters are the Pleiades cluster in the IAU constellation Taurus. When the husband shot his arrow (Orion's sword) at three zebras (the belt of Orion) it fell short. He didn't recover his arrow as a lion (Alpha (α) Orionis (Betelgeuse)) was watching.

Three Deer:

This Pawnee asterism is the belt of Orion in the IAU constellation Orion.

This Teleut asterism is the belt of Orion in the IAU constellation Orion (Kuperjanov 2006). They are being hunted by Sirius (see Hunter, above).

This Kazakh asterism "Üshar Qartazy", "Usharhar Taraza", or "Ush argali Tarazi" is the IAU constellation Orion.

Three Deities:

This Japanese asterism "Sumiyoshi Boshi" is the belt of Orion in the IAU constellation Orion (Renshaw and Ihara 2001).

Three Dog Children Brothers:

This Dakelh asterism is the IAU constellation Orion (Cannon 2021).

Three Dogs:

This Tswana asterism "Dintsa le Dikolobe" ("the three dogs are chasing the three pigs"), "Dikolobe", or "Mikolobe" is the belt of Orion's in the IAU constellation Orion (Holbrook and Baleisis 2007, Slotegraaf 2013). These dogs chase three pigs (Orion's belt- see Three Pigs, below).

This Sotho asterism "Dintshwa" is identical to the Tswana asterism "Dintsa le Dikolobe" (Slotegraaf 2013).

Three Excellencies:

This Chinese star "Sansong" from the Three Kingdoms to the Ming Dynasty is the star Iota (ι) Geminorum: "Sangong" in the IAU constellation Gemini and is part of their xing guan Five Feudal Kings (see above).

There are two Chinese Chenzhuo xing guans by the name "Sansong":

- The Gan school xing guan is a triangle of stars in the IAU constellation Canes Venatici: 21 and 24 Canum Venaticorum and HIP 65550.

- The Wuxian school xing guan is a triangle of stars in the IAU constellation Ursa Major: 38 Ursae Majoris, HIP 50933, and HIP 51448.

Three Excellencies (in Purple Forbidden Enclosure):

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty "Sāngōng" (三公) is a triangle of three stars in the IAU constellation Canes Venatici: 21 and 24 Canum Venaticorum and HIP 65550. It is located within their xing guan Purple Forbidden Enclosure (see above).

This Chinese xing guan "Sāngōng" (三公) despite the name, is a line of two stars in the IAU constellation Canes Venatici: 21 and 24 Canum Venaticorum. It is located within their xing guan Purple Forbidden Enclosure (see above).

Three Excellencies (in Supreme Palace Enclosure):

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty "Sāngōng" (三公) is a triangle of three stars in the IAU constellation Virgo: 17 and FW Virginis and HIP 61103. It is located within their xing guan Supreme Palace Left Wall (see above).

This Chinese xing guan "Sāngōng" (三公), despite the name, is a line of two stars in the IAU constellation Virgo: 31 and 35 Virginis. It is located within their xing guan Supreme Palace Left Wall (see above).

Three Female Tortoises (Hung on a Stick):

This /Xam asterism is the sword of Orion in the IAU constellation Orion (Slotegraaf 2013, Alcock 2014).

Three Fishermen:

This Old Norwegian asterism is the belt of Orion in the IAU constellation Orion.

This Polynesian (Gilbert Island) asterism is the belt of Orion in the IAU constellation Orion.

Three Guides:

This asterism is three stars in the IAU constellations Andromeda, Cassiopeia, and Pegasus: Beta (β) Cassiopeiae (Caph), Alpha (α) Andromedae (Alpheratz), and Gamma (γ) Pegasi. It was listed in R. H. Allen's *Star Names* in 1899.

Three Hairlocks of Sextans:

This **telescopic** asterism "Tricrinítus Sextántis" is the spiral galaxy IC 609 (Arp 44) in the IAU constellation Sextans. It was discovered by French astronomer Stéphane Javelle in 1893. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the three curved arms extending from the northern part of this galaxy."

Three Handsome Ones:

This Māori, Tahitian, and Rapanui asterism "Tautoru" is the belt of Orion (Edwards and Edwards 2010, Edwards 2015, Edwards and Edwards 2016, Edwards et al 2018).

Three Headed Anaconda:

This Palikur asterism "Awahwi" is stars in the region of the IAU constellation Perseus (Green and Green 2011).

Three Hearthstones:

This Mayan asterism from their creation story Popol Vul is three stars in the IAU constellation Orion: Zeta (ζ) Orionis (Alnitak), Kappa (κ) Orionis (Saiph), and Beta (β) Orionis (Rigel). They surround the Primordial Fire, **"**Oxib' Xk'ub'" (see Primordial Fire, above). The K'iche' still recognize this asterism (Milbrath 1999). In the Madrid Codex these are referred to as the "three stones of creation" and in classical period inscriptions at Palenque and Quiriguá these are referred to as the "three stone place".

Three Hunters:

This /Xam asterism is the belt of Orion in the IAU constellation Orion (Alcock 2014). They are three hunters waiting in ambush for springbok which another hunter is sending in their direction.

This Dëne Suhne asterism "Názée Dëné" is the belt of Orion in the IAU constellation Orion (Cannon 2021).

Three Jointed Arrow:

This Hindu asterism "Iṣus Trikāṇḍā" is the belt of Orion in the IAU constellation Orion as listed in R. H. Allen's *Star Names* in 1899.

Three Kings:

This German asterism is the IAU constellation Hercules as listed by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures. This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "Tres Reges". Edward Sherburne lists this in his *Sphere of Marcus Manilius* in 1675. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists this as the "Three Kings of soothsayers."

This French asterism "les trois Rois" is the belt of Orion in the IAU constellation Orion and appears in the French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719)This Italian asterism "Tre Re" is the belt of Orion in the IAU constellation Orion.

This Belarussian asterism "Try Karali" is the belt of Orion in the IAU constellation Orion. It is also known as "Kreselca Pana Jezusa" (see Lord Jesus' Chair, above), "Grabli" (see Rake, above), "Kastsy" (see Mowers, above), "Kasar" (see Mower, above), "Karomyselko" (see Small Yoke, above), "Tri Siostry" (see Three Sisters, below), "Prahi" or "Prapradki" (see Yarn Spinners, below), "Traiko" (see Three Times, below), "Asilki" (see above), "Matawila" (see Wheel, below), "Kosy" (see Scythes, above), "Kigachi ragachy" (see Shaft of a Plough, above), Kryzhe (see Cross, above), "Lisa" (see Fox, above), and "Trohkutnaia" (see With Three Corners, below).

This Tzeltal asterism "Oktu Rey" is the belt of Orion in the IAU constellation Orion (Milbrath 1999).

This Romanian asterism "Cei Trei Crai" is the belt of Orion in the IAU constellation Orion (Ottescu 2009). Their names are Saul, David, and Solomon.

Three Leaps of a Gazelle:

This Arabic asterism "Kafazāt al-Zibā" ("leaps of a gazelle") is made up of three pairs of stars roughly equally spaced stars that look like the footprints of a leaping animal in the IAU constellation Ursa Major:

- "First Leap" or "(al-Qafzat) ul-Ūla'" (القفزة الأولى) is the stars Nu (ν) and Xi (ξ) Ursae Majoris

- "Second Leap" or "al-Qafzat uth-Thāniyah" (لقفزة الثّانية) is the stars Lambda (λ) and Mu (μ) Ursae Majoris,
- "Third Leap" "al-Qafzat uth-Thālathah" (القفزة الثّالثة) is the stars Iota (ι) and Kappa (κ) Ursae Majoris.

This appears in several places:

- Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010) lists them as:
    - "al-Kafza al-Ūla" ("first leap"),
    - "al-Kafza al-Thānīa" ("second leap"), and
    - "al-Kafza al-Thālitha" ("third leap").
- This asterism appears on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283).
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Al dhibá, the antelopes" for this asterism but elsewhere in the catalogue lists "Kafzát al dhibá, springs of a gazelle".
- In his *Star Names* in 1899 R. H. Allen lists "Ḳafzah al Ṭhibā".
- NOTE: This is also known as "Gazelle Tracks" (see above).

Three Lilies:

This German asterism "Lilia tria" was created from the stars of the IAU constellation Auriga by German astronomer Erhard Weigel (1625 – 99) who produced his *Astrocopium Orbi Europaeo Sacrum* chart in 1661, 1681 and 1688 in which he tried to replace existing constellations a new system based upon the heraldry of the nation states and principalities of seventeenth century Europe, as well as of its principal hierarchies and social classes. On Weigel's chart it is labeled "Gallia" and represents France, being depicted as a triple fleur de lys.

Three Luritja Sisters:

This Luritja asterism is the stars Beta (β) Scorpii (Acrab), Delta (δ) Scorpii, and Pi (π) Scorpii in the IAU constellation Scorpius (Maegraith 1932). They are from a camp in the far west, below the horizon.

Three Magi:

This German asterism is the IAU constellation Hercules and appears in the star atlas *Coelum Stellatum Christianum* by German uranographer Julius Schiller (c. 1580 – 1627) who replaced the "pagan" names of constellations with Biblical and early Christian figures (Stevenson 1921). It later appears in John Hill's *Urania* in 1754 as "Magi".

Three Male Tortoises (Hung on a Stick):

This /Xam asterism is the belt of Orion in the IAU constellation Orion (Slotegraaf 2013, Alcock 2014).

Three Marias:

This Sardinian asterism "sas tres marias" is the belt of Orion in the IAU constellation Orion. They also call it "Sticks" (see above).

This Piemontese asterism from the Chaco region of Argentina is the belt of Orion in the IAU constellation Orion (Mudrik 2011). Mudrik writes that each star in the belt was given a name, but that

only two were obtained: “la niña” and “la pinta”, which are of course the names of two of the ships of the explorer Columbus.

This Mocoví, Abipones, Spanish and Latin American asterism “Tres Marias” is the belt of Orion in the IAU constellation Orion (Mudrik 2011). They also call it “Sticks” (see above).

This Tagalog asterism “Tatlong Maria” is the belt of Orion in the IAU constellation Orion (Santos et al 2019).

This Itbayaten asterism “Trismariiya” is the belt of Orion in the IAU constellation Orion.

This Ch’orti’ and Tzotzil (of Zinacantán) asterism is the belt of Orion in the IAU constellation Orion (Milbrath 1999). They combine this with the sword of Orion to create the asterism “Seven Marias” (see above).

Three Men and a Cot:

This Kolam asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Vahia et al 2014). One person is from the Kolam people, one from the Gond, and one is a “Pardhan” or “chief”. They are rising from the cot.

Three Men Deciding About Weather:

This Erromanga (Sie) asterism “Umbrit Mime” is the belt of Orion in the IAU constellation Orion (Ramík 2019).

Three Men Following:

This Kolam asterism is the Little Dipper asterism in the IAU constellation Ursa Major (Vahia et al 2014). One person is from the Kolam people, one from the Gond, and one is a “Pardhan” or “chief”. Compare this to the Gond asterism Three Thieves Following (see below).

Three Ministers:

There are two Korean asterisms with this name (“Se Myeong-ui Jang-gwan” (세 명의 장관)):

- One is a triangle of stars in the IAU constellation Virgo: 32, 33, and Rho (ρ) Virginis.
- One is a triangle of stars in the IAU constellation Ursa Major: 38 and ET Ursae Majoris and HIP 51448.

Three Old Men Pursued by Lonesome Widows:

This Maasai asterism is the belt of Orion (the old men) and the sword of Orion (the widows) in the IAU constellation Orion (Slotegraaf 2013).

Three Packages of Salmon:

This Dakelh asterism is the sword of Orion in the IAU constellation Orion (Cannon 2021).

Three Patriarchs:

This German asterism is the IAU constellation Triangulum Minor and was created by German poet and author Philippus Caesius (Philipp von Zesen, 1619 – 1689) to represent Abraham, Isaac, and Jacob (with the star Alpha (α) Trianguli Australis (Atria) as Abraham and the other two stars being Beta (β) and Gamma (γ) Trianguli Australis. Size 480’. Jeffrey Corder lists this as Corder 2957.

Three People Walking:

This Belarussian asterism is the belt of Orion in the IAU constellation Orion (Avilin 2009). These stars are described as “three chavaleks (“people”) walking.

Three Pigs:

This Tswana asterism “Dikolobe” is the belt of Orion in the IAU constellation Orion (Slotegraaf 2013). Warthogs or bush pigs usually have their litters while Orion is prominent in the sky, and typically have litters of three. Three dogs (see Three Dogs above) are chasing them (Orion’s sword). NOTE: This is bushpigs or bosvark (Potamochoerus larvatus).

This Sotho asterism “Makolobe” is identical to the Tswana asterism “Dikolobe” above (Slotegraaf 2013). A hunting dog, the star Sirius, is chasing them (see Hunting Dog, above).

This Karanga asterism “Nguruve” is identical to the Tswana asterism “Dikolobe” above (Slotegraaf 2013).

Three Plumes of Virgo:

This **telescopic** asterism “Triplúmus Vírginis” is the spiral galaxy NGC 4580 in the IAU constellation Virgo. It was discovered in 1786 by William Herschel who listed it as “I 124”. It became GC 3122 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of “three faint, diffuse outer arms”.

Three Pointed:

This Greek asterism “Tricuspis” is the IAU constellation Triangulum. Johann Bayer’s *Uranometria* (1603) lists the name “Tricuspis” for this constellation.

Three Pole Stand:

This Japanese asterism “Haza no Ma” is the belt of Orion in the IAU constellation Orion (Renshaw and Ihara 2001).

Three Prong Spear:

This Japanese asterism “Kanatsuki” is the belt of Orion in the IAU constellation Orion (Renshaw and Ihara 2001).

This Sama star “Sahapang”” is Beta (β) Centauri (Hadar) in the IAU constellation Centaurus (Ambrosio 2008).

Three Reapers:

This Old High German asterism is the belt of Orion in the IAU constellation Orion. Compare this to the Italian and Belarussian asterism “Mowers” (see above).

Three Saints:

This Romanian asterism “Trei Sfinți” or “Trisfetitele”, also known as “the Great Auger” (see above), is Orion’s belt in the IAU constellation Orion (Ottescu 2009, Lite, Lodina, and Ignat 2018). There names are Vasile, Grigore, and Ioan.

Three Sisters:

This Kaykavian asterism “Tri Séstre” is the IAU constellation Triangulum.

This Belarussian asterism “Tri Siostry” is the IAU constellation Orion (Avilin 2009). This relates to a myth of three cursed sisters who became three stars in the sky when they died. It is also known as “Karomyselko” (see Small Yoke, above), “Grabli” (see Rake, above), “Kastsy” (see Mowers, above), “Try Karali” (see Three Kings, above), “Kasar” (see Mower, above), “Kreselca Pana Jezusa” (see Lord Jesus’ Chair, above), “Prahi” or “Prapradki” (see Yarn Spinners, below), “Traiko” (see Three Times, below), “Asilki” (see above), “Matawila” (see Wheel, below), “Kosy” (see Scythes, above), “Kigachi ragachy” (see Shaft of a Plough, above), Kryzhe (see Cross, above), “Lisa” (see Fox, above), and “Trohkutnaia” (see With Three Corners, below).

This Basque asterism “Hiru Ahizpak” is the IAU constellation Andromeda (Knörr 1999, Frank 2021).

Three Snowballs:

This **telescopic** asterism is the three Strömgren spheres IC 2162 (Sharpless 257), Sharpless 254 and Sharpless 255 in the IAU constellation Orion. These were named by German astronomer Reiner Vogel, who posted about it in the *Deep Sky Forum* in January 2013.

Three Spinning Sisters:

This Lithuanian asterism “Trys seselės verpėjos” is the belt of Orion asterism in the IAU constellation Orion.

Three Stacked Plates:

This **telescopic** asterism is the open cluster Messier 23 (NGC 6494) in the IAU constellation Sagittarius. It was discovered by Charles Messier in 1764. It is listed in the *General Catalogue* of 1864 as GC 5886. It was given this name by American astronomer Wayne Schmidt, who describes it as three plates stacked upside down.

Three Stacked Pots:

This Kolam asterism “Kavadi Kunde” or “Kavedi Koda” is the IAU constellation Cygnus (Vahia 2014).

Three Stags:

This Mongolian asterism “Gurvan Maral Od” is the Summer Triangle asterism (see Summer Triangle below) which includes stars of the IAU constellations Aquila, Cygnus, and Lyra (Lagain & Rousseau 2015).

Three Star:

This Tzeltal asterism “Oxkot-ek” is the belt of Orion in the IAU constellation Orion (Milbrath 1999).

Three Stars:

This Chinese xiù (lunar mansion) “Shēnxiù” (参宿) is the three stars of the “belt of Orion” in the IAU constellation Orion. In the *Han shu*, a history of the early Han dynasty that was finished in 111 C.E. this xiù “Shēn” was associated to matters concerning the Yizhou territory. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan is the Belt of Orion asterism in the IAU constellation Orion: Zeta (ζ) Orionis, Epsilon (ε) Orionis, and Delta (δ) Orionis. This is also known as “Scales”.

This Korean lunar mansion “Saam” is identical to the Chinese lunar mansion “Shēnxiù” (above).

This Xhosa asterism “Amakroza” or “amaRoza” (“three stars in a row” or “those in a queue”) is the belt of Orion in the IAU constellation Orion (Holbrook and Baleisis 2007, Slotegraaf 2013, Lock and Slotegraaf 2022). The lowest star is graves where all ancestors rest peacefully, the middle star is the starry heavens, and the top star is where their God Qamata dwells.

This Japanese asterism “Mitsu Boshi” is the belt of Orion in the IAU constellation Orion (Renshaw and Ihara 2001).

This Italian asterism “Tre Facelle” is three stars in the IAU constellations Carina, Eridanus, and Piscis Austrinus: Alpha (α) Piscis Austrini (Fomalhaut), Alpha (α) Carinae Canopus), and Alpha (α) Eridani (Achernar). This was created by Italian poet Dante Alighieri in his *Divine Comedy*: Alighieri described these stars as “lighting up the sky”.

This Temuan asterism “Bintang Tiga” is the belt of Orion in the IAU constellation Orion (Jaafar and Khairuddin 2014).

Three Stars of the South:

The stars of this Piemontese asterism “Las Tres Estrellas del Sur” from the Chaco region of Argentina have not been identified at present (Mudrik 2011).

Three Stars the Same:

This Inca asterism “Orqorara” is the belt of Orion in the IAU constellation Orion (Gamarra & Gamarra 2009).

Three Steps:

This Chinese xing guan “Sāntái” (三台) is a line of stars in the IAU constellation Ursa Major. It starts with Iota (ι) Ursae Majoris and Kappa (κ) Ursae Majoris (“Upper Step”, Lambda (λ) Ursae Majoris and Mu (μ) Ursae Majoris (“Middle Step”), and Nu (ν) Ursae Majoris and Xi (ξ) Ursae Majoris (“Lower Step”). This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Santai” (三台） is made up of stars of the IAU constellation Ursa Major:

- The Lower Step is the stars Xi (ξ) and Nu (ν) Ursae Majoris,
- The Middle Step is the stars Mu (μ), and Lambda (λ) Ursae Majoris, and
- The Upper Step is the stars Kappa (κ) and Iota (ι) Ursae Majoris.

It is also known as the “Heavenly Steps”.

This Korean asterism “Se Dangye” (세 단계) is identical with the Chinese xing guan “Sāntái” (above).

Three Stone Place:

See Three Hearthstones, above.

Three Stone Support:

This Arabic asterism is three stars in the IAU constellation Draco: Delta (δ), Epsilon (ε) and Chi (χ) Draconis. Compare this to Trivet Stones (below) and Tripods (below).

Three Stones of Creation:

See Three Hearthstones, above.

Three Strings of Horologium:

This **telescopic** asterism "Trichórdis Horológii" is the barred spiral galaxy IC 1954 in the IAU constellation Horologium. It was discovered by Scottish astronomer Robert Innes in 1898. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of its three spiral arms.

Three Swedish Crowns:

This German asterism "Suecia" is the IAU constellation Boötes as described by German astronomer Erhard Weigel (1625 – 99) who his *Astrocopium Orbi Europaeo Sacrum* chart in 1661, 1681 and 1688 in which he tried to replace existing constellations a new system based upon the heraldry of the nation states and principalities of seventeenth century Europe, as well as of its principal hierarchies and social classes. It is depicted by three crowns. This is listed in English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 and listed in R. H. Allen's *Star Names* in 1899.

Three Thieves:

This Basque asterism "Hiru Iapurrak" is the belt of Orion in the IAU constellation Orion (Frank 2021).

Three Thieves Following:

This Gond asterism is the Little Dipper asterism in the IAU constellation Ursa Major (Vahia et al 2014). Compare this to the Kolam asterism Three Men Following (see above).

Three Times:

This Belarussian asterism "Traiko" is the constellation Orion (Avilin 2009). It is also known as "Karomyselko" (see Small Yoke, above), "Grabli" (see Rake, above), "Kastsy" (see Mowers, above), "Try Karali" (see Three Kings, above), "Kasar" (see Mower, above), "Kreselca Pana Jezusa" (see Lord Jesus' Chair, above), "Tri Siostry" (see Three Sisters, above), "Prahi" or "Prapradki" (see Yarn Spinners, below), "Asilki" (see above), "Matawila" (see Wheel, below), "Kosy" (see Scythes, above), "Kigachi ragachy" (see Shaft of a Plough, above), "Kryzhe" (see Cross, above), "Lisa" (see Fox, above), and "Trohkutnaia" (see With Three Corners, below).

Three Together:

This Tzotzil (Zinacantán) asterism is the belt of Orion in the IAU constellation Orion (Milbrath 1999).

Three Top Instructors:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a triangle of stars in the IAU constellation Ursa Major: ET Ursae Majoris (the determinative star), 38 Ursae Majoris, and HIP 51448.

This Chinese xing guan "Sānshī" (三师) is a small triangle of stars in the IAU constellation Ursa Major: Rho (ρ) and Sigma (σ) 1 and 2 Ursae Majoris.

Three Travelers:

This Lozi asterism is the belt of Orion in the IAU constellation Orion (Slotegraaf 2013).

Three Vertebrae:

This Apache asterism is the Belt of Orion in the IAU constellation Orion.

Three Women:

This Arrernte asterism is the stars Alpha (α) Scorpii (Antares), Tau (τ) Scorpii, and Sigma (σ) Scorpii in the IAU constellation Scorpius. The Arrernte see Antares as a woman covered in red ochre, with two female companions (see Red Ochre Woman, above). Maegraith listed this in 1932 with the suggestion that the stars were the Hyades cluster.

Three World Horses:

This Hittite asterism is the IAU constellation Scorpius (Boutet 2014). This consisted of a white horse, a red horse, and a black horse.

Three Zebras:

This San (Jū/Wãsi and Nyae Nyae !Kung) asterism is the Belt of Orion in the IAU constellation Orion (Slotegraaf 2013, Alcock 2014). Some San peoples describe this as a male zebra flanked by two females. Others describe the middle star as female with the others male. Still other San tribes describe the first star of the three to rise, Delta (δ) Orionis (Mintaka), as a male and the two following, Epsilon (ε) Orionis (Alnilam) and Zeta (ζ) Orionis (Alnitak) as female. They call Orion "//kahnosi".

In Jū/Wãsi and Nama sky lore the star Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus is the Sky God Gao ǂN!a (Old Gao, see above). When the Gao ǂN!a shot his arrow (Orion's sword) at three zebras (the belt of Orion) it fell short, and he did not recover his arrow.

This Naron asterism is the Belt of Orion in the IAU constellation Orion (Alcock 2014). The Naron describe the first star of the three to rise, Delta (δ) Orionis (Mintaka), as a male and the two following, Epsilon (ε) Orionis (Alnilam) and Zeta (ζ) Orionis (Alnitak) as female.

This G/wi asterism is the Belt of Orion in the IAU constellation Orion. The middle star, Epsilon (ε) Orionis (Alnilam) is a male zebra and the two stars flanking it female.

This KhoiKhoi asterism "!goregu" is the Belt of Orion in the IAU constellation Orion.

Threshing Floor:

This Phoenician asterism is the Andromeda Galaxy, Messier 31, in the IAU constellation Andromeda. The stars around it are the Gleaners and the Wheat Field, whose precise stars are unknown.

This Macedonian asterism "Gumno" or "Goumno" is the Andromeda Galaxy (Messier 31) in the IAU constellation Andromeda (Cenev 2004 & 2014).

This Hungarian asterism "Széro" is made up of stars of the IAU constellation Leo: Epsilon (ε) Leonis, Mu (μ) Leonis, Zeta (ζ) Leonis, Gamma (γ) 1 Leonis, and Eta (η) Leonis. The celestial map of Hungarian uranographer Sandor Nagy (1915) depicts this asterism as a hut with a conical roof.

Threshing Oxen:

This Latin asterism "Teriones" is the Big Dipper asterism in the IAU constellation Ursa Major as listed by Roman poet Marcus Valerius Martialis (Martial, 40 104 C.E.) and R. H. Allen in his *Star Names* in 1899. Martial also called them "Teriones Parrhasii" and "Teriones Odrysii", a reference to a region in southern Arcadia. Compare this to his asterism Parrhasian Yoke, above.

Threshing Pole:

This Kolam star “Met” is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Vahia 2014). It represents a pole to which a bull is tethered as it moves around a circular threshing floor or “Kalave” to separate husks from rice.

Threshers:

This Siberian asterism “Kichigi” is the belt and sword of Orion in the IAU constellation Orion (Svjatskij 2007).

This Lithuanian asterism “Kūlėjai” is the belt of Orion asterism in the IAU constellation Orion.

Throne:

The Latin names “Sedes”, “Sedes Regia”, “Thronus”, “Sella” and “Solium” are all the IAU constellation Cassiopeia.

- Johann Bayer’s *Uranometria* (1603) lists “Sella” (“chair”), “Sedes Regalis”, and “Solijm” for this constellation.
- John Hill lists “Sedes”, “Sedes Regia”, and “Thronus” in his *Urania* in 1754.
- “Solium” is listed on the *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638).

This Belarussian asterism “трон” is the IAU constellation Orion.

This Sardinian asterism “sa trona” is the “W” asterism in the IAU constellation Cassiopeia (see W below).

Throne of God:

This **telescopic** asterism is the Cone Nebula (see above) in the open cluster NGC 2264 in the IAU constellation Monoceros, which was discovered by English astronomer William Herschel in 1784 who listed it as “V 27” and “VII 5” in his catalogue. It is GC 1440 in the *General Catalogue* of 1864. American astronomer Sherburne Wesley Burnham (1838 – 1921) gave it this name in his *Burnham’s Celestial Handbook.*

Throne of Jawzā':

There are two Arabic asterisms with the name “ʿarsh al-jawzā” or “Al ʿArsh al Jauzah”, later latinized to “Arsh al-Jawzā”:

- One is a quadrilateral of stars in the IAU constellation Lepus: Alpha (α) , Beta (β), Gamma (γ), and Delta (δ) Leporis. This is also known as the “Hindmost Chair of Jawzā'” (see above) or “Camels Quenching their Thirst” (see above). English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Kursa, from Kursá-l-jaúzá, or Arsh-al-jaúzá, the giant’s throne, and describes it as “β, γ, and δ [Leporis], named Kursa”.
- One is the star Delta (δ) Leporis in the IAU constellation Lepus, whose name was latinized to “Arsh al Jauzah”.

Throne of the Daughters of Na’sh:

This Arabic asterism “Sarīr Banāt al-Na'sh” is made up of stars of the IAU constellation Ursa Major: Tau (τ), Upsilon (υ), Theta (θ), 15, 18, and 23 Ursae Majoris. An Na’ash was a mythical Arabic hero:

- "Sarīr Banat Na'sh" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- R. H. Allen names this "Throne of the Mourners" in his *Star Names* in 1899.
- Compare this to their asterism Daughters of Na'sh, above.
- The IAU is considering the name Sarir for Theta (θ) Ursae Majoris.

Throne of the Unarmed One:

This Arabic asterism "Al 'Arsh al Simāk al 'Azal", translated as "Throne of the Unarmed One" or "Throne of the Sky Raiser", is the stars Beta (β), Gamma (γ), Delta (δ), and Eta (η) Corvi in the IAU constellation Corvus. It is related to their star "ʾAs-Simāk" (see Unarmed High One, below):

- Dorn (1829) lists this as "Throne of the Simak" and describes it as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283).
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "'Arsh al simák al a'zal, the throne of Spica".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "As Simák al a'zal, the unarmed or defenceless Simák" which is related to the asterism Unarmed High One (see below).
- R. H. Allen lists this as "Arsk al Simak" in his *Star Names* in 1899 as an Arabic name for the IAU constellation Corvus.

Throne of Thor:

This Danish and Icelandic asterism is the IAU constellation Ursa Minor as listed by Cleasby and Vigfusson in 1874 and in R. H. Allen's *Star Names* in 1899.

Throwing Stick:

This is an alternate translation of the Babylonian asterism "Gamlu" from the MUL.APIN tablets "Crook" (see above).

This Boorong asterism is the Pointer stars in the IAU constellation Centaurus: Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar): See Pointers, above. This is the throwing stick of Warepil (see Wedge Tailed Eagle, above).

Thuban:

See Snake, above.

Thumb:

See Offramp, above.

Thunder and Lightning:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a jagged line of stars in the IAU constellation Pegasus: 77 Pegasi, 70 Pegasi, 58 Pegasi, 55 Pegasi, 52 Pegasi, and Sigma (σ) Pegasi (the determinative star).

This Chinese xing guan "Léidiàn" (雷电) is a bending line of stars in the IAU constellation Pegasus. It starts at Zeta (ζ) Pegasi and winds through Xi (ξ), Sigma (σ), 55, and 66 Pegasi, ending at 70 Pegasi.

This Chinese Chenzhuo xing guan “Léidiàn” is a forked line of six stars in the IAU constellation Pegasus:

- The central line is the stars 55 Pegasi and HIP 113445. From each end two lines run out:
    - From 55 Pegasi one runs to 58 Pegasi and the other to 57 Pegasi, and
    - From HIP 113445 one runs to Sigma (σ) Pegasi and the other to Rho (ρ) Pegasi.

Thunderbird:

This Anishinaabe asterism “Animikii Binesii” is the IAU constellation Cygnus (Lee et al 2014).

This Dakota/Lakota/Nakota asterism “Wakinyan” is made up of the stars of the IAU constellations Draco and Ursa Minor:

- The “body” is the line of stars Tau (τ), Zeta (ζ), Eta (η), and Theta (θ) Draconis,
- One “wing” runs from Tau (τ) Draconis to Gamma (γ) Ursae Minoris, and
- The other “wing” runs from Tau (τ) Draconis to Epsilon (ε) Draconis and then down to Delta (δ) and Beta (β) Draconis (Rastaban).

This Diné asterism “Ii’ni” is made up of the stars of the IAU constellations Andromeda, Auriga, Gemini, Leo, and Pegasus (Childrey 2008):

- The “body” is the Square of Pegasus (see Square of Pegasus, above), and
- A large “feather” precedes the “body”, and this is a line of six stars: Beta (β) Andromedae (Mirach), Alpha (α) Persei (Mirfak), Alpha (α) Aurigae (Capella), Beta (β) Geminorum (Pollux), Alpha (α) Geminorum (Castor), and Alpha (α) Leonis (Regulus).

Thunderbolt:

This Chinese xing guan “Pīlì” (霹雳) is made up of five stars in the IAU constellation Pisces: Omega (ω), Iota (ι), Theta (θ), Gamma (γ), and Beta (β) Piscium (Fumalsamakah). The Koreans call this Thunderbolts (see below). This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Pīlì” is a bent line of five stars in the IAU constellation Pisces: Omega (ω) Piscium, Iota (ι) Piscium, Theta (θ) Piscium, 7 Piscium, and Beta (β) Piscium (Fumalsamakah).

Thunderbolts:

This Korean asterism “Byeolag” (벼락) is made up of five stars in the IAU constellation Pisces: Omega (ω), Iota (ι), Theta (θ), Gamma (γ), and Beta (β) Piscium (Fumalsamakah). The Chinese call this Thunderbolt (see above).

Thunder’s Goat:

This ancient Baltic star “Perkūno Ožka” or “Tikutis” is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga.

Thyrsus:

This Greek asterism is the stars near one “hand” of Ptolemy’s asterism the Centaur (see above). It would be a line of stars running out of the “hand” of this centaur, the star n Centauri (HIP 62896) in the IAU constellation Centaurus: l Centauri, HIP 61498, u Centauri, and HIP 60463, with a quadrilateral of the stars HIP 59607, 59353, 59055 and 59035 at the end. A thyrsus is a wand or staff of giant fennel covered

with ivy vines and leaves, sometimes topped with a pinecone or bunch of vine leaves and grapes or berries which was carried during Hellenic festivals and religious ceremonies. Hipparchus (190 – 120 B.C.E.) called it “θυρσόλογκος” (“thyrsólonkos”) and Pliny the Elder (24 – 79) “θύρσος” (“thýrsos”).

Tia ni Kaure:

This Kiribati star “Tia ni Kaure” is Gamma (γ) Orionis in the IAU constellation Orion (Trussel and Groves 1978).

Tia Uota te Inai:

This Kiribati star “Uota” or “Tia Uota te Inai” is an unidentified small star in the IAU constellation Orion (Trussel and Groves 1978).

Tiaki:

This Tuamotu star “Tiaki” is Beta (β) Gruis in the IAU constellation Grus. In 2017 the IAU approved this name for this star.

Tiamat:

This Chaldean asterism “dmin.ti.amat”, or “dis-ha-ra” from the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian period is the IAU constellation Scorpius.

Tianguan:

See Celestial Gate, above.

Tiara:

This **telescopic** asterism is Harrington 17 on the asterism list of American astronomer Phil Harrington, an incomplete circle of stars in the IAU constellation Ursa Major. One end of the broken ring starts at 36 Ursae Majoris and runs through 37, 39, 43, and 44 UMa, ending at HIP 52136. This is also known as the Broken Engagement Ring (see above). Size 17’.

Tiaroaroa:

This Kiribati asterism “Tiaroaroa” is the IAU constellation Scorpius (Trussel and Groves 1978).

Tick Nebula:

This **telescopic** HII region is SH 2-123 (LBN 414) in the IAU constellation Cygnus. It is also known as the Flea Nebula (see above).

Tidgett Umanar:

This Ayt Xebbac star (Arabic: Elmarzem) is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Souag 2019).

TIE Fighter:

There are four **telescopic** “TIE Fighter” asterisms:

- One is planetary nebula NGC 6369 in the IAU constellation Ophiuchus. It got this name from RASC member Chris Vaughan in 2023. It was discovered by English astronomer William Herschel in 1784 who listed it as “IV 11”. It is GC 4302 in the *General Catalogue* of 1864. It is also known

as the Ghost of Mars Nebula (see above) and the Little Ghost Nebula (see above). The TIE fighter was created for George Lucas' Star Wars movies by Colin Cantwell in 1977 and consists of a ball shaped cockpit between two hexagonal panels.

- One, "Dimvenátor Pégasi" is the galaxy NGC 7741 in the IAU constellation Pegasus. It was discovered in 1784 by English astronomer William Herschel who listed it as "II 208". It became GC 5004 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of the resemblance to the TIE-fighter from Star Wars. TIE is an abbreviation for "Twin Ion Engine" which they translated as "Duobus Ionicis Motoribus" (DIM) and combined with the latin word "venator" ("hunter").
- One is the galaxy PGC 2513233 in the IAU constellation Cassiopeia.
- One is the galaxy NGC 4725 (UGC 7989) in the IAU constellation Coma Berenices. This name was posted by American astronomer Bertrand Laville on the *Deep Sky Forum* in May 2022.

Tied Camels:

This Arabic asterism is a long line of stars in the IAU constellations Corvus, Hydra and Libra: Upsilon (υ) Librae, Sigma (σ) Librae, Pi (π) Hydrae, Gamma (γ) Hydrae, Beta (β) Corvi, Epsilon (ε) Corvi, Nu (ν) Hydrae, and Lambda (λ) Hydrae. Midway along this line is their asterism Southern Tent (see above).

Tiger:

This Latin asterism "Tigris" is the IAU constellation Lynx as originally listed by Polish astronomer Johannes Hevelius (1611 – 1687) who also created the constellation- (see Lynx, above). English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists this as an alternate name for Lynx.

Tiger's Eye:

This **telescopic** asterism NGC 2841 is an intermediate (Sb) spiral galaxy in the IAU constellation Ursa Major. It was discovered in March 1788 by English astronomer William Herschel who listed it as "I 205". It became GC 1823 in the *General Catalogue* of 1864. It is also called the "Radiant of Ursa Major" (see above). Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) lists this as O'Meara 49 without these names.

Tigris:

This Babylonian asterism "MUL.ID.IDIG-NA" (Hunger 1992) from the A*strological Reports to Assyrian Kings* and "mul. ididigna" in the Neo-Babylonian (Chaldean) *Great Star List* (Koch-Westenholz 1995) is the IAU constellation Sagitta. Anthony Hope lists it as "IDIGNA" or "Idiglat" in his *A Guide to Ancient Near Eastern Astronomy* in 1996.

This Assyrian asterism "Idiglat" (Hunger 1992) from the A*strological Reports to Assyrian Kings* is the IAU constellation Sagitta.

This Armenian and Persian asterism is the IAU constellation Sagitta as listed by R. H. Allen in his *Star Names* in 1899.

Tikatakata:

This Māori asterism is the Small Magellanic Cloud (Orchiston 2017).

Tilted Tent:

This **telescopic** asterism is in the IAU constellation Cygnus and is Corder 3936 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is five 8^{th} – 9^{th} magnitude stars.

Tim Horton's Constellation:

This Canadian asterism is the IAU constellation Lyra. This name has been used since 2021 by Charles Ennis of the Sunshine Coast Centre of the Royal Astronomical Society of Canada. Halifax Centre RASC member Quinn Smith also independently came up with this name, although the date that he created it is uncertain. Tim Horton's is a coffee and donut chain which is popular in Canada. This constellation is called this because at one end you have the asterism "Double Double", which is the side-by-side double stars Epsilon (ε) 1 Lyrae and Epsilon (ε) 2 Lyrae (see Double Double, above): One of the coffee drinks at Tim's is referred to as the "Double Double". At the other end of this constellation you have the planetary nebula Messier 57 (NGC 6720) commonly known as the Ring Nebula, which looks like a donut. Tim's is known for its donuts.

Timir:

See Darkness, above.

Tinamou:

There are three versions of this Quechua asterism "Yutu", "Lluthu", or "Yuthu" (Urton 1980 & 1981, Urton 2016, Urton 2022, Gamarra & Gamarra 2009), meaning "tinamou" or "ground partridge":

- One found in Misminay and Sonqo is the Coal Sack Nebula in the IAU constellation Crux (see Coal Sack Nebula, above). Compare to their asterism "Yutucruz" (see Partridge Cross, above).
- One found in Yucay and Lucre is dark nebulosity in the "tail" of the IAU constellation Scorpius.
- One found in Quispihuara is dark nebulosity near the IAU constellation Scutum.

Tinker Bell Triplet:

See Bird.

Tinted Hand:

This Arabic asterism "Yad Mulawana" (يد ملونة) which means "tinted hand" or "henna dyed hand" is made up of the stars of the IAU constellations Cassiopeia and Perseus and either represents a woman's hand dyed red with henna, or the bloodied hand of Muhammad's daughter Fatima. It is called this as one of the end stars is an orange colour like dried henna. This is how it is made up:

- The "hand" is made up of the stars Alpha (α) Cassiopeiae (Shedar), Beta (β) Cassiopeiae (Caph), Gamma (γ) Cassiopeiae, Delta (δ) Cassiopeiae, Epsilon (ε) Cassiopeiae and Eta (η) Cassiopeiae.
- The "arm" is made up of the stars Alpha (α) Persei (Mirfak), Gamma (γ) Persei, Delta (δ) Persei, Epsilon (ε) Persei, Eta (η) Persei, and Nu (ν) Persei.

Compare with the asterism "Palm", above.

Tintin of Horologium:

This **telescopic** asterism "Titínus Horológii" is the barred spiral galaxy NGC 1249 in the IAU constellation Horologium. It was discovered in 1834 by English astronomer John Herschel and became 2514 in his

catalogue and later GC 662 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as "the one extending arm at the upper (northern) side is reminiscent of the typical hair style of the French cartoon hero of Hergé, called Tintin". Hergé is the pen name of Belgian cartoonist Georges Remi. The Adventures of Tintin first appeared in 1929.

Tiny Plough:

This Romanian asterism "Pluguşorul" is the IAU constellation Ursa Minor (Ottescu 2009).

Tiny Southern Cross:

This **telescopic** asterism, Streicher 6 from by South African astronomer Magda Streicher's lists of telescopic asterisms is in the IAU constellation Carina 2˚ south of open cluster and resembles the Southern Cross (see Southern Cross, above): It includes the stars HIP 38521A and 38568. Size 10'.

Tioreore:

This Māori asterism is the Large Magellanic Cloud (Orchiston 2017).

Tip of the Bow:

This Arabic star "Al-rāmī huwa taraf al-qaws" ("the […] of the archer; it is the tip of the bow") is Mu (μ) Sagittarii in the IAU constellation Sagittarius as listed on the star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003).

Tip of the Elbow:

This Arabic star "ibrat al-mirfaq" (إبرة المرفق) is Psi (ψ) and Sigma (σ) Persei in the IAU constellation Perseus and is part of their asterism Al-Thurayya (see above).

Tip of the Nose:

This Arabic and Bedouin manzil "Al-Nuthrah", "Al-Nathrah" (النثرة), or "ʾAn-Nathrah" (ٱلنَّثْرَة), translated as "tip of the nose" or "nostrils" is in the IAU constellation Cancer and is the stars Gamma (γ) Cancri and Delta (δ) Cancri and the open cluster Messier 44 as listed by Ibn Qutayba. There are two ways of translating this, as the related verb "nathara" means "to scatter" or "to disperse", which leads to some Arabs calling Messier 44 "the Sneeze" and the two stars "al-mankhiran", the Two Nostrils (see below):

- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists "al-nathra".
- John Hill lists it as "Alnetara" in his *Urania* in 1754: Hill describes it as "the large star in the constellation Cancer, commonly called Præsepe", which indicates that this is a reference to the Greek asterism "Praesepe" ("manger") or "Asselli and Praesepe", which is a reference to the adjacent Arabic asterism Nostrils of the Lion (Messier 44).
- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) listed it as "Elnatret".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "al nathrah, the fissure between the Lion's whiskers".
- W. Brennand lists it as "Al-Nethra" in his *Hindu Astronomy* in 1896 and translates it as "the lion's mouth".

This Yemeni manzil “Nathra” is Epsilon (ε) Cancri, Gamma (γ) Cancri and Delta (δ) Cancri in the IAU constellation Cancer (Varisco 1995). This appears in the *Kitāb al-Tabṣira Fī'ilm al-Nujūm* of 13th century Rasulid ruler al-Malik al-Ashraf ‘Umar ibn Yūsuf (d 1296).

Tiripura:

This Māori asterism “Tiripura” is one of the Magellanic Clouds (Orchiston 2017).

Tiritiripua:

This Māori asterism “Tiritiripua” is one of the Magellanic Clouds (Orchiston 2017).

Tishtar:

This Persian and Zoroastrian star “Tishtar”, “Tishtriya”, or “Tir” is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major. It is named for their rain making deity. Compare this to the Vedic asterism Tishya (see Chieftain’s Star, above).

Tishtrya:

This Iranian star “Tishtrya” or “Tištriia” is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Holberg 2007). Compare this to the Vedic asterism Tishya (see Chieftain’s Star, above) and Tistrya (below).

Tislit:

This **telescopic** Moroccan star “Tislit” (“bride”) is WASP-161 in the IAU constellation Puppis (magnitude 11.08). It received this name in the IAU NameExoWorlds Campaign. This is the name of a lake in the Atlas Mountains which is associated with a legend of a broken-hearted girl. It has an exoplanet named Isli (“groom”) which is the name of another lake in these mountains associated with a legend of a heartbroken boy.

Tistrya:

This Zoroastrian star from the *Yasˇt 8* of Avesta “Tistrya”, “Ištrya”, “Tishtriya”, “Tisˇtrya”, or “Tištriia” (Panaino 1999) is Alpha (α) Canis Majoris (Sirius). Their *Avesta* devotes a lengthy hymn, Tishtar Yasht to Tishtrya, whom they identified as a deity who controlled rains. Compare this to the Vedic asterism Tishya (see Chieftain’s Star, above) and Tishtrya (above). Panaino (1999) writes that it was derived from “*tri-str-(o-m)” (“group of three stars”) which may have originally related to the belt of Orion.

Titune:

This Kiribati asterism “Titune” is made up of stars of the IAU constellation Hydra (Trussel and Groves 1978). Titune is the name of a type of spirit and is also a name used for a small crab or sea lice.

Tiwatin:

This Moroccan star is Upsilon (υ) Andromedae A and was named after the UNESCO World Heritage Site Tétouan by the IAU in 2015. It has three exoplanets named for Muslim astronomers: Saffar, Samh, and Majriti.

Ṭ'leh:

This Hebrew asterism is the IAU constellation Aries as listed in their list of constellations of the zodiac (mazzaroth) in their *Talmud*.

To Sail Around:

This Hawaiian star "Holopuni" ("to sail around" or "to circle") is Beta (β) Ursae Minoris (Kochab). This is a new Hawaiian name, as the old one was lost. It is also known as "Hoku-Mau" ("constant Mau" or "always Mau") in honor of Mau Piailug, the Satawalese navigator that assisted the Polynesian Voyaging Society to recover their use of stellar navigation.

To the Star:

This Basque asterism "Izarrora" is the IAU constellation Canis Major ((Knörr 1999, Frank 2021).

To War:

This Hungarian asterism "Hadhajtá" is probably the stars of the IAU constellation Cygnus. The celestial map of Hungarian uranographer Sandor Nagy (1915) depicts this asterism as three warriors riding on galloping horses. NOTE: Nagy's 1915 chart is beautifully illustrated, but some of the labels are hard to make out and I find it difficult to match the hand drawn stars on his chart with actual star patterns in the sky. Compare this to the Arabic asterism "Knights" (see above).

Toad:

This Mayan asterism "Uo" is made up of a triangle of stars in the IAU constellations Hydra and Corvus: Beta (β) Corvi (Kraz), Delta (δ) Corvi, Epsilon (ε) Corvi, and Gamma (γ) Hydrae.

There are three versions of this Quechua asterism "Hamp'atu" or "Hanp'atu" (Urton 1981 & 2022):

- One, from Misminay and Sonqo is a dark nebula southwest of Crux, the Southern Cross. Another dark spot near Crux is their asterism Partridge (see above). This is listed in ancient Inca skies.
- One from Yucay and Lucre is the Coal Sack Nebula,
- One from Quispihuara is a dark nebula within the "tail" of the IAU constellation Scorpius.

This English asterism "Bufo" was created in 1754 by British botanist and natural philosopher John Hill and published in his *Urania: Or a Complete View of the Heavens***.** It is made up of the stars of the IAU constellations Hydra and Libra:

- The "body" is an irregular quadrilateral of the stars Sigma (σ) Librae, 12 Librae, HIP 72210, HIP 70469, 51 Hydrae, and 56 Hydrae,
- One "leg" runs from 56 Hydrae to a "knee" at 58 Hydrae and a "foot" at 59 Hydrae, and
- Another "leg" runs from 51 Hydrae to 52 Hydrae.

Compare this to the asterism Solitary Thrush, above.

Toadstool:

This **telescopic** asterism, French 1 on the asterism list of American astronomer Sue French, is found in the IAU constellation Delphinus. It is also listed as Alessi J2107.5+1619, is listed on the SAC database, and is listed by Jeffrey Corder as Corder4326. Its size is 13' X 13' and it consists of these stars:

- Six magnitude 8 – 11 stars, HD 201117, HD 201095, Gaia DR3 1703765398556563712, HD 200984, and Gaia DR3 1703763268272794368, form the "stem" to the northeast, and

- Seven magnitude 8 – 10 stars, Gaia DR3 1703769826666359552, HD 201195, Gaia DR3 1703771445870748032, Gaia DR3 1703771205352576384, Gaia DR3 1703767490204153088, and Gaia DR3 1703766669867101056, form the "cap" to the southwest. The spiral galaxy NGC 7205 is at the top of the "cap".

The toadstool is also known as Dolphin's Diamonds and is listed in the book *Asterisms: Small Star Patterns for Telescopes and Binoculars*, by Dutch astronomer Demelza Ramakers in 2011. René Merting lists this on the *Faint Fuzzies* website. NOTE: This asterism is located right next to the galaxy 7025, which Merting and his colleague Robert Zebahl call the "Athlete's Foot Galaxy".

Tobacco Container:

This Kogi asterism "Tami" is the Hyades cluster in the IAU constellation Taurus.

Tobacco Pipe:

This **telescopic** asterism from *Pattern Asterisms* by American astronomer John A. Chiravalle is found in the IAU constellation Cepheus with a "stem" of eight stars and a "bowl" of five stars (HIP 111314A, 111064, 111018, 111325A, and 111521). Size 100' X 45'. Jeffrey Corder lists it as Corder 4689.

Tobit's Dog:

This is the IAU constellation Canis Major as listed by Italian humanist and poet Ambrogio Fracco, also known as Novidius (1480 - ?). The Book of Tobit is a 3rd or early 2nd century B.C.E Jewish work describing how God tests the faithful. It is listed in English Admiral Henry William Smyth's *Bedford Catalogue* in 1844.

Toby Jug:

This **telescopic** asterism is the reflection nebula IC 2220 in the IAU constellation Carina. This was first recorded by American astronomer DeLisle Stewart (1870 – 1941). This is also known as the Butterfly (see above). NOTE: A Toby Jug, also known as a Fillpot or Philpot, is a pottery jug in the form of a seated person.

Tohôrje:

This Chakavian asterism is the IAU constellation Ursa Minor.

Toilet:

This Chinese xing guan "Cè" (厠) is made up of four stars in the IAU constellation Lepus: Alpha (α) Leporis (Arneb), Beta (β) Leporis, Gamma (γ) Leporis, and Delta (δ) Leporis. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan "Cè" is four stars in the IAU constellation Lepus: Alpha (α) Leporis (Arneb), Beta (β) Leporis, Gamma (γ) Leporis, and Delta (δ) Leporis.

This Korean asterism "Hwajangsil" (화장실) is identical to the Chinese xing guan "Cè" (above).

Toilet of Sky:

This Korean asterism "Haneul-ui Hwajangsil" (하늘의 화장실) is a quadrilateral of five stars in the IAU constellations Cetus and Pisces: 89 Piscium and 20, 13, 25, and 39 Ceti.

Tojil:

This **telescopic** Guatemalan star Tojil is WASP-22 in the IAU constellation Eridanus (magnitude 10.318). It was named in the IAU NameExoWorlds Campaign. It has an exoplanet named Koyopa', which in the K'iche language means "lightning".

Tokia:

This Kiribati star is Beta (β) Centauri (Hadar) in the IAU constellation Centaurus (Trussel and Groves 1978). Rebua is the name of one of two legendary waves, the other being Tokia. Rigil Kentaurus and Hadar are known to them as "Tokia ma Rebua" (see Tokia and Rebua below).

Tokia and Rebua:

This Kiribati asterism "Tokia ma Rebua" is the stars Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus (Trussel and Groves 1978). Rebua and Tokia are the names of two legendary waves.

Tokitaba:

This Kiribati star "Tokitaba" is currently unidentified (Trussel and Groves 1978).

Toliman:

See Two Ostriches, below.

Tom Thumb Cluster:

This **telescopic** asterism is the open cluster NGC 6451 in the IAU constellation Sagittarius. It was discovered in 1784 by English astronomer William Herschel who listed it as "VI 13". It became GC 4335 in the *General Catalogue* of 1864. This is a reference to the Tom Thumb fairy tales which appeared in English folklore in 1621.

≠Toma:

This Nyae Nyae !Kung star is the Alpha (α) Centauri (Rigil Kentaurus) in the IAU constellation Centaurus (Alcock 2014) and is part of their asterism Kalidi (see above).

Tomb:

This Chinese xing guan "Fénmù" (坟墓(附危宿)), whose full name is "Tomb, Vassal of Rooftop", is three lines of stars radiating out of the central star Zeta (ζ) Aquarii in the IAU constellation Aquarius. It is attached at this star to the xing guan "Rooftop" (see above):

- One line goes to the star Gamma (γ) Aquarii,
- One line goes to the star Eta (η) Aquarii, and
- One line goes to the star 52 Aquarii.

This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Korean asterism "Mudeom" (무덤) is identical to the Chinese xing guan "Fénmù" (above).

Tomb (Adjunct to Wei):

This Chinese Chenzhuo xing guan is four stars in the IAU constellation Aquarius: A line runs from Pi (π) Aquarii to Zeta (ζ) 1 Aquarii, where it splits into two lines:

- One runs to Eta (η) Aquarii, and

- The other runs to Gamma (γ) Aquarii.

Tomb of Sky:

This Korean asterism “Haneul-ui Mudeom” (하늘의 무덤) in the IAU constellations Antlia, Hydra, and Pyxis is an irregular shape made up of the stars Lambda (λ), Theta (θ), Kappa (κ), and Epsilon (ε) Pyxidis, HIP 46578, 48559, 48584, and 46880, Theta (θ) Antliae, and G and I Hydra.

Tombaugh's Star:

This 12th magnitude variable dwarf nova star is TV Corvi in the IAU constellation Corvus. It was discovered by accident on a photographic plate by American astronomer Clyde Tombaugh in 1932 but was confirmed as a dwarf nova by Canadian astronomer David Levy in 1990.

Tomcat:

This **telescopic** asterism is the open cluster Messier 39 in the IAU constellation Cygnus. This was posted by American astronomer “Echolight” on *Cloudy Nights* in February 2022. The name is a reference to the F-14 fighter jet.

Tonatiuh:

This is HIP 58952 (HD 104985) in the IAU constellation Camelopardalis (magnitude 5.80). This name was approved for the star by the IAU in 2015. Tonatiuh is the Aztec God of the Sun. This has an exoplanet named Meztli, which is the Aztec God of the Moon.

Tongs:

This Macedonian asterism “Mashi” or “Maʃy” is next to their asterism “Pirustija” (see Trivet below). This is a triangle of stars in the IAU constellation Lyra: Theta (θ) Lyrae, and HIP 94685 and 95673 (Cenev 2004 & 2014).

This Anutan asterism, “Te Angaanga” is the Hyades cluster in the IAU constellation Taurus.

This Samoan asterism, “I‘ofi” includes the Hyades cluster in the IAU constellation Taurus (Fitisemanu 2022). The Hyades is the base of the “tongs” with the two sides extending out to the stars Beta (β) Tauri (Elnath) and Zeta (ζ) Tauri.

Tongue of Virgo:

This **telescopic** asterism “Lingulátus Vírginis” is the edge-on spiral galaxy NGC 4771 in the IAU constellation Virgo. It was discovered in 1786 by English astronomer William Herschel who listed it as II 535. It became GC 3283 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Tool of the Sharp Point:

This Latin star “Ferramentum Spiculi” is Gamma (γ) Sagittarii in the IAU constellation Sagittarius and is listed in Edward Sherburne’s *Sphere of Marcus Manilius* in 1675. Compare this to the asterism Pointed (see above).

Toomre’s of Cetus:

This **telescopic** asterism "Toómrius Céti" is the galaxy PGC 1224 (Arp 256, VV 352) in the IAU constellation Cetus. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called to honour Alar and Juri Toomre, who conducted the first computer simulations of galactic mergers.

Tooth:

American astronomer John A. Chiravalle gives this name to Pakan's 3 (see "3" above).

Tooth Shell:

This English asterism "Dentalium" was created in 1754 by British botanist and natural philosopher John Hill and published in his *Urania: Or a Complete View of the Heavens***.** It is a curving, tapering horn-shaped group of stars in the IAU constellations Aquila and Aquarius:

- A line between 71 and 69 Aquilae forms one end,
- From 71 Aquilae one side runs through 11 and 15 Aquarii to an end at 21 Aquarii, and
- From 69 Aquilae the other side runs through 4 and 12 Aquarii to the end at 21 Aquarii.

Topsy Turvy Galaxy:

This **telescopic** asterism is NGC 1313, a field barred spiral galaxy in the IAU constellation Reticulum. It was discovered by Scottish astronomer James Dunlop in September 1826. It is listed in the *General Catalogue* of 1864 at GC 695. NOTE: Topsy turvy is a term dating back to the 16th century and there are many theories about its origin. This is also known as the "Destroyed of Reticulum" (see above).

Torch:

This Latin star "Lampadias" is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus. "Lampadias" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and in John Hill's *Urania* in 1754.

This Greek lunar mansion is listed in the Magical Papyrus 121, preserved in the British Museum, and dated to the 3rd century C.E. (Mosenkis, date n/k). Mosenkis describes this as "Boötes with Arcturus".

This Lokono (Arawak) star "Alêti" is Beta (β) Centauri (Hadar) in the IAU constellation Centaurus (Rybka 2018). Alêti is the torch bearing companion of Yokhârhin (see Hunter, above).

Torch Bearer:

This Anglo-Saxon star "Bryne-bringan" or "Baeran-bringan" is Alpha (α) Canis Minoris (Procyon) as listed by Bender in 2020. In 1934 O. S. Reuter listed it under the German name "Fackelbringer" or "Fackel Bringer" on his *Nördliche Sternhimmel* sky map.

This Greek asterism "Λαμπαδίας" ("Lampadías") is the Hyades cluster in the IAU constellation Taurus as listed in R. H. Allen's *Star Names* in 1899. Allen adds that the 5th century Greek philosopher Proclus Lycius (Proclus) called it "Λαμπαύρας" ("Lampávras"). The 15th century *Alfonsine Tables* list this as "Lampadas".

This Egyptian asterism "Cynocephalus" is one of the paranatellonta of the first decan of Aries as listed in the *Sphaera Barbarica* described by Teucros (Mosenkis, date n/k). It is made up of stars of the IAU constellation Camelopardalis.

This Old Icelandic star is Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor.

Torch Bearer Nebula:

See Statue of Liberty Nebula, above.

Torch Dragon:

This **telescopic** asterism “Zhúlóng” is the most distant spiral galaxy known to date, discovered by an international team lead by the University of Geneva in 2025. It existed on billion years after the Big Bang. “Zhúlóng is a powerful red solar dragon that creates day and night by opening and closing its eyes, symbolizing light and cosmic time," says Dr. Mengyuan Xiao, postdoctoral researcher at the Department of Astronomy of the Faculty of Science of UNIGE and lead author of the study. It is located at a redshift distance of z = 5.2 (12.8 Gly).

Torches of Camelopardalis:

This **telescopic** asterism “Fáces Camelopardális” is the pair of interacting galaxies IC 2184 in the IAU constellation Camelopardalis. It was discovered by French astronomer Guillaume Bigourdan in 1900. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “this remarkable double Markarian object looks like two distant torches in the sky”.

Torcular:

See Northern Press, above.

Toriba ni Maiaki:

This Kiribati asterism “toriba ni Maiaki” is a horseshoe shaped group of stars in the IAU constellation Eridanus (Trussel and Groves 1978). They are also known as “Ma ni kataenako” (see Fish Trap, above).

Toriba ni meang:

This Kiribati asterism “Toriba ni meang” is the curve of stars at the front end of the IAU constellation Leo from the star Epsilon (ε) Leonis to the star Alpha (α) Leonis (Regulus), resembling a mirror-image question mark (Trussel and Groves 1978).

Torn in Pieces of Sagittarius:

This telescopic **asterism** “Divúlsus Sagittárii” is the elliptical loop-shaped satellite Sagittarius Dwarf Spheroidal Galaxy or SagDEG, and was discovered in 1994 by Ibata, Gilmore, and Irwin. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Torque of Cetus:

This **telescopic** asterism “Tórques Céti” is the interacting pair of ring galaxies IC 298 (Arp 147) in the IAU constellation Cetus. It was discovered by French astronomer Stéphane Javelle in 1893. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of its ring system, which they describe as “resembling a torques, a Celtic necklace”.

Torrents of Cygnus:

This **telescopic** asterism is the HII region including LBN 252, 264, 278, 298, 301, 303, and 310 in the IAU constellation Cygnus. It is listed under this name on Astrobin by astronomer Steven DeGroot.

Tortoise:

The Tortoise appears as a constellation on Babylonian stones, cylinder seals and gems preserved at the British Museum (Massoume 2001). The precise stars involved are not described.

This Arabic star "as-Sulḥafāh" (السلحفاة) or "Sulaḥfāt" is Gamma (γ) Lyrae in the IAU constellation Lyra:

- "Al-Sulahfāt" is listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010) as a name for Lyra.
- This was later latinized to "Sulafat", " Sulaphat", and Chilmead's "Schaliaf".
- The 15th century *Alfonsine Tables* list "Azulafe" and "Zuliaca".
- Robert Hues lists "Schaliaf" as a name for the constellation Lyra in his *A Learned Treatise of Globes* in 1659.
- John Hill lists the name "Sulaphat" in his *Urania* in 1754 and incorrectly identifies it as a name of both the constellation and the star Alpha (α) Lyrae (Vega).
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "al sulhafat, the tortoise".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Sulaphat".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list this star as "Sulaphat".
- The IAU approved the name Sulafat for Gamma (γ) Lyrae.

This Arabic asterism "Al Kubbah", later latinized to "Kubba" is the IAU constellation Corona Australis as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986):

- "Al Kubba" is listed in Edward Sherburne's *Sphere of Marcus Manilius* in 1675: Sherburne translates this as "Testitudo vel Tabernaculum, propter circularem formam" ("testimony or tabernacle, because of its circular form").
- "Kubba" is listed in John Hill's *Urania* in 1754.
- "Al Kubbah" is listed in R. H. Allen's *Star Names* in 1899.

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is made up of stars in the IAU constellation Ara: Alpha (α) Arae (the determinative star), Lambda (λ) Arae, Sigma (σ) Arae, HIP 84720A and HIP 84105.

This Chinese xing guan "Guī" (龟) in the IAU constellation Ara is made up of five stars: Zeta (ζ), Eta (η), Delta (δ), Gamma (γ), and Epsilon (ε) Arae.

This Chinese Chenzhuo xing guan "Guī" is a pentacle of stars in the IAU constellations Ara and Telescopium: Theta (θ) Arae, Epsilon (ε) Telescopii, HIP 87846, Sigma (σ) Arae, and Lambda (λ) Arae.

This /Xam star is Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion (Alcock 2014).

This Shipibo asterism is the IAU constellation Corona Borealis (Kemp et al 2022).

Tortoise Shell:

This Greek asterism “Χέλυς ὀλίγη” (“Chélys olígi”) is the IAU constellation Lyra as described by Aratus (315 – 240 B.C.E.) in his *Phaenomena*. This relates to the mythical origin of the Lyre from a tortoise shell cast up on the beach strung with dried tendons by the God Hermes. This was later latinized to Chelys. “Chelys” is listed as a name for Lyra in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

Tortoises:

This San asterism in the IAU constellation Orion is the stars Beta (β) Orionis (Rigel) and Kappa (κ) Orionis (Saiph).

Totero:

The stars of this Quechua asterism are unidentified at present (Ciancia 2018).

Touching of Draco:

This **telescopic** asterism “Tangentes Dracónis” is the interacting galaxies UGC 10770 (Arp 32) in the IAU constellation Draco. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “the two galaxies of this system are touching one another”.

Tovorÿtje:

This Chakavian asterism is the IAU constellation Cancer.

Towards Red of Virgo:

This **telescopic** asterism “Erythrónde Vírginis” is the galaxy 3C 273 in the IAU constellation Virgo. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because this “is the first quasar of which the redshift was determined when Maarten Schmidt of Hale Observatories interpreted the optical emission lines of this radio source as redshifted hydrogen Balmer lines in 1963”.

Tower in Market:

This Korean asterism “Sijang-ui Tab” (시장의 탑) is an angular “figure eight” of stars in the IAU constellations Ophiuchus and Serpens: Mu (μ) Ophiuchi, HIP 85922, 47 Ophiuchi, Nu (ν) Serpentis, and HIP 84402 and 83962.

Tower of Gad:

This American asterism is the IAU constellation Capricornus as listed by American astronomer Elijah Burritt (1794 – 1838).

Tower of Teddus:

This Welsh asterism “Twr Tewdws is the Pleiades cluster in the IAU constellation Taurus as listed in Marie Trevelyan’s *Folk-lore and Folk-stories of Wales* (1909).

Tower of Zeus:

This Greek asterism is the IAU constellation Cepheus as listed by Mosenkis in his *Mycenaean Oecumene* (date n/k).

Town:

This Arabic asterism "al-balda" (البلدة) or "bálda" (بلدة), originally referred to the entire IAU constellation Sagittarius, but later was assigned to the triple star Pi (π) Sagittarii in the IAU constellation Sagittarius. The IAU lists the translation as "the Town":

- This was later latinized to "Al Baldah" or "Albaldah".
- The 17th century astronomer Al Achsasi al Mouakket called it "nayyir al-baldah" (نير البلدة), or "brightest in the town", later latinized to "Nir al Beldat" in his *Calendarium*.
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "al beldah, quod urbem oppidumbe denotat ("Which denotes a city or a town")".
- The IAU approved the name Albaldah for Pi Sagittarii A in 2017. Compare this to their asterism "ʾAl-Baldah" (ٱلْبَلْدَة) – see Empty Place, above.
- NOTE: R. H. Allen translates "Al Baldah" as "the Fox's Kennel" in his *Star Names* in 1899 and attributes it to "Al Bīrūnī'" (Iranian astronomer Abu Rayhan Muhammad ibn Ahmad al-Biruni, 973 – c.1050), describing it as "a starless region towards Pisces… for whose stellar connection I find no explanation". This is actually the Arabic asterism Empty Place of the Fox (see above).

Track of Eaglehawk:

This Kokatha and Ngalea asterism "Waljajinna" is the IAU constellation Crux.

Tracks of a Panunga Man and Parula Woman:

This Arrernte asterism is made up of stars in the IAU constellations Ara, Scorpius, and Sagittarius (Maegraith 1932). This asterism has several parts:

- A line from Kappa(κ) Scorpii to Beta (β) Sagittarii (Arkab) is a spear carried by a Panunga hunters also armed with boomerangs.
- The Panunga hunters are Kappa(κ) and Iota (ι) Scorpii.
- Lambda (λ) Scorpii is a Panunga man and Upsilon (υ) Scorpii a Parula woman that these hunters are pursuing.
- Eta (η) and Zeta (ζ) Scorpii are the tracks of the man and woman being pursued and marks the place where they were overtaken and slain.
- Theta (θ) Scorpii, Alpha (α) Arae and Beta (β) Arae represent the yam stick used to dig a grave for these two.

Tracks of Men Pursuing an Emu:

This Luritja and Arrernte asterism is made up of stars of the IAU constellations Aquila, Cygnus, Hercules, and Lyra (Maegraith 1932):

- The two men are Alpha (α) Aquilae (Altair), who is the right-handed brother, and Beta (β) Aquilae (Alshain), who is the left-handed brother.
- The emu's tracks are Alpha (α) Lyrae (Vega), Eta (η) Herculis, and Pi (π) Herculis.
- Beta (β) Cygni (Albireo) and Delta (δ) Cygni are the tracks of two Knaria men, brother and uncle of the left-handed and right-handed brothers.

- The small stars surrounding Aquila, Hercules, Lyra, and Ophiuchus are considered to be the tracks of the hunters, who keep having to go hunting again as every time they cook the emu they caught, a mamu (creek spirit) steals it.

Compare this to the Kokatha and Ngalea asterisms Left-handed Brother and Right-handed Brother, above.

Trailing Robe of Hydra:

This **telescopic** asterism "Helcesípepla Hýdrae" is the lenticular galaxy NGC 2876 in the IAU constellation Hydra. It was discovered by Édouard Stephan in 1880. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "it is trailing a long tail at its western side".

Train of a Garment:

This Arabic star "sirmā" (تطريز) later latinized to "Syrma" is Iota (ι) Virginis in the IAU constellation Virgo. In 2016 the IAU approved the name Syrma for Iota (ι) Virginis.

Trainwreck Galaxies:

This **telescopic** asterism is the galaxies NGC 4449 (UGC 7592, PGC 4093, MGC 7-26-9, Caldwell 21) and NGC 4449B (UGC 7577, PGC 40904, MCG 7-26-6) in the IAU constellation Canes Venatici. This name was posted on the *Deep Sky Forum* in March 2015 by American astronomer Mark Friedman.

Trajan's Bitch:

This Romanian star is 80 Ursae Majoris in the IAU constellation Ursa Major (Ottescu 2009). Ottescu writes that the Slavic term "Paloșchiţa" ("Little Bitch" see above) is also used. The legend says that the Emperor Trajan put slaves he'd conquered from Dacia in the Great Chariot (see above) and their chiefs in the Little Chariot (see above).

Tranne-nociw:

This Ainu Nociw ("asterism") is the Pleiades cluster in the IAU constellation Taurus.

Transparent of Cassiopeia:

This **telescopic** asterism "Diáphanes Cassiopéiae" is the dwarf spheroidal galaxy NGC 147 (Caldwell 17) in the IAU constellation Cassiopeia, and is a satellite galaxy of the Andromeda Galaxy, M 31. It was discovered by John Herschel in 1829 and is GC 72 in the General Catalogue of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010): They called it "transparent" as it is free of dust.

Transporting Star:

This Palikur star is Beta (β) Orionis (Rigel) in the IAU constellation Orion (Green and Green 2011). It is part of their asterism Kusuvwi the Younger Brother (see above).

Trap:

This Kiribati asterism "Kabaru" or "kai ni kabaru" is made up of four stars at the "hind part" of the IAU constellation Canis Major (Trussel and Groves 1978). Trussel and Groves are not specific as to the stars.

Trapezium:

There are two telescopic “Trapezium” asterisms:

- One is the star Theta (θ) 1 Orionis in the IAU constellation Orion: This is four stars identified as A, B, C, and D, with Theta (θ) 1 Orionis C being the brightest. This cluster has a total of eight stars. It was discovered by Italian astronomer Galileo Galilei in 1617:
    - William Herschel observed it in 1776, and described it as “quadruple”, which is where this name originated.
    - William Denning’s *Telescopic Work for Starlight Evenings* (1891) lists these stars as the “Trapezium”.
    - German astronomer Hermann Joseph Klein (1844 – 1914) lists the “celebrated Trapezium” in his *Star Atlas* (1893).
    - *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists “the Famous Trapezium”.
    - The 1st edition of British schoolmaster Arthur P. Norton’s *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition of British schoolmaster Arthur P. Norton’s *A Star Atlas* (1959) list the Trapezium.
    - *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists these stars as the “Trapezium”.
- One is TPK 1 located 1.1 degrees north northwest of the star Lambda (λ) Andromedae in the IAU constellation Andromeda.

Trapezoid:

This asterism is made up of four stars in the IAU constellation Boötes: Gamma (γ) Boötis, Beta (β) Boötis (Nekkar), Mu (μ) 1 Boötis, and Delta (δ) Boötis.

There are two **telescopic** “trapezoid” asterisms:

- One is Patchick 56 on the asterisms list of astronomer Dana Patchick is in the IAU constellation Cygnus. It is a trapezoid of 9th to 11th magnitude stars not far from the star Gamma (γ) Cygni (Sadr). One corner star is HIP 100660 and a star in the middle of the other side is the double star HIP 100583.
- One is in the IAU constellation Mensa and is Corder 869 on the observing list of American astronomer Jeffrey Corder. Size 15’. This is located in the Large Magellanic Cloud. It is four 8th magnitude stars including HIP 25780, 25690, and the double star HIP 25811A.

Traveler:

This huge Gwich'in asterism known as "Yahdii" for Alaskan Gwich’in people and “Yuhdii” or “Yuhdyee” for Canadian Gwich’in peoples is an animal-like "tailed man" that spans more than 130 degrees across the sky from nose to foot and is viewed as being in a crouched position with arms embracing the sky. The whole asterism contains “body parts” in 18 different IAU constellations, with the principal constellations being Auriga, Boötes, Coma Berenices, Cygnus, Gemini, Hydra, Leo, Lynx, Orion, Taurus, Ursa Major, and Ursa Minor (Cannon 2021):

- His “tail” (vitsi’) is the bucket of the Big Dipper asterism (see Big Dipper, above).
- His “head” (viki’) consists of:
    - His “left ear” (tl̀ ǫhts’aii vidzee) is Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux),

    - His “right ear” (shreets’aii vidzee) is Alpha (α) Aurigae (Capella) and Beta (β) Aurigae (Menkalinan),
    - His “snout” (vanhtral), vanch’àl) or “nose” (vantsih) is the Pleiades cluster,
    - His “eyes” (vendee or vindee) are Alpha (α) Orionis (Betelgeuse) and Gamma (γ) Orionis (Bellatrix) in one version and Beta (β) Tauri (Elnath) and Iota (ι) Aurigae (Hassaleh) in the IAU constellations Auriga and Taurus in another version.
- His “body” (vizhin) or “flesh” (vatthai) is 15 Lyncis, Omicron (ο) Ursae Majoris, 23 Ursae Majoris, 36 Ursae Majoris, Theta (θ) Ursae Majoris, Iota (ι) Ursae Majoris, Kappa (κ) Ursae Majoris, and 31 Lyncis,
- His “right arm” (shreets’aii vigin) or “right hand” (shreets’aii vanli’) is Gamma (γ) Andromedae and Beta (β) Trianguli,
- His “left arm” (tl’ohts’aii vigin) or “left hand” (tì ǫhts’aii vanli’) is Alpha (α) Leonis (Regulus) and Omicron (ο) Leonis,
- His “left leg” (tì ǫhts’aii vatth’ an’) is the stars of Coma Berenices and his “left foot” (tì ǫhts’aii vakwai’) is Alpha (α) Boötis (Arcturus) and Eta (η) Boötis,
- His “right leg” (shreets’aii vatth’an’) is a line of stars through Alpha (α) Ursae Minoris (Polaris) and his “right foot” (shreets’aii vakwai’) is Alpha (α) Cygni (Deneb) and Gamma (γ) Cygni (Sadr),
- His “heart” (Vidrii) is 27 Lyncis,
- He has a “crooked knife” (vigwiisii) consisting of the Sickle (see Sickle of Leo, above),
- His “cane” (vatòo) is Eta (η) Leonis, Gamma (γ) Leonis, Zeta (ζ) Leonis, Mu (μ) Leonis, Epsilon (ε) Leonis, Omicron (ο) Leonis, and Alpha (α) Hydrae (Alphard),
- His “bag” (va’ohtsùu) is 63 Ursae Majoris, Psi (ψ) Ursae Majoris, Mu (μ) Ursae Majoris, and Lambda (λ) Ursae Majoris, and
- The Milky Way is referred to as "Yahdii's Trail".

This Sahtúotine asterism “Yíhda” or “Yámoréya” (“the one who went around the world” or “one who departed to go around the world”) is cognate with the Gwich’in asterism Yahdii (Cannon 2021). He is viewed as standing in a defensive posture brandishing his staff. Cannon writes that some elders call him the “Sky Keeper”. He is made up of the stars of the IAU constellations Canes Venatici, Leo, Leo Minor, Lynx, and Ursa Major. Here are the various parts of “Yíhda” or “Yámoréya”:

- His “head” (bekwi) is Theta (θ) Ursae Majoris, Phi (ϕ) Ursae Majoris, Nu (ν) Ursae Majoris, 23 Ursae Majoris, Tau (τ) Ursae Majoris, 4 Ursae Majoris, Omicron (ο) Ursae Majoris, and 15 Ursae Majoris,
- His “torso” (bezhı̨ ́ or bezhıne) is Psi (ψ) Ursae Majoris, Nu (ν) Ursae Majoris, 37 Leonis Minoris, 21 Leonis Minoris, and HIP 47029,
- His “heart” (ɔedzə́) is Lambda (λ) Ursae Majoris (NOTE: this is a “spiritual heart”, not a physical one),
- His “left arm” (ɔ́hts’ę́ begwóné) is Iota (ι) Ursae Majoris, Kappa (κ) Ursae Majoris, 10 Ursae Majoris, HIP 44700, 38 Lyncis and Alpha (α) Lyncis,
- His “left hand” (ɔ́hts’ę́ belá) is 17 and 24 Leonis,
- His “right arm” (są́ą begwóné) is Psi (ψ) Ursae Majoris, Chi (χ) Ursae Majoris, and 5 Canum Venaticorum,
- His “right hand” (są́ą belá) is Zeta (ζ) Ursae Majoris (Mizar),
- His “left leg” (ɔ́hts’ę́ bekw’oné) is Zeta (ζ) Leonis, 41 Leonis, Eta (η) Leonis, and Alpha (α) Leonis (Regulus),
- His “left foot” (ɔ́hts’ę́ bekə) is Alpha (α) Leonis (Regulus) and Omicron (ο) Leonis,

- His “right leg” (sąą bekw’oné) is Nu (ν) Ursae Majoris, Xi (ξ) Ursae Majoris, 72 Leonis, Delta (δ) Leonis, and Theta (θ) Leonis,
- His “right foot” (sąą bekə) is Theta (θ) Leonis and Beta (β) Leonis (Denebola),
- His “ladle” (lıbóchá) is the Big Dipper asterism. NOTE: This has also been called a “kettle”. Compare this to the Dane-zaa asterism Sky Keeper’s Kettle (above).

This Upper Tanana asterism “Yihdaa” or “Neek’e’eltiin” is cognate with the Gwich’in asterism Yahdii (Cannon 2021). Some elders refer to him as “great sky man, “K’oh dindeh” (“cloud man”), or “Yaak’oh” (“sky neck”). He is made up of the stars of the IAU constellations Boötes, Cassiopeia, Draco, Gemini, Leo, Lynx, Taurus, and Ursa Major. Here are the various parts of “Yíhdaa” or “Neek’e’eltiin”:

- His “tail” (uche’) is the Big Dipper asterism,
- His “head” (utthi’) is:
    - His “neck” (uk’oh) is stars in the area of 31 Lyncis, 15 Lyncis, Alpha (α) Geminorum (Castor), and Beta (β) Geminorum (Pollux),
    - His “nose” (mjįtsįj) is the Pleiades cluster,
    - His “eyes” (unaagn’) are Beta (β) Tauri (Elnath) and Iota (ι) Aurigae,
    - His “left ear” (tł’ahts’ąy udzagn’) is Beta (β) Geminorum (Pollux) and his “left inner ear/hearing” (tł’ahts’ąy udziit) is Alpha (α) Geminorum (Castor),
    - His “right ear” (hǫǫsǫǫ ts’ąy udzagn’) is Alpha (α) Aurigae (Capella) and his “right inner ear/hearing” (hǫǫsǫǫ ts’ąy udziit) is Beta (β) Aurigae (Menkalinan),
- His “torso” (usak) is 15 Lyncis, Omicron (ο) Ursae Majoris, 23 Ursae Majoris, 36 Ursae Majoris, Theta (θ) Ursae Majoris, Iota (ι) Ursae Majoris, Kappa (κ) Ursae Majoris, and 31 Lyncis,
- His “heart” (udzeey) is 27 Lyncis,
- His “left arm” (tł’ahts’ąy ugaan’) is an unidentified region of stars, and his “left hand” (tł’ahts’ąy uła’) is Alpha (α) Leonis (Regulus) and Omicron (ο) Leonis,
- His “right arm” (hǫǫsǫǫ ts’ąy ugaan’) is an unidentified region of stars, and his “right hand” (hǫǫsǫǫ ts’ąy uła’) is Alpha (α) Cassiopeiae (Shedar) and Beta (β) Cassiopeiae (Caph),
- His “left leg” (tł’ahts’ąy uxol’) is an unidentified region of stars
- There are two versions of his “left foot” (tł’ahts’ąy uke’):
    - One is Alpha (α) Boötis (Arcturus) and Eta (η) Boötis,
    - One is Delta (δ) Leonis and Beta (β) Leonis (Denebola),
- His “right leg” (hǫǫsǫǫ ts’ąy uxol’) is an unidentified region of stars, and his “right foot” (hǫǫsǫǫ ts’ąy uke’) is Gamma (γ) Draconis and Beta (β) Draconis (Rastaban), and
- His “knee” (ugot) is an unidentified star.

NOTE: The Lower Tanana call the Traveler “Yambaa Teeshyaay” (“the one who went around the edge of the sky” and see this asterism as part of the “Che’ T’iin” (“tailed people”).

This T’atsaol’ine asterism “Yèhdaa”, Wiidiideh asterism “Yida” or “Yehdaa” is cognate with the Gwich’in asterism Yahdii (Cannon 2021). He is made up of the stars of the IAU constellations Boötes, Corona Borealis, and Ursa Major. Yida is a trickster here who was shot with a arrow when caught pilfering rabbits from snares and fled into the sky. Here are the various parts of “Yèhdaa”, “Yida”, or “Yehdaa:

- His “head” (betthí) is Nu (ν) Ursae Majoris
- His “arms” (begáné) are:
    - “Right Arm”: Alpha (α) Ursae Majoris (Dubhe), Eta (η) Ursae Majoris, and Tau (τ) Ursae Majoris,
    - “Left Arm”: Beta (β) Ursae Majoris (Merak) and Theta (θ) Ursae Majoris.

- His “hands” (belá) are:
    - “Right Hand”: Omicron (ο) Ursae Majoris,
    - “Left Hand”: Iota (ι) and Kappa (κ) Ursae Majoris,
- His “torso” (bezíé) is Alpha (α) Ursae Majoris (Dubhe), Beta (β) Ursae Majoris (Merak), Gamma (γ) Ursae Majoris, and Delta (δ) Ursae Majoris,
- His “back” (bet’ás or benéné) is Delta (δ) Ursae Majoris, Epsilon (ε) Ursae Majoris, Zeta (ζ) Ursae Majoris, and Gamma (γ) Ursae Majoris,
- His “buttocks” (betł’á) is Eta (η) Ursae Majoris,
- His “feet” are:
    - “Right foot”: Alpha (α) Corona Borealis (Alphecca) or Beta (β) Boötis (Nekkar),
    - “Left Foot”: Epsilon (ε) Boötis or Gamma (γ) Boötis,
- Place where he was hit by an arrow (bek’arełka) is 80 Ursae Majoris (Alcor), and
- His “quiver” (k’á nąłchéth) is Theta (θ) Bootis.

There is a Wiidiideh variation of this asterism made up of stars of Leo, Leo Minor, and Ursa Major:

- His “arms” (wegǫ̀ǫ̀)
    - “Right Arm”: Eta (η) Ursae Majoris, Zeta (ζ) Ursae Majoris, Epsilon (ε) Ursae Majoris and Delta (δ) Ursae Majoris,
    - “Left Arm”: Alpha (α) Ursae Majoris (Dubhe), 23 Ursae Majoris, and Omicron (ο) Ursae Majoris,
- His “body” (wedzìwì) is Delta (δ) Ursae Majoris, Gamma (γ) Ursae Majoris, Chi (χ) Ursae Majoris, Psi (ψ) Ursae Majoris, Beta (β) Ursae Majoris (Merak), and Alpha (α) Ursae Majoris (Dubhe).
- His “legs” (wekw’ǫ̀) are:
    - “Right Leg”: Nu (ν) Ursae Majoris, Xi (ξ) Ursae Majoris, 72 Leonis, Delta (δ) Leonis, Theta (θ) Leonis, Iota (ι) Leonis,
    - “Left Leg”: 46 Leo Minoris, Zeta (ζ) Leonis, Gamma (γ) 1 Leonis, Eta (η) Leonis, and Alpha (α) Leonis (Regulus).

This Dëne Suhne asterism “Yéhda”, “Yétaa”, or “Yeda” is cognate with the Gwich’in asterism “Yahdii” (above (Cannon 2021)). It is also known as “Hochol” or “Hochok” (“the Big One”). His “tail” (Yétaa-tché or Yehda-tchè) is the belt of Orion to some of the Dëne Suhne and the Big Dipper to others. His “backbone” (Yíhda hinéw’éné’) is the handle of the Big Dipper.

This Dena’ina asterism “Yuq’eltani” (“One Over the Sky”), “K’uzaghalen” or “Naq’eltaeni” is cognate with the Gwich’in asterism “Yahdii” (above). He is made up of the stars of the IAU constellation Ursa Major and other as yet unidentified constellations. His “tail” (bekala) is the Big Dipper asterism, also known as “our cavity tail” (naq’a kala). Unidentified stars include his “palm” (belaq’a), “one on the palm” (belaq’a q’edi), “saliva” (hayq’a), “arm” (ugguna), “one on top of the head” (k’tsikiq’edi), “sled”, and “pack”.

This Dane-zaa asterism “Yèshta” is cognate with the Gwich’in asterism “Yahdii” (above (Cannon 20021)). It is also known as “Yaak’ih Sadę” (see Sky Keeper, above), or “Tsááyaa” (Sun in the Sky). He came to the world to make the world right after a malevolent being came there trying to imitate him.

This Deh Gah Got’ine asterism “Zhída” is cognate with the Gwich’in asterism “Yahdii” (above (Cannon 2021)). It is also known as “Zhihda”. His “tail” (Zhihdache) is the Big Dipper asterism in the IAU constellation Ursa Major.

NOTE: The Traveler shows up in many other Dene First Nations cultures: “Yihjah” (Han), “Yidha” (Tse’khene), “Yidha” (Tłı̨chǫ), “Yïhda” (Wet’suwet’en), “Yihta” (Dakelh), “Yéhtai” or “Yitai” (Tsilhqot’in), “Yidhā” (Kaska), “Yehda’” (Talhtan), “Yèda” (Southern Tutchone), “Zhéhde” (Northern Tutchone), “Yax’t’e” (Tagish), and “Yaxhté” (Tlingit). Modern day members of these nations often use these names just to describe the Big Dipper asterism in the IAU constellation Ursa Major (Cannon 2021). Compare to the Ahtna asterism “That Which Moves Over Us” (above).

The A:shiwi had an asterism that spanned the sky as well, The Chief of the Night, however, the precise stars of this asterism have not yet been identified.

Travelers Upon the Sky:

This Koyukon asterism “Yokk’e Tok’enodele” is the belt of Orion in the IAU constellation Orion (Cannon 2021).

Trays of Balance:

This Arabic asterism “Al Kiffatān” is the IAU constellation Libra.

Treacherous Star:

This Chinese Chenzhuo xing guan “Jianzing” is the star HIP 52425 in the IAU constellation Ursa Major. It is part of their xing guan Purple Forbidden West Wall.

Treasure Chest:

This Romanian star “Comoara” is Beta (β) Geminorum (Pollux) in the IAU constellation Gemini (Ottescu 2009). Compare this to “Yahweh’s Treasure Chest” (below).

Tree:

This proposed Egyptian asterism “Min” (an Egyptian God) or “mnw” (“tree”) from the Old Kingdom (3100 B.C.E.) is related to their nome (district) of that name where both Min and the hero Perseus were worshipped (Berio 2014). It is related to the IAU constellation Perseus and to the Egyptian asterism Persea Tree (see above).

This Inca asterism “Mallki” is made up of stars of the IAU constellation Aries (Gamarra & Gamarra 2009).

This **telescopic** asterism is Messier 41. Although it is best viewed with a telescope, it was first described by Aristotle around 325 B.C.E. with unaided eye observations and “rediscovered” by Giovanni Battista Hodierna in 1654. It is found in the IAU constellation Canis Major. It was given this name by American astronome r Wayne Schmidt, who describes it as a 30-arcminute long tree.

Tree of Life:

This Zulu and Bantu asterism is the IAU constellation Crux.

Trefoil:

This Welsh asterism listed by Victorian folklorist Marie Trevelyan (1852 – 1922) in her *Folk-lore and Folk-stories of Wales* (1909) is currently unidentified.

Tresses:

This Latin asterism “Trica” is the IAU constellation Coma Berenices as listed in the 1515 edition of the *Almagest*. German astronomer Johannes Schöner listed it in 1515 and geographer Gerardus Mercator (1512 – 1594) listed it as one of the names of this constellation on some of his globes. German astronomer Johann Bayer (1572-1625) listed this as “Tricas”, “Tericas”, and “Triquetras”. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Trica”. In his *Star Names* in 1899 R. H. Allen writes that these are all derived from the Greek “τρίχες” (“tríches”- “hairs”).

Trethon:

This Greek asterism is the IAU constellation Auriga.

Triad of Moons:

This Samoan asterism “Tolugāmāuli” is the belt of Orion in the IAU constellation Orion (Fitisemanu 2022) and is part of their asterism “Amoga” (see Carrying Pole, above). This star line indicates a “star course” to sail from Manu’a to Pukapuka.

Trial:

This Greek asterism “Δίκη” (“Díki”) is the IAU constellation Libra, as it was seen as the scales of justice.

This Greek asterism “Δίκη” (“Díki”) is the IAU constellation Virgo as listed in R. H. Allen’s *Star Names* in 1899.

This Arabic star “Saidac” is 80 Ursae Majoris in the IAU constellation Ursa Major (Ottescu 2009).

Trials:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of two stars in the IAU constellations Hydra and Libra: HIP 70469 (the determinative star) and 51 Hydrae.

This Chinese xing guan “Dùnwán” (顿顽) is a line of two stars in the IAU constellation Lupus: Phi (φ) and 1 Lupi.

This Chinese Chenzhuo xing guan is two stars in the IAU constellation Hydra: 58 and 56 Hydrae.

Triangle:

This Greek asterism “Trigonon” (Τρίγωνος) is the IAU constellation Triangulum as mentioned in Aratus’ poem *Phaenomena* (270 B.C.E.) and as originally described in the 2nd century in Ptolemy’s *Almagest*: a triangle of the stars Alpha (α) Trianguli, Beta (β) Trianguli, and the last corner being the stars Delta (δ) and Gamma (γ) Trianguli. This name was latinized later to “Trigonum”.

This Serbian asterism “Trougao” is probably the IAU constellation Triangulum.

This Chinese xing guan “Sānjiǎoxíng” (三角形) is the IAU constellation Triangulum Australe.

This Arabic asterism “Almuthalath” (المثلث) is the IAU constellation Triangulum. “Al-Muthallath” was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

This Welsh asterism is probably the IAU constellation Triangulum as listed by Victorian folklorist Marie Trevelyan (1852 – 1922) in her *Folk-lore and Folk-stories of Wales* (1909). Freer (2004) lists this as the “Triangle”.

This Estonian asterism “Kolmnurk” is the IAU constellation Triangulum and appears in the *Sky of Ests (Chudes)* by Aleksander Heintalu (Sass of Vigala) (Kuperjanov 2006).

There are ten **telescopic** “triangle” asterisms:

- One is Sánta 123, listed in 2008 by Hungarian astronomer Sánta Gábor, which is a ring of stars in the IAU constellation Camelopardalis. Gábor describes it as “an oval star ring + some faint stars form a triangle”.
- One is Sánta 75, listed in 2007 by Hungarian astronomer Sánta Gábor, which is described by Gábor as a “curve of 6 plus 3 other forms a triangle, nice asterism” in the IAU constellation Monoceros.
- One, Thompson 1 (discovered by Canadian amateur astronomer Bill Thompson in 1986) is formed of thirteen stars with one corner pointed south-southwest in the IAU constellation Delphinus.
- One is in the constellation Hydra and consists of five 11^{th} and 12^{th} magnitude stars plus one 9^{th} magnitude star.
- One is in the constellation Andromeda and is a triangular cluster of stars. One corner is the star HIP 8423, another corner has the double star HIP 9001 and the star HIP 8930, and the last corner is the open cluster NGC 752 (Caldwell 28).
- One is in the IAU constellation Monoceros and is Corder 1402 on the observing list of American astronomer Jeffrey Corder. Size 25’ X 20’. This is five 7^{th} – 8^{th} magnitude stars and has wide binocular doubles at two corners. This includes HIP 37493 and 37413.
- One is the open cluster NGC 659 in the IAU constellation Cassiopeia. It was discovered by Caroline Herschel in 1783, and her brother William Herschel listed it as “VIII 65”. It is GC 389 in the *General Catalogue* of 1864. A group of lighter stars on one side creates the coma-shaped light side of the Yin-Yang symbol, and the dimmer stars on the other side the darker side. Astronomer Stephen James O’Meara’s Hidden Treasures Catalogue (2007) lists this as O’Meara 7 and states “that the cluster has an interesting and unique triangular shape. It is also known as the “Yin-Yang” (see below).
- One is Renou 25 in the IAU constellation Corona Borealis. René Merting describes it on the Faint Fuzzies website: “A compact triangle of stars can be seen, formed by three faint stars – the area within the triangle appears slightly brightened.”
- One is the open cluster Dolidze-Dzimselejsvili 1 (DoDz 1) in the IAU constellation Aries. René Merting describes it on the Faint Fuzzies website: “At 29 x, a star triangle is visible, in which four fainter stars sparkle”. The tips of the triangle are the stars SAO 93109, HIP 13014, and HIP 13023.
- One is three stars in the IAU constellation Leo. *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), describes Epsilon (ε) Leonis and tells us “you will find near it two seventh-magnitude companions [HIP 48023 and HIP 47853], making a beautiful little triangle”.
- One is three stars in the IAU constellation Lyra. *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), describes this as “two fain stars close to Vega on the east make a beautiful little triangle with it.” This is the stars Alpha (α) Lyrae (Vega), HD 172149, and HD 171872.

Triangles:

There are two asterisms with the name “Triangles”:

- One is the American asterism is the stars Alpha (α) Cygni (Deneb), Epsilon (ε) Cygni, Gamma (γ) Cygni, and Delta (δ) Cygni in the IAU constellation Cygnus. R. H. Allen attributes this asterism to American astronomer “Royal Hill” (George William Hill, 1838 – 1914). NOTE: Hill got the name “Royal Hill” as he was awarded the Royal Society’s Copley Medal.
- One is the asterism “Triangula” (“triangles”) which is the IAU constellation Triangulum:
  - “Triangula” was a name created by English astronomer Richard Anthony Proctor in 1873 as he believed that shortening the name would make more room on astronomical charts. English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists “Triangula, The (Northern) Triangles” as an official constellation “recognized in the catalogue of the British Association”.
  - *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists “the Triangles” as a constellation.
  - *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists Triangulum as “Triangula”.

Triangular:

This Latin asterism “Triquetrum” is the IAU constellation Triangulum.

Triangular Spoon:

This Arabic asterism “Al Mijdaḥ” is the Hyades cluster in the IAU constellation Taurus as listed by R. H. Allen in his *Star Names* in 1899.

Triangulum:

None of the stars in Triangulum is brighter than 2nd magnitude, but its stars do appear in 77 of the asterisms listed in this handbook.

This IAU constellation “the Triangle” (IAU abbreviation Tri) became one of Ptolemy’s 48 original constellations in the 2nd century, appearing in the *Almagest* as Τρίγωνος or Τρίγωνον (“Trigonon” – “triangle”) a name he got from Hipparchus (190 – 120 B.C.E.): This was later latinized as “Trigonum” and “Trigonus”: It originated in the Babylonian asterism “Epinnu” (see Plough above). Its original Greek name was “Deltoton” (Δελτωτόν) as the constellation resembled the upper-case Greek letter, Delta (Δ). Roman astronomers later Latinized this to “Deltotum” and “Delta”. Other names used to describe it include “Tricuspis” (“three-pointed”) and “Triquetrum” (“triangular”).

The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) depicts this constellation as a triangle.

Triangulum appears in the Leiden *Aratea* (816) as a single triangle.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi’s son depicts Triangulum as a single triangle (two triangles appear on this page, but this is because they are showing it as viewed from the earth and from the sky).

Several editions of the Revised Arataus Latinus (Dresden DC 183, Paris BN 12597, St Gall 250, St Gall 902, Gottweig 7 (146), Siena L. IV. 25) have Triangulum decorated with wavy lines but in the Prague IX C 6 and Vat Reg lat 1324 editions these wavy lines are absent.

The *Tabulae Rudolphinae* lists this constellation as “Triangulus”.

The Munich 210, Los Angeles Getty Ludwig XII 5, and Vienna ÖNB 387 manuscripts of the *De ordine ac positione stellarum in signis* list this constellation as “Triangulus” and depict it upside down.

The oldest known Islamic celestial glove, made between 1080 – 1085 by Ibrahim ibn Sa’id al-Wazzan and his son Mohammad, depicts Triangulum as a single triangle.

The 11th century *De signis caeli (“of the signs of heaven*”) lists this constellation as “Triangulus”.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Triangulum as a single triangle.

Shams al-Dīn Muhammad B. Mu’ayyad al-‘Urdī’s inlaid celestial globe (1288) depicts Triangulum as a triangle.

De Astronomica (“the astronomy”), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This labels the constellation “Triangulus” and depicts a single triangle.

The Cusanus celestial globe of Cardinal Nicholas Cusa (1414) depicts Triangulum as a single triangle.

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Triangulum as a single triangle formed by four stars.

The mid 15th century Wein, Oesterr. National Bibl., manuscript Lat 5415, ff.168v-169r depicts Triangulum as a single triangle but does not label it.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.71v-72r depicts Triangulum as a single triangle and is not labelled.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Triangulum as a single triangle. It is not labelled.

The vault of the Old Sacristy of the Basilica di S. Lorenzo in Firenze, Italy (1442) depicts Triangulum as a single triangle.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Triangulum as a single triangle.

The *Germanicus Aratea* (Siciliensis, c. 1469) and the *Germanicus Aratea* with scholia Strozziana (c. 1475) depicts Triangulum as a single triangle.

The Constance Celestial Globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts “Triangulus (sic)” as a single triangle.

The early 16th century Real Academia de Historia, manuscript D-97, f.101v depicts Triangulum as a single triangle. It is not labelled. The Real Academia de Historia, manuscript D-97, f.104v – 105r depicts the same thing.

The “Nuremburg Maps” *(Die Karte des Nördlichen Sternenhimmels* inv.-Nr. Hz 5576), a pair of celestial hemispheres made in 1503 by Conrad Heinfogel, labels this constellation “Delton (sic)” and depicts it as a single triangle.

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts “Triangulus” as a single triangle.

Dele Stelle Fisse (“Of the Fixed Stars”) by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as “Del Triangolo”. The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as the “Triangle”.

The Northern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Triangulum as a single triangle.

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicts “Triangulum siue Deltoton” as a single triangle.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts “le Triangle” as a single triangle.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts Triangulum as a single triangle but does not label it.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts “Trianguls (sic)” as a single triangle.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) depicts Triangulum as two triangles.

German astronomer Johann Bayer (1572-1625) called it “Triplicitas” (“triplet”) and later “Orbis Terrarum Tripertitus” (“the world is divided into three parts”) in his *Uranometria* in 1603, this representing Europe, Africa, and Asia. Bayer depicts it as a single triangle. Bayer lists these other names for Triangulum: “Triangulum, Deltoton, Triangulus Septentrionalis, Nili donum, Tricuspis, Nilus, Mutlathum”.

Johannes Kepler’s *Stella Nova in Pede Serpentarii* (1606) lists this constellation as “Trigonus”.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts “Triangulum” as a single triangle and gives the alternate name “Triangulus Septentriones”.

Triangulum is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as “Trigonus” on one chart and as “Triangulum” on a polar chart and depicted as a single triangle in each case.

“Triangulum” is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch, who also gives the name “Deltoton”.

Giovanni Paolo Gallucci's *Theatrum Mundi, et Temporis* (1614) labels this constellation "Deltoton o Triangulo" and depicts it as a single triangle.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the names "Triangulus" and "Deltoton" for this constellation.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts "Triangulu (sic)" as a single triangle.

The huge *Gottorf Globe* (c1650) made for the Duke of Holstein, Frederick III, one of the world's first planetariums, depicts Triangulum as a single triangle.

Triangulum is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661: It is depicted as a single triangle.

Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) depicts Triangulum as a single triangle.

The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678 by English uranographer James Clerk depicts "Triangulum" as a single triangle.

English uranographer John Seller's *A coelestiall planisphere* (1678) depicts "Triangulum" as a single triangle.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, renames this constellation "Triangulum Majus" after borrowing stars to create "Triangulum Minus" (see below).

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this "Le Triangle Bor", "Triangulum Bor", and "Τρίγωνον" ("Trigonon") and depicts it as a single triangle.

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) labels this "Le Triangle Bor", "Triangulum Bor", and "Trigonon" and depicts it as a pair of overlapping triangles.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, depicts Triangulum as two triangles which do not overlap.

Triangulum is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729: It is depicted as a pair of overlapping triangles.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Triangulum as two triangles, one slightly larger than the other.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) depicts "Le Triangle Septentrional" as a single triangle.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts "Triangula" as a pair of triangles.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "Le Triangle" as a triangle next to "le petit Triangle" on the

northern hemisphere chart, but on a later close-up chart these two triangles are shown as overlapping and simply labelled “le Triangle” and yet another closeup chart it is labelled “les Triangles” and shows two triangles overlapping. The 1778 edition depicts “Le Triangle” as two overlapping triangles.

Johann Elert Bode‘s *Vorstellung Der Gestirne* (1782) lists this constellation as “Die Triangle“.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists it as “Triangula” it in his *Celestial Atlas* in 1822 and depicts it as two overlapping triangles Jameison’s *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822) lists it as “Triangulua” and depicts it the same way.

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts “Triangulum” as a single triangle.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts “Triangulum” as a pair of triangles.

American uranographer William Croswell (1760 – 1834) “Triangulum, the Triangle” on his *Mercator Map of the Starry Heavens* in 1810 as a single triangle.

German astronomer Johann Elert Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as the “Triangel” and depicts it as a single triangle. However, Bode’s *Vorstellung Der Gestirne* (1782) lists this constellation as “Die Triangel“ and depicts it as a double triangle.

English Admiral Henry William Smyth lists “Trigonus” in his *Bedford Catalogue* in 1844.

“Triangulum” is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as a single triangle.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depict “Triangulum” as a single triangle.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts “Triangula” as a pair of overlapping triangles.

This is listed as “Triangula” in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852: The author is unknown, but it is based on Jamieson’s *Celestial Atlas*.

“Triangulum” is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It is depicted as a single triangle.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) describes “a line drawn from Almach to Arietis will pass through a beautiful figure of three stars called “The Triangles”. Steele is mistakenly referring to the star Hamal here as “Arietis”.

German astronomer Hermann Joseph Klein (1844 – 1914) lists “Triangulum” in his *Star Atlas* (1893) and describes it as “The Triangle”.

American astronomer Winslow Upton’s *Star Atlas* (1896) lists this constellation as “Triangulum” and describes it as a “Triangle”.

Marie Trevelyan's *Folk-Lore and Folk-Stories of Wales* (1909) lists this constellation as "the Triangle".

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists this constellation as "Triangula" and describes it as a single triangle.

Triangulum is depicted on standard IAU charts as the triangle of stars Alpha (α) Trianguli (Mothallah), Beta (β) Trianguli (Mizan), and Gamma (γ) Trianguli.

The Germans called it "Dreieck" and the Italians "Triangolo".

Triangulum Antarcticus:

See Triangulum Australe.

Triangulum Australe:

The brightest star of Triangulum Australe, 2nd magnitude Alpha (α) Trianguli Australis (Atria), is the 42nd brightest star on the list of 90 brightest stars. The stars of this constellation only show up in 30 of the asterisms in this handbook.

This IAU constellation "the southern triangle" (IAU abbreviation TrA) was first described by Italian navigator Amerigo Vespucci in the 16th century and published by Lorenzo di Pierfrancesco de' Medici in *Mundus Novus* in 1504.

Dutch navigator Frederick de Houtman (1571 – 1627) listed it as "Den Zuyder Trianghel" ("the southern triangle").

Flemish astronomer and uranographer Petrus Plancius included it in his *Orbis terrarium typus de integro multis in locis emedatus* (1594): He depicts it as a single triangle with no label. Plancius also included it on his globe in 1589 as "Triangulum Antarcticus".

Dutch historian Paulus Merula (1558 – 1607) lists this as "Triangulus Australis".

Flemish cartographer Jodocus Hondius (1563 – 1612) and German uranographer Johann Bayer (1572-1625) changed its name to the current one.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts "Triangulum Austrinum" as a single triangle.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) lists this as "Triangulum Australe" and depicts it as a single triangle. It is depicted on gores of the globe of Petrus Plancius published in 1598 by Jodocus Hondius as a single triangle with no label.

German astronomer and uranographer Johann Bayer (1572-1625) lists "Triangulum Australe" in his *Uranometria* in 1603 and depicts it as a single triangle.

"Triangulum Australe" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch, who gives the alternate name "Trigonus Notius".

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the name "Triangulum Australe" for this constellation.

This constellation is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) with the abbreviated title “Triang Aust” and depicted as a single triangle.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts “Trangulum Austr (sic)” as a single triangle.

This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 with the abbreviated label “Triangulum Aust.”

Edward Sherburne lists it both as “Triangulum Australe” and “Trigonum Notius sive Deltoton” in his *Sphere of Marcus Manilius* in 1675.

The 1688 celestial globe of Italian priest and uranographer Vincenzo Maria Coronelli (1650-1718) includes this constellation (Stevenson 1921).

German poet Philipp von Zesen (1619 – 1689) listed this constellation as “Almutabet Algenubi”.

English astronomer Edward Sherburne also lists “Almutabet Algenubi” in his *Sphere of Marcus Manilius* (1675).

Triangulum Australe is listed by English astronomer Edmond Halley in his *Catalogus Stellarum Australium* in 1679 and depicted on his charts as a single triangle.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, labels this constellation “Triangulum” on one page and “Triang. Australe” on another, in both cases illustrating it as a single triangle. Hevelius’ *Firmamentum Sobiescianum sive Uranographia* (1690) depicts “Triangulum Australe” as a triangle of the stars Alpha (α) Trianguli Australis (Atria), Beta (β) Trianguli Australis, and Gamma (γ) Trianguli Australis.

Dutch uranographer Carel Allard’s *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) depicts “Triangulum Australe” as a single triangle.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley’s pirated catalogue of Flamsteed’s observations of 1712, labels this constellation with the abbreviated “Triangl Aus” and depicts it as a single triangle.

This constellation is listed in English astronomer John Flamsteed’s *Atlas Coelestis* in 1729 as “Triangulum”.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts “Triangulum Aust” as a single triangle.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts “Triangulum Australe” as a single triangle.

German engraver and cartographer Tobias Conrad Lotter’s *Planisphaerium Coeleste* (1750) labels this constellation with the abbreviated title “Triang” and depicts it as a single triangle.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Triangulum Australe as a single triangle.

French astronomer Abbé Nicolas Louis de Lacaille's *Planisphère des Étoiles Ausralea* (1756) depicts "Triangle Austral" as a single triangle.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) depicts Le Triangle Meridional" as a single triangle.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts the "Triangle Austral" as a single triangle on the southern hemisphere chart. On a later closeup chart it is labelled "Triangle Austral Niveau".

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer give this the abbreviated label "Triangulum Aust" and depicts it as a single triangle.

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) labels this constellation as "Sūdliche Triangel" on some charts and as "Sūdl Triangel" on other charts and depicts it as a single triangle.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts "Triangulum Aust" as a single triangle.

Triangulum Australe is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801) as "Drei Hoek" ("three corner"): It is depicted as a single triangle.

American uranographer William Croswell (1760 – 1834) depicts "Triangulum Australe the Southern Triangle" on his *Mercator Map of the Starry Heavens* in 1810 as a single triangle.

Scottish uranographer Alexander Jamieson (1782 – 1850) listed this constellation as "Triangulum" in his *Celestial Atlas* in 1822.

American uranographer Elijah Burritt's *Southern Circumpolar Map for each Month in the Year* (1835) lists the "Southern Triangle" as a single triangle.

This constellation is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) under the shortened title "Triangulum": He indicates the borders of this constellation on the chart but offers no illustration of it.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts "Triangula Aust" as a single triangle.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this constellation on the chart simply as "Triangle".

English astronomer Richard Anthony Proctor (1837 – 1888) shortened the name to "Triangula, The (Southern) Triangle" in his campaign to shorten names to create more room on star charts, renaming the IAU constellation Triangulum to "Triangula". "Triangulum" is listed Proctor's *A New Star Atlas* (1887) as an official name for the constellation Triangulum Australe "recognized in the catalogue of the British Association". NOTE: "Triangula" is a plural Latin term for "triangles" and not a single triangle.

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Triangulum Australe" and describes it as the "Southern triangle".

Triangulum Australe is depicted on standard IAU charts as a triangle made up of four stars: Alpha (α) Trianguli Australis (Atria), Beta (β) Trianguli Australis, Epsilon (ε) Trianguli Australis, and Gamma (γ) Trianguli Australis.

Triangulum Boreale:

This is an alternate name for Triangulum ("the northern triangle"), used to differentiate it from the constellation Triangulum Australe (see above).

Triangulum Galaxy:

This asterism is Messier 33 (NGC 598), a spiral galaxy in the IAU constellation Triangulum: It is the third largest member of the Local Group of galaxies. It is one of the most distant objects that can be viewed with the unaided eye. This was discovered by English astronomer William Herschel in 1784. William Herschel listed it as "V 17" in his catalogue, and it is GC 352 in the *General Catalogue* of 1864. *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this galaxy as the "Triangulum Spiral". This name appears as "Moliníllum Triánguli" in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

NOTE: Some have referred to this as the Pinwheel Galaxy, though this name is normally used for Messier 101 (see Pinwheel Galaxy, above).

Triangulum Majus:

See Triangulum Minus, below.

Triangulum Minor:

See Triangulum Minus, below.

Triangulum Minus:

This asterism was created by Polish astronomer Johannes Hevelius (1611 – 1687) by taking a triangle of three fainter stars from the IAU constellation Triangulum: 6, 10, and 12 Trianguli. It is often included on modern **telescopic** asterism charts under the incorrect name Triangulum Minor. Hevelius renamed the remaining stars in the original constellation "Triangulum Majus" (see above). Hevelius depicts "Triangulum Majus" and "Triangulum Minus" in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*.

The *Atlas Coelestis* of German astronomer Johann Gabriel Doppelmayr (1742) depicts "Triangulum Majus" and "Triangulum Minus". English astronomer John Ellard Gore (1845 – 1910) listed it as "Triangula" on his planisphere. English astronomer Richard Anthony Proctor (1837 – 1888) included it as part of his constellation "Triangula" in his *A New Star Atlas* (1887).

Tribble Nebula:

This **telescopic** asterism is the open cluster NGC 1624 (SH 2-212, LBN 722, Cr53, Ced 37) in the IAU constellation Perseus. It was discovered in 1790 by English astronomer William Herschel who listed it as "V 49". It became GC 879 in the *General Catalogue* of 1864. Tribbles are fictional aliens conceived by screenwriter David Gerold in 1967 for the *Star Trek* series.

Trickster:

This Ininew (Cree) asterism “Wesakayckak” or “Wesakidjak” is the IAU constellation Orion (Buck 2016). He is also known as “Mistapiw” (see Giant above). The three stars of Orion’s belt are the “Three Chiefs” (see below).

This Gwich’in asterism “Vasaddihdzak” is the IAU constellation Orion (Cannon 2021). Cannon notes that this name is also used as an alternate name for their asterism Yahdii (see Traveler, above).

Trident of Ursa Major:

This **telescopic** asterism “Trídens Úrsae Majóris” is the intermediate spiral galaxy NGC 4051 in the IAU constellation Ursa Major. It was discovered in 1788 by William Herschel who listed it as “IV 56”. It became GC 2680 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to the “three extending arms at the northern side of this galaxy”.

Trifid Nebula:

This **telescopic** asterism “three-lobe nebula” is the HII region and open cluster Messier 20 (NGC 6514, SH 2-30, RCW 146, LBN 127, Cr 360, Ced 151) in the IAU constellation Sagittarius. It was listed by French astronomer Charles Messier in 1764, but American astronomer Sherburne Wesley Burnham (1838 – 1921) noted in *Burnham’s Celestial Handbook* that it was “probably first seen by Le Gentil in 1747”: This would be French astronomer Guillaume Le Gentil (1725 – 1792). English astronomer John Herschel listed it as h 1991 and 3718 and in his General Catalogue of 1864 as GC 4355 and gave it the name Trifid Nebula, describing it as “consisting of three bright and irregularly formed nebulous masses, graduating away insensibly externally, but coming up to a great intensity of light at their interior edges where they enclose and surround a sort of 3-forked rift or vacant area”:

- William Denning’s *Telescopic Work for Starlight Evenings* (1891) lists it as the “Trifid Nebula”.
- *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists it as the “Famous Trifid”.
- The 1st edition of British schoolmaster Arthur P. Norton’s *A Star Atlas and Telescopic Handbook* (1910) lists this as the “Trifid Nebula”.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this nebula as the “Trifid Nebula”.
- This is also known as the “Cauliflower”.

Triggerfish:

This Samoan asterism “Sumu” is the IAU constellation Crux (Fitisemanu 2022). It is associated to the legend of Filo and Mea (see above) who are fishing for the triggerfish. Compare this to the Tongan Giant Triggerfish (see above).

Trigonon:

See Triangle, above.

Trigonum:

See Triangle, above.

Trinity:

This Gallic asterism “Trion” is made up of stars of the IAU constellation Aquila. The Gallo-Roman historian and Bishop Gregory of Tours (538 – 594) created this to help monks use certain stars in the sky to determine the time for prayers. This is the three stars Gamma (γ) Aquilae, Alpha (α) Aquilae (Altair) and Beta (β) Aquilae (Alshain).

This German asterism is the IAU constellation Triangulum as listed by German astronomer Wilhelm Schickard (1592 – 1635). Edward Sherburne lists it as “Emblem of the Blessed Trinity” in his *Sphere of Marcus Manilius* in 1675.

Trinity of Puppis:

This **telescopic** asterism “Trínitas Púppis” is the galaxy ESO 255-7 (PGC 19078) in the IAU constellation Puppis. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

TRINOVX SAMO:

This Celtic asterism from the Sequani calendar is the stars Alpha (α) Canis Majoris (Sirius) and Alpha (α) Canis Minoris (Procyon), whose rising marked the beginning of the dark half of the lunar cycle of Samonius (see Beginning of Light Guiding Stars, above).

Trio:

This Tzotzil (of Zinacantán) asterism is the belt of Orion in the IAU constellation Orion.

Trio of Robbers:

This Tzotzil (of Zinacantán) asterism is the sword of Orion in the IAU constellation Orion (Milbrath 1999).

Triopas:

This Greek asterism is the IAU constellation Ophiuchus. Triopas was the 7th king of Argos, often depicted as having three eyes (as the meaning of his name suggests) and possibly an Argive Zeus. Compare this to Carnabon (above) and Phorbas (above).

Tripater:

This Greek asterism “τρίπατρος” (“trípatros”), later latinized to “Tripater”, is the IAU constellation Orion. It is a reference to Orion’s birth: His father Hyrieus was childless, so the three Gods Poseidon, Zeus, and Hermes gifted him a son (see Hyrieus, above).

Triple Cave:

See Barnard’s E, above.

Triple Crash:

This American **telescopic** asterism is the merging galaxies IC 1015 in the IAU constellation Boötes. It was discovered by Stephane Javell in 1892. This name was posted on the *Deep Sky Forum* in July 2019 by Jimi Lowrey.

Triple Ringed of Libra:

This **telescopic** asterism “Trivalláta Líbrae” is the barred spiral galaxy NGC 5728 in the IAU constellation Libra. It was discovered in 1787 by William Herschel who listed it as “I 184”. It became GC 3977 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it has “one smooth spiral arm”.

Triplet:

This German asterism “Triplicitas” is the IAU constellation Triangulum and was so named by German astronomer Johann Bayer in 1603 in his *Uranometria*.

Triplet of Eridanus:

This **telescopic** asterism “Trigémina Erídani” is the lenticular galaxy NGC 1725 in the IAU constellation Eridanus. It was discovered by American astronomer Edward Emerson Barnard in 1885. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as it is in a group with NGC 1728 and 1721.

Tripod:

This Persian asterism “Dik Paye” is the stars Alpha (α) Lyrae (Vega), Epsilon (ε) Lyrae, and Zeta (ζ) Lyrae in the IAU constellation Lyra as listed by Persian polymath and astronomer Nasr al-Din al-Tusi (1201 – 1274).

Tripod of the Zhou:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a triangle of stars in the IAU constellation Boötes: 6 Boötis (the determinative star), 2 Boötis, and 1 Boötis.

This Chinese xing guan “Zhōudǐng” (周鼎) is a triangle of stars in the IAU constellation Coma Berenices: Beta (β), 37, and 41 Comae Berenices.

This Chinese Chenzhuo xing guan “Zhōudǐng” is a triangle of stars in the IAU constellation Boötes: 1, 2, and 6 Boötis.

Tripods:

This Arabic star “aṣ-Ṣaāfiyy”, “Asw-Swaafiyy”, “aṣ-Ṣāfiyy”, or “As-Ssaafiyy” (الصافيّ) is the three stars Upsilon (υ), Tau (τ), Sigma (σ) Draconis in the IAU constellation Draco. It is part of their asterism Mother Camels (see above). Compare this to their asterism Three Stone Support (above) and Trivet Stones (see below):

- This was later latinized to “Alsafi” and “Uthfiyyah”.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “al atháfi, the tripod”.
- The IAU approved the name Alsafi for Sigma (σ) Draconis.

Triptolemus and Jasion:

This Greek asterism is the IAU constellation Gemini. This alternate name for Gemini is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch. It is also listed in John Hill’s *Urania* in 1754. Triptolemus is a demigod of the Eleusinian mysteries who presides over the sowing and milling of wheat.

Triskeles of Canes Venatici:

This **telescopic** asterism "Trísceles Cánum Venaticorum" is the Magellanic spiral galaxy IC 4182 in the IAU constellation Canes Venatici. It was discovered by Max Wolf in 1904. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the three broad arms make this galaxy look like a triskeles… an ancient symbol of three interlocked spirals or running legs".

Triton:

This Latin asterism is the IAU constellation Delphinus.

Triton's Dog:

This Latin asterism "Canes Tritonis" is the IAU constellation Cetus as listed by French astronomer Joseph Jérôme Lefrançois de Lalande (1732 – 1807).

Triumphal Arch:

This **telescopic** asterism is Vastagh 5, listed in 2009 by Hungarian astronomer László Vastagh, which is in the IAU constellation Auriga. Its apparent diameter is 24'. Vastagh notes that "its brighter stars can be found at the base of the gate. The 'U' shape is emphasized by the arrangement of several objects along the arc. It gives the impression of not just a single chain, but a powerful wall, a triumphal arch."

Trivet:

This Macedonian asterism "Pirustija" or "Pirustiya" is close to their asterism "Mashi" (see Tongs above) and is made up of stars from the IAU constellation Lyra: Alpha (α) Lyrae (Vega), Beta (β) Lyrae (Sheliak), Gamma (γ) Lyrae, and Eta (η) Lyrae (Cenev 2004 & 2014). This is a three-legged support for pans and kettles in the fireplace.

Trivet Stones:

There are four Arabic asterisms with this name:

- One, "al-athāfī", later latinized to Athafi I & II, is the stars Upsilon (υ) Draconis (Athafi I), Sigma (σ) Draconis, and Tau (τ) Draconis (Athafi II) in the IAU constellation Draco.
- One, "al-athāfī al-qidr" is the stars Alpha (α) Lyrae (Vega), Epsilon (ε) 1 and 2 Lyrae, and Zeta (ζ) 1 Lyrae in the IAU constellation Lyra
    - "al-Qidr" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
    - This was later Latinized to "Alsafi".
- One, "al-athāfī", is the stars Lambda (λ) and Phi (ϕ) 1 and 2 Orionis in the IAU constellation Orion:
    - "Al Athāfī" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- One, "al-athāfī", is the stars 35, 39, and 41 Arietis in the IAU constellation Aries (Adams 2018).

Compare this to their asterisms Tripods (see above) and Three Stone Support (see above).

Trochilus:

This French asterism “Trochilus” is the IAU constellation Auriga as listed by French astronomer Joseph Jérôme Lefrançois de Lalande (1732 – 1807). Some Greek myths have Trochilus as the inventor of the chariot.

Troi Rois:

This Caribbean asterism is made up of the stars of the IAU constellations Orion and Canis Major: The belt of Orion is Troi Rois, the star Beta (β) Orionis (Rigel) is his severed leg, and the star Alpha (α) Canis Majoris (Sirius) is the maiden Bihi who wielded the cutlass that cut his leg off.

Trojan:

This French asterism with the Greek name “Troicus” is the asterism Antinous (see Antinous, above) in the IAU constellation Aquila as listed by French astronomer Joseph Jérôme Lefrançois de Lalande (1732 – 1807).

This Latin asterism “Iliacus” is the IAU constellation Aquarius and is listed in R. H. Allen’s *Star Names.* He attributes it to Publius Ovidius Naso (Ovid, b. 43 B.C.E.).

Trojan Horse:

This **telescopic** asterism Ferrero 36 from the asterisms list of French astronomer Laurent Ferrero, is in the IAU constellation Reticulum:

- The “head” of the horse is a curve of three stars including HIP 16693,
- The “back” of the horse is the two stars HIP 16682 and 16589,
- The “front leg” is two 9th magnitude stars, and
- The “back hoof” is star HIP 16634.

Trónuš:

This Kaykavian asterism is the IAU constellation Cassiopeia.

Troops of Sky:

This Korean asterism “Haneul-ui Gundae” (하늘의 군대) is a maze of star lines in the IAU constellations Aquarius, Cetus, and Pisces: One long line seems to connect the entire asterism together, starting at 29 Piscium at one end and running through 33 Piscium, AD Ceti and 3 Ceti, HIP 117567, Omega (ω) 2 Aquarii, HIP 116591, Omega (ω) 3 Aquarii, 94B Aquarii, Tau (τ) Aquarii, 66 Aquarii, 88 Aquarii, and 89 Aquarii, ending at 86 Aquarii. All along this weaving star line other star lines branch off:

- From 29 Piscium two lines branch off to 5 Ceti and 27 Piscium,
- From 33 Piscium two lines branch off to HIP 840 and 30 Piscium,
- From 3 Ceti a twisting line runs through 6 and 2 Ceti, and HIP 983 to 7 Ceti,
- From Omega (ω) 2 Aquarii a curving line runs through HIP 116957, and 104, 106, and 107 Aquarii to 108 Aquarii,
- From HIP 116591 a twisting line runs through HIP 116853A and 117314 to 117541,
- From Omega (ω) 3 Aquarii a twisting line runs through Omega (ω) 1 and 2 Aquarii, and Chi (χ) Aquarii to Phi (ϕ) Aquarii, where two lines branch off to 96 Aquarii on one side and 83 Aquarii on the other, and
- From 94B Aquarii a curving line runs off through 97, 98, and 99 Aquarii to 101 Aquarii.

Tropic Crab:

This asterism is the IAU constellation Cancer as named by English poet John Milton (1608 – 1674).

Trotting Camel:

See Dancer, above.

Troubles of Arcturus:

This Greek star "δεινοῦ Ἀρκτοῦροιο" or "deinoú Arktoúroio" is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes as described by Aratus (315 – 240 B.C.E). It was used by navigators and farmers as an indicator of the star of a season of stormy weather.

Troublesome:

The stars of this Kiribati asterism "Kameio" are currently unidentified (Trussel and Groves 1978).

Trough:

This Arabic asterism is a curve of stars in the IAU constellation Crater: Eta (η), Zeta (ζ), Gamma (γ), Delta (δ), Epsilon (ε), and Theta (θ) Crateris.

Troydi:

This Chakavian asterism is the IAU constellation Triangulum.

True Lover's Knot:

This **telescopic** asterism is the nebula and open cluster NGC 2070 (Caldwell 103) in the IAU constellation Dorado. It was discovered by Abbe Nicolas Louis de Lacaille in 1755. R. H. Allen writes in his *Star Names* in 1899 that this was named by English astronomer William Henry Smyth (1788 – 1865). It is also known as the Tarantula Nebula (see above),the Great Looped Nebula, and the 30 Dorado Cluster or 30 Dorado Association

True Shepherd of Anu:

This Babylonian asterism from the MUL.APIN tablets "MUL.SIPA.ZI.AN.NA" (Parpola 1993), "SIPA.AN.NA" or "SIPAZI.AN.NA" which translates as "the true shepherd of heaven" or "True Shepherd of the God Anu", is made up of stars of the IAU constellations Gemini and Orion (Bartel van der Waerden 1974, Boutet 2014). It is listed on the K 8538 planisphere as "mulSipa-zi-an-na" (Koch 1989).This is described as follows:

- His "head" is the triangle of stars Phi (ϕ) 1 and 2 Orionis and Lambda (λ) Orionis,
- His "shoulders" are Alpha (α) Orionis (Betelgeuse) and Gamma (γ) Orionis,
- His "belt" is Zeta (ζ), Epsilon (ε), and Delta (δ) Orionis,
- His "feet" are Kappa (κ) and Beta (β) Orionis (Rigel),
- One arm runs from Gamma (γ) Orionis to Pi (π) 5 Orionis,
- One arm runs from Betelgeuse to Mu (μ) Orionis,
- From Mu (μ) Orionis three lines run out to form a "shepherd's crook":
    - One goes to HIP 28413.
    - One goes to Mu (μ) Geminorum, and
    - One goes to Eta (η) Geminorum.

In later Seleucid sky lore, the "shepherd's crook" of their version of the True Shepherd of Anu is described slightly differently. The lower part of the "crook" is the same, but the upper part runs from Mu (μ) Orionis to Chi (χ) 1 Orionis and then curves through Chi (χ) 2 Orionis, 68 Orionis, and 71 Orionis, ending at 69 Orionis. They also had another asterism "True Shepherds of Anu" (see below) that included Gemini.

This Babylonian or Sumerian asterism "sipa-zi-an-na" is from the star catalogue BM 78161 (5^{th} – 7^{th} century B.C.E.) and is Beta (β) Orionis (Rigel) in the IAU constellation Orion (Liechty 1988).

This Babylonian asterism "SIPA.ZI.AN.NA" or "shidallu" as listed in Anthony Hope's *A Guide to Ancient Near Eastern Astronomy* in 1996 is the IAU constellation Orion.

This Sumerian asterism "mulsipa-zi-an-na".listed in the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is the IAU constellation Orion.

This Akkadian asterism from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) and from the list of Lumasi stars from the lists K 250 and VAT 9418 from the Persian (Achaemenid) Period (539 – 331 B.C.E.) is "Šitaddaru" (Parpola 1993), "Šidallu", "ši-da-al-lu-u", "Sitaddallu" or "Sitaddalu" (Boll 1918) and from the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period is "mul sipa.zi.an.na" (Koch-Westenholz 1995). It appears in the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) as "ši-da-al-lu-u".

This Assyrian asterism "SIBA.ZI.AN.NA" is identical to the Babylonian asterism "SIPA.AN.NA" (above).

This Persian asterism "SIB.ZI.AN.NA" or "sipa-zi-an-na" from the list of Lumasi and Tikpi Stars from the Persian (Achaemenid) Period (539 – 331 B.C.E.) is the IAU constellation Orion (Jeremias 1929, Weidner 1971). They also had a version of the asterism True Shepherd of Anu (see above) which was only slightly different from the earlier Babylonian one which only include stars of Orion.

True Shepherds of Anu:

This Seleucid asterism "SIPA u MAS.MAS" ("true shepherds of Anu" or "true shepherds of heaven") or "a-me-lu" ("men") from tablet SBTU II No 43 (W 22646) from the Seleucid (Hellenistic) period (275 B.C.E. – 116 C.E.) is stars of the IAU constellations Orion and Gemini (Foxvog 1993).

Truffle of Eridanus:

This **telescopic** asterism "Túber Erídani" is the spiral galaxy NGC 1084 in the IAU constellation Eridanus. It was discovered in 1785 by William Herschel who listed it as "I 64". It became GC 604 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Trumpeter Bird:

This Carib asterism "Akamiyuman" or "Akami" represented several birds standing in a row. Its rising coincides with the mating season of the wood trumpeters (Psophidae). Its location is unknown at present.

Trustworthy Turtle:

This Chinese Chenzhuo xing guan “Xingui” is the star HIP 25110 in the IAU constellation Camelopardalis. It is part of their xing guan Purple Forbidden West Wall.

Tsui //Goab:

This Nama and KhoiKhoi star “aob” is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus and is part of their asterism Three Zebras (see below). Tsui //Goab is their sky God and husband of Khunuseti (see Stars of Spring, below)

Tu:

This Myanmar yathi (zodiac constellation) “Tu” (တု) is the IAU constellation Libra.

Tu'amu sa ina mihrit Sitaddali izzazu:

This Persian (Achaemenid Period 539 – 331 B.C.E.) asterism “Tu'amu sa ina mihrit Sitaddali izzazu” from the K 250 and VAT 9418 lists as listed in Franz Boll’s *Ancient Observations of Coloured Stars* in 1918 is Alpha (α) Orionis (Betelgeuse) and Gamma (γ) Orionis in the IAU constellation Orion. This is part of their asterism True Shepherd of Heaven (see below) and is a reference to a star in this asterism that is near their asterism Tu’amu (see Twins, below).

Tub:

This German asterism is the Great Square of Pegasus in the IAU constellation Pisces (see Great Square of Pegasus, above). It relates to the story of Antenteh, who only owned a tub and a cabin and who met two magical fish (see Magical Fish, above) that granted her wishes.

Tuber:

This Latin asterism “Fistulater” is the IAU constellation Hercules as listed in John Hill’s *Urania* in 1754.

Tucana:

None of the stars of Tucana are brighter than 3rd magnitude and show up in 98 of the asterisms in this handbook, principally because the Small Magellanic Cloud is located here.

This IAU constellation “the Toucan” (IAU abbreviation Tuc) is one of twelve constellations created by Flemish astronomer Petrus Plancius in 1597 based on the observations of the Dutch navigators Pieter Dirkszoon Keyser (1540 – 1596) and Dutch navigator Frederick de Houtman (1571 – 1627). It first appeared on one of Plancius’ globes published in 1598 as “Toucan” by Flemish cartographer Jodocus Hondius (1563 – 1612). De Houtman included it in his catalogue as “Den Indiaenschen Exter, op Indies Lang ghenaemt” (“the Indian magpie, named Lang in the Indies”), a reference to a hornbill: Dutch uranographer Willem Blaeu (1571 – 1638) also calls it the Indian magpie. Dutch historian Paulus Merula (1558 – 1607) lists it as “Pica Brasilica” and “Toucan”.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) lists “Toucan” and depicts it as a toucan with a leafy twig in its beak, as do gores of his 1598 globe..

German uranographer Johann Bayer lists “Tucana” in his *Uranometria* in 1603 and depicted it as a toucan with a leafy branch in its beak.

In the 17th century this constellation was listed by the English as “Brazilian Pye”:

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts "Toucan" as a toucan facing to our left with a leafy twig in its beak.

"Toucan" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

German astronomer Johannes Kepler (1571 – 1630) in his *Tabulae Rudolphinae*, a new edition of Brahe's catalogue, in 1627, listed this constellation as "Toucan" and "Anser Americanus".

Tucana is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) as "Toucan" and depicted as a toucan with a leafy twig in its beak.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts "Toucan" as a toucan facing to our left with a leafy branch in its mouth. It is standing on the back of Hydrus with its right foot in a similar fashion to Corvus on the back of Hydra.

Robert Hues listed it as "Brazilian Pye" and "Toucan" in his *A Learned Treatise of Globes* in 1659.

This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "Toucan".

Edward Sherburne lists it as "Toucan" in his Sphere of Marcus Manilius in 1675, also including the names "American Goose", "Ramphestes" ("creepers") and "Pica Brasilica seu Indica" ("Brazilian or Indian Magpie").

English astronomer Edmund Halley's chart of 1678 depicts "Toucan" as a toucan.

The 1688 celestial globe of Italian priest and uranographer Vincenzo Maria Coronelli (1650-1718) includes this constellation (Stevenson 1921).

German poet Philipp von Zesen (1619 – 1689) called it "Pica Indica"

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts "Toucan" as a toucan facing to our left with a twig in its beak. Hevelius' *Firmamentum Sobiescianum sive Uranographia* (1690) depicts "Toucan" as a toucan with a leafy twig in its beak. The central star is Gamma (γ) Tucanae, from which three lines run out:

- One to Alpha (α) Tucanae,
- One to Zeta (ζ) Tucanae, and
- One to Beta (β) 1 Tucanae.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this "Le Toucan", "Toucan", and "ΤΟΥΚΑΝΟΣ" and depicts it as a toucan walking to our left with a leafy branch in its mouth. It is depicted standing on its left foot on the back of Hydrus.

Dutch uranographer Carel Allard's *Planisphaerii Coelestis Hemisphaerium Meridionale* (1709) depicts "Toucan al Pica Indica" as a toucan carrying a leaf in its beak.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, labels this constellation "Toucan" and depicts it as a toucan with a branch in its beak.

This constellation is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729 as "Toucan".

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts "Toucan" as a toucan walking to our right.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts "Toucan" as a toucan walking to our right with a branch in its beak with the subtitle "Anser Americanus".

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) depicts "Toucan" as a toucan.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Tucana as a toucan walking to our right with a leafy branch in its beak.

French astronomer Abbé Nicolas Louis de Lacaille's *Planisphère des Étoiles Ausralea* (1756) depicts "le Toucan" as a toucan with a leafy twig and a berry in its beak.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) depicts "Le Toucan" as a toucan with a leafy twig in its mouth.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts "Toucan" as a toucan facing to our left with a branch in its mouth.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "le Toucan" as a toucan with a branch in its beak, as does the 1778 edition.

American uranographer Elijah Burritt (1794 – 1838) listed it as "Toucana" and "Touchan".

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Toucan" and depicts it as a toucan facing to our right with a branch in its beak.

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts "Toucan" as a toucan with a leafy twig in its mouth, standing on the back of Hydrus.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts Tucana as a toucan walking to our left with a branch in its mouth but does not label this constellation.

Tucana is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801) as "Toucan": It is depicted as a toucan with a branch in its beak.

American uranographer William Croswell (1760 – 1834) depicts "Tucana the Toucan" on his *Mercator Map of the Starry Heavens* in 1810.

Scottish uranographer Alexander Jamieson (1782 – 1850) listed it as "Touchan" in his *Celestial Atlas* in 1822 as a toucan walking.

American uranographer Elijah Burritt's *Southern Circumpolar Map for each Month in the Year* (1835) labels this constellation the "American Goose".

Tucana is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) as “Toucan”: He indicates the borders of this constellation on the chart but offers no illustration of it.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this constellation simply as “Toucan” on the charts.

English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists “Toucan” as an official constellation “recognized in the catalogue of the British Association”.

American astronomer Winslow Upton’s *Star Atlas* (1896) lists this constellation as “Tucana” and describes it as a “Toucan”, incorrectly attributing it to Bayer.

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children’s book *Curious George* (1941) redesigned the lines of Tucana in his book *The Stars - A New Way to See Them* (1952). The standard version on IAU charts is three lines originating out of the star Gamma (γ) Tucanae, one to Alpha (α) Tucanae, one to Beta (β) 1 Tucanae, and one to Zeta (ζ) Tucanae. Rey’s version also has Gamma (γ) Tucanae with a line running to Alpha (α) Tucanae but has a roughly triangular part consisting of Alpha (α) Tucanae, Beta (β) 1 Tucanae, Zeta (ζ) Tucanae, and Epsilon (ε) Tucanae.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Tucana in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* as an oval made up of the stars Alpha (α), Delta (δ), Epsilon (ε), Zeta (ζ), Beta (β) 1 and 2, and Gamma (γ) Tucanae. *Sky and Telescope Magazine*, founded in 1941, depicts Tucana in their magazine and publications in the same manner as Hlad et al.

The Chinese called it “Bird’s Beak” (see above), the Italians “Toucano”, the French “Toucan”, and the Germans “Tukan”.

Tuft in the Tail of the Dog:

This **telescopic** asterism is the open cluster Collinder 140 in the IAU constellation Canis Majoris. The name is obviously a reference to the “dog” Canis Major. This is on the SAC observing list and Corder 1333 on Jeffrey Corder’s observing list.

Tuiren:

This **telescopic** Irish star is HAT-P-36 in the IAU constellation Canes Venatici (magnitude 12.26). It was given this name in the IAU NameExoWorlds campaign. Tuiren was the aunt of the warrior Fionn mac Cumhaill, who was turned into a hound by a jealous fairy Uchtdealbh. This has an exoplanet named Bran. Bran was a hound who was Tuiren’s son and Fionn’s cousin.

Tulip:

This **telescopic** asterism the Tulip Nebula is Sharpless SH 2-101 (LBN 168, Ced 173) in the IAU constellation Cygnus. Size 16’ X 9’. It is also known as the Cygnus Star Cloud.

Tulip of Hydra:

This **telescopic** asterism “Túlipa Hýdrae” is the barred spiral galaxy NGC 3421 in the IAU constellation Hydra. It was discovered by English astronomer Andrew Ainslie Common in 1880. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as “the profile of this edge-on galaxy puts in mind a ship’s shape”.

Tuminkar:

This Kalina star is Beta (β) Centauri (Hadar) in the IAU constellation Centaurus and is part of their asterism Twins (see below).

Tumwur:

This Micronesian asterism is the IAU constellation Scorpius.

Tuning Fork:

This **telescopic** asterism is in the IAU constellation Cancer. South African astronomer Auke Slotegraaf describes this: "In the center of this [is a] region of brighter stars [on the south and south eastern part of the cluster] lies a wobbly square of stars, one of which is Eta Cancri. West of Eta lies a nice double star [HIP 41978A]. This double, together with the wobbly square, look like a short-handled tuning-fork lying southwest to northeast, with the prongs pointing northeast".

Tunggal Bahangi:

This Sama navigational star has not yet been identified (Ambrosio 2008).

Tupã:

This **telescopic** Guarani star is HIP 60644 (HD 108147) in the IAU constellation Crux (magnitude 6.99). It was given this name in the IAU NameExoWorlds campaign. It is the name of their God that created the universe. It has an exoplanet named Tumearandu: Tume Arandu is the son of Rupavê and Sypavê, the original man and woman. He is known as the Father of Wisdom.

Tupi:

This **telescopic** Brazilian star "Tupi" is HIP 17096 (HD 23079) in the IAU constellation Reticulum (magnitude 7.11). It was given this name in the IAU NameExoWorlds campaign to honor the Tupi people. It has an exoplanet named Guarani, which is the name of the most populous indigenous people of Southern Brazil, parts of Argentina, Paraguay, and Uruguay.

Tupu-a-nuku:

This Māori star, "Tupu-a-nuku", is in their asterism "Matariki" (See Chief's Eyes, above) which is the Pleiades cluster in the IAU constellation Taurus (Harris et al 2013).

Tupu-a-rangi:

This Māori star, "Tupu-a-rangi", is in their asterism "Matariki" (See Chief's Eyes, above) which is the Pleiades cluster in the IAU constellation Taurus (Harris et al 2013).

Tuputuputu:

This Māori asterism "Tuputuputu" is one of the Magellanic Clouds (Orchiston 2017).

Tura ni Kama:

This Kiribati asterism is made up of the stars Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus plus the IAU constellation Crux (Trussel and Groves 1978).

Tureis:

See Small Shield, above.

Turkish Coat of Arms:

This asterism "Turca" was made up of the stars of the obsolete constellation "Argo Navis" (see Argo's Ship, above) by German astronomer Erhard Weigel (1625 – 99) who produced his *Astrocopium Orbi Europaeo Sacrum* chart in 1661, 1681 and 1688 in which he tried to replace existing constellations a new system based upon the heraldry of the nation states and principalities of seventeenth century Europe, as well as of its principal hierarchies and social classes. It represents Turkey and is depicted as a crescent moon face.

Turn:

This Greek asterism "Τρόπος" ("Trópos"), later latinized to "Tropus" is Eta (η) Geminorum in the IAU constellation Gemini as listed by 1st century Roman author Gaius Julius Hyginus and Junius Bassus Theotecnius (317 – 359). They called it this as it was an apparent turning point in the Sun's course at the summer solstice.

Turned Away of Coma Berenices:

This **telescopic** asterism "Avérsus Cómae Bereníces" is the edge-on spiral galaxy NGC 4302 in the IAU constellation Coma Berenices. It was discovered in 1784 by William Herschel who listed it as "II 112". It became GC 2877 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name because "it is inclined away from us".

Turned Toward of Coma Berenices:

This **telescopic** asterism "Advérsus Cómae Bereníces" is the flocculent spiral galaxy NGC 4298 in the IAU constellation Coma Berenices. It was discovered in 1784 by William Herschel who listed it as "II 111". It became GC 2874 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name because "it is inclined toward us".

Turning of Hydra:

This **telescopic** asterism "Tornatúra Hýdrae" is the barred spiral galaxy NGC 3673 in the IAU constellation Hydra. It was discovered in 1836 by John Herschel who listed it as h 3341 and later as GC 2412 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Turnip of Crater:

This **telescopic** asterism "Góngylis Cratéris" is the elliptical galaxy NGC 3962 in the IAU constellation Crater. It was discovered by in 1785 British astronomer William Herschel who listed it as "I 67". It became GC 2616 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Turquoise Orb:

See Blue Racquetball, above.

Turtle:

This Latin asterism “Testudo” is the IAU constellation Lyra and relates to their myth concerning Mercury creating the first Lyre from a turtle or tortoise shell.

- Variations include “Testudo Lutaria” (“mud inhabiting turtle”) and “Testudo Marina” (“sea turtle”).
- The 15th century *Alfonsine Tables* list the Spanish word “Galapago” and illustrate Lyra as a turtle.
- The 1551 edition of the *Almagest* lists “Lyrae Testudo”.
- Johann Bayer’s *Uranometria* (1603) lists the names “Testudo” and “Testudo Lutaria” for Lyra.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Testudo” as a name for this constellation.

This English asterism “Testudo” was created in the 19th century by English astronomer Admiral William Henry Smyth. It is a reference to the Roman “Turtle”, a roofed screen on wheels used by centurions to protect them during siege operations. It is made up of stars of the IAU constellations Cetus and Pisces:

- The center is a quadrilateral formed by the stars 20 Ceti, 14 Ceti, 13 Ceti, and 29 Piscium,
- At one end a line runs out from 20 Ceti to 42 Ceti, and
- At the other end a line runs out from 29 Piscium to 27 Piscium.

This Arabic asterism “as-sulaḥfāh” (السلحفاة), later latinized to “Alsulhufa” is the IAU constellation Lyra. This is a translation of the Greek name Turtle Shell (see below).

This Mayan asterism “Aak” or “Ac Ek” (“turtle star”) from the Paris Codex (Carlson 2005, Milbrath 2014) consists of a triangle of stars in the IAU constellation Orion: Beta (β) Orionis (Rigel), Kappa (κ) Orionis (Saiph), and Zeta (ζ) Orionis (Alnitak). A “tail” is the stars of Orion’s belt. Some versions only incorporate the belt of Orion. Compare this to the Tzotzil asterism “Vuku Pat” (see Bent-Back Turtle, above). Some Yucatec see Orion as the turtle. The *Paris Codex* lists Orion as a turtle and Gemini as a bird (possibly an owl) and the *Dresden Codex* also identifies Orion with a turtle or tortoise. A celestial turtle with three stars on its back appears in the sky band of the Nunnery façade at Chichén Itzá, as do the Bonampak murals.

This Yucatec asterism “ac” is the IAU constellation Orion (Milbrath 1999).

This Yucatec Maya (of Chan Kom) and Lacandón asterism is the IAU constellation Gemini (Milbrath 1999). A line of three stars in the middle are its intestines, but it is uncertain which stars these are: This would likely be the stars Lambda (λ), Zeta (ζ), and Epsilon (ε) Geminorum.

NOTE: The Mayan word “Ac” in early dictionaries is applied to both the turtle and the peccary, which leads to some confusion. Further confusion is created by some 16th century star charts which combined stars in Orion, Gemini, and Taurus. The 16th century *Motul* dictionary claims that “Ac Ek” is a constellation formed by stars in Gemini, which might explain why some Maya groups associate the turtle with Gemini.

This Dakota/Lakota/Nakota asterism “Keya” is the Great Square of Pegasus (see Great Square, above).

This Ininew (Cree) asterism “Makinak” is made up of the stars of the IAU constellation Cepheus (Buck 2016).

This Tukano asterism “Yurara”, also called “Tartaruga” (see Otter, above), is the IAU constellation Crux (Cardoso 2007).

This Ticuna asterism “Baweta” is made up of the stars of the IAU constellations Taurus and Perseus. Its “eyes” are the stars Omicron (ο) Persei and Zeta (ζ) Persei and its “tail” is the Pleiades cluster.

This Carib asterism “Wayamuyuman” or “Wayamu” represents the turtle (Testudo tabulate). It rises in the rainy season, but its present location is unknown (Magaña, and Jara, 1982).

There are two **telescopic** “Turtle” asterisms:

- One is in the IAU constellation Lynx and was listed by American astronomer John A. Chiravalle. Jeffrey Corder lists it as Corder 1713. Size 100’ X 75’. This is an oval group of stars between magnitude 6.5 and 8.5 and includes HIP 43685, 43719A, 43695, and 43426A.
- One is made up of stars of the IAU constellation Cygnus. It was posted on *Cloudy Nights* by American astronomer Fiske Miles in September 2022. Fiske describes it as “surrounding the deeply red RS Cygni, a component of the double star BLL 47, a strikingly red and blue duo. To me the asterism looks like a turtle.”

Turtle Beak:

This Chinese xiù (lunar mansion) “Zīxiù” (觜宿) is a triangle of stars in the IAU constellation Orion: Lambda (λ) and Phi (ϕ) 1 and 2 Orionis. In the *Han shu*, a history of the early Han dynasty that was finished in 111 C.E. this xiù “Zi Xi” (觜觿） was associated to matters concerning the Yizhou territory. It appears in the Tang Dynasty (618 – 907 C.E.) as Zi (觜) and was compared to the Vedic nakshatra Mrigashira (Kotyk 2017, See Deer’s Head, above). This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

Turtle Boy:

This Polynesian (Tuamotus) asterism is the belt of Orion in the IAU constellation Orion.

Turtle Dove:

This Romanian asterism “Porumbiţa” is the IAU constellation Columba (Ottescu 2009, Lite 2018).

Turtle Nebula:

This **telescopic** asterism is the planetary nebula NGC 6210 in the IAU constellation Hercules. It was discovered by American astronomer Otto Struve (1897 – 1963). John Herschel listed it as h 1970 and later as GC 4234 in the *General Catalogue* of 1864. Size 0.5’ X 0.5’. This is listed in Stephen James O’Meara’s *Hidden Treasures Catalogue* (2007).

Turtle Snout:

This Japanese sei shuku or lunar station “Toroki Boshi”, sometimes interpreted as “tuft on the owl’s head” is a triangle of three stars: Alpha (α) Orionis (Betelgeuse), Gamma (γ) Orionis (Bellatrix), and Delta (δ) Orionis (Mintaka) in the IAU constellation Orion.

Turtle Star:

This Ininew (Cree) star “Mininak” is the star Alpha (α) Aurigae in the IAU constellation Auriga (Buck 2016).

This Anishinaabe star “Mininaw” is the star Alpha (α) Aurigae in the IAU constellation Auriga (Lee et al 2014).

This Thai asterism “DaoTao” is made up of stars of the IAU constellation Orion (Nitiyanant 2015). The “legs” are Alpha (α) Orionis (Betelgeuse), Gamma (γ) Orionis, Kappa (κ) Orionis, and Beta (β) Orionis (Rigel). The “head” is Lambda (λ) Orionis and Phi (ϕ) Orionis.

Tu’ulalupe:

This Tongan asterism is the Hyades cluster in the IAU constellation Taurus.

Tuulirmp:

This Marra and Moporr asterism is the Pointer stars Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus (Dawson 1881, Hamacher 2011).

Tuwi:

This Carib star represents a girl who was kidnapped by the King Vulture (see above). Its present location is unknown (Magaña, and Jara, 1982).

Tweedledee:

The **telescopic** asterism Tweedledee is the nearby open cluster IC 4756/Mel 210. It was discovered by American astronomer Solon Irving Bailey (1854 – 1931) in 1908. Tweedledee and Tweedledum are characters in an English nursery rhyme from Lewis Carroll’s 1871 book *Through the Looking-Glass and What Alice Found There*. Astronomer Steven James O’Meara gave it this name in *Deep Sky Companions*, who wrote: “In honor of Carroll's two chubby twins, I dubbed NGC 6633 and IC 4756, Tweedledum and Tweedledee, respectively.” It is also known as the Secret Garden Cluster and the Royal Council of Stars.

Tweedledum:

The **telescopic** asterism Tweedledum is the open cluster NGC 6633, discovered by Swiss astronomer Jean-Philippe Loys de Chéseaux in 1745-6 in the IAU constellation Ophiuchus. English astronomer Caroline Herschel rediscovered it in 1783 and her brother William Herschel listed it as VIII 72. It is GC 4410 in the *General Catalogue* of 1864. Tweedledum and Tweedelee are characters in an English nursery rhyme from Lewis Carroll’s 1871 book *Through the Looking-Glass and What Alice Found There*. Astronomer Steven James O’Meara gave it this name in *Deep Sky Companions*, who wrote: “In honor of Carroll's two chubby twins, I dubbed NGC 6633 and IC 4756, Tweedledum and Tweedledee, respectively.” It is also known as the Captain Hook Cluster (see above), “Kermit the Tadpole” (see above), the Wasp Waist Cluster (see below), and the Otter and Ball (see above).

Tweezers:

This **telescopic** asterism is NGC 4945 (Caldwell 83), a galaxy in the IAU constellation Centaurus. This was discovered by Scottish astronomer James Dunlop in 1827. This is listed as GC 3386 in John Herschel’s General Catalogue of 1864. This is also known as the Cigar Galaxy (see above), and the Golden Coin (see above).

Twelve O’Clock Stars:

This Lithuanian asterism “Dvylikinė žvaigždė” is the Pleiades open cluster in the IAU constellation Taurus.

Twelve States:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty “Shí'èrguó” (十二国) is a set of 12 asterisms in the IAU constellations Capricornus, Microscopium, and Piscis Austrinus. Four of them are lines of two stars:

- “Dài”, is the stars Iota (ι) and Phi (ϕ) Capricorni, and
- “Qín”, is the stars Theta (θ) and Eta (η) Capricorni,
- “Zhào”, which is the smallest, is Psi (ψ) and Omega (ω) Capricorni,
- “Zhōu”, is 19 and 17 Capricorni.

The rest are stars in a nearby cluster of stars:

- “Chu” is the star HIP 103777,
- “Dai” is the star 3 Piscis Austrini,
- “Han” is the star 35 Capricorni,
- “Jin” is the star Epsilon (ε) Microscopii,
- “Qi” is the star Alpha (α) Microscopii, and
- “Wei” is the star 24 Capricorni,
- “Yan” is the star 2 Piscis Austrini,
- “Yue” is the star HIP 101014.
- “Zheng” is the star Gamma (γ) Microscopii.

This Chinese xing guan “Shí'èrguó” (十二国) is a set of 12 asterisms in the IAU constellation Capricornus. Four of them are lines of two stars:

- “Dài”, is the stars Iota (ι) and 37 Capricorni, and
- “Qín”, is the stars Theta (θ) and 30 Capricorni,
- “Zhào”, which is the smallest, is 26 and 27 Capricorni,
- “Zhōu”, is 21 and Eta (η) Capricorni.

The rest are stars in a nearby cluster of stars:

- “Chu” is the star 28 Capricorni,
- “Dai” is the star 41 Capricorni,
- “Han” is the star 35 Capricorni,
- “Jin” is the star 36 Capricorni,
- “Qi” is the star Chi (χ) Capricorni, and
- “Wei” is the star 33 Capricorni,
- “Yan” is the star Zeta (ζ) Capricorni,
- “Yue” is the star 19 Capricorni.

This Chinese Chenzhuo xing guan is twelve asterisms in the IAU constellations Capricornus, Microscopium, and Piscis Austrinus:

- Qín State is the two stars Iota (ι) Capricorni and Phi (ϕ) Capricorni.
- Zhōu State is the two stars Theta (θ) and Eta (η) Capricorni.
- Zhào State is the two stars Omega (ω) and Psi (ψ) Capricorni.
- Dài State is the two stars Epsilon (ε) Microscopii and 2 Piscis Austrini.
- Yue State is the star 19 Capricorni.
- Zheng State is the star 17 Capricorni.
- Wei State is the star 24 Capricorni.

- Yan State is the star HIP 103777 in Capricornus.
- Chu State is the star HIP 103389 in Capricornus.
- Han State is the star Delta (δ) Microscopii.
- Jin State is the star Gamma (γ) Microscopii.
- Qi State is the star Alpha (α) Microscopii.

Twelve Titans:

This Greek asterism was the constellations south of the IAU constellation Scorpius as listed by Hesiod (Mosenkis, date n/k): Grus, Microscopium, Indus, Telescopium, Pavo, Triangulum Australe, Apus, Musca, and Crux. Mosenkis notes that these would have become invisible to the Greeks during the 3rd – 2nd millennia B.C.E.

Twice as Large of Centaurus:

This **telescopic** asterism "Dúplus Centaúri" is the edge-on spiral galaxy NGC 3749 in the IAU constellation Centaurus. It was discovered in 1835 by John Herschel who listed it as h 3351 and later as GC 2452 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They call it this it is twice as large as its neighbour NGC 3742.

Twice Circumvallated of Hydra:

This **telescopic** asterism "Bivalláta Hýdrae" is the lenticular galaxy NGC 2962 in the IAU constellation Hydra. It was discovered by Albert Marth in 1864. This became GC 5504 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to its "inner and outer ring".

Twice Flashing of Leo:

This **telescopic** asterism "Bifúlgida Leónis" is the spiral galaxy NGC 3190 in the IAU constellation Leo. William Herschel listed this as "II 44" and his son John Herschel as h 692 and later as GC 2058 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to two almost simultaneous supernova that were observed in this galaxy (SN2002bo and SN2002cv). This galaxy is part of the Leo Quartet (see above).

Twice Striped of Boötes:

This **telescopic** asterism "Bilineátus Boótis" is the lenticular galaxy NGC 5689 in the IAU constellation Boötes. William Herschel listed this as "I 188". John Herschel listed this as h 1848 and later as GC 3942 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "two dark streaks can be seen in the disk of this galaxy."

Twilight:

This Hawaiian star "Mulehu" is Gamma (γ) Cassiopeiae (Navi) in the IAU constellation Cassiopeia.

Twin Brother of Virgo:

There are two **telescopic** "Twin Brother of Virgo" asterisms:

- One, "Dídymus Vírginis" is the interacting spiral galaxy NGC 5257 (Arp 240) in the IAU constellation Virgo. William Herschel listed this as "II 895". John Herschel listed this as h 1654 and later as GC 3624 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "NGC 5257 and NGC 5258 are so much alike that they could be considered twin brothers." "Dídymus" is Greek for twin.
- One**,** "Géminus Vírginis" is the interacting spiral galaxy NGC 5258 (Arp 240) in the IAU constellation Virgo. William Herschel listed this as "II 896". John Herschel listed this as h 1655 and later as GC 3625 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "NGC 5257 and NGC 5258 are so much alike that they could be considered twin brothers." "Géminus" is Roman for twin.

Twin Fish:

This Latin asterism "Gemellus Piscis" is the IAU constellation Pisces.:

- Johann Bayer's *Uranometria* (1603) lists "Gemellus".
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Gemellus Piscis".
- "Piscis Gemellus" or "Gemini Pisces" are listed in English Admiral Henry William Smyth's *Bedford Catalogue* in 1844
- "Piscis Gemellus" or "Gemini Pisces" are listed in R. H. Allen's *Star Names* in 1899.

Twin Gate:

This Korean asterism "Teuwin Geiteu" (트윈 게이트) is a line of two stars in the IAU constellations Monoceros and Puppis: Delta (δ) Monocerotis and 13 Puppis.

Twin Stars (opposite Orion):

This Persian asterism "Tu'amu sa ina mihrit SIB.ZI.AN.NA izzazu" from the list of Masu Stars from the Persian (Achaemenid) Period (539 – 331 B.C.E.) is listed as the stars Gamma (γ) and Tau (τ) Geminorum in the IAU constellation Gemini and is related to their asterism Little Twins (see above).

This Persian asterism "Tu'amu sa ina mihrit Sitaddali izzazu" from the list of Masu stars from the lists K 250 and VAT 9418 from the Persian (Achaemenid) Period (539 – 331 B.C.E.) is the stars Alpha (α) Orionis (Betelgeuse) and Gamma (γ) Orionis (Bellatrix) in the IAU constellation Orion.

Twinkling Brilliance:

This Chinese star "Yaoguang" from the Three Kingdoms to the Ming Dynasty is Eta (η) Ursae Majoris in the IAU constellation Ursa Major.

This Chinese Chenzhuo xing guan "Yaoguang" is the star Eta (η) Ursae Majoris in the IAU constellation Ursa Major. It is part of their xing guan Northern Dipper.

Twinkling Comet Cluster:

This **asterism** is the open cluster NGC 2420 in the IAU constellation Gemini. This was discovered by English astronomer William Herschel in 1785 who listed it as "VI 1" in his catalogue. It is GC 1549 in the *General Catalogue* of 1864. The principal stars are in an oval with a couple of stars as a "tail". A group of stars inside is known as a "Mini Corona Borealis" (see above).

Twinkling Indicator:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty "Zhaoyao" is the star A Boötis in the IAU constellation Boötes.

This Chinese xing guan "Zhāoyáo" (招摇) is the star Gamma (γ) Boötis in the IAU constellation Boötes.

This Chinese Chenzhuo xing guan "Zhāoyáo" is the star Gamma (γ) Boötis in the IAU constellation Boötes.

Twin Jet Nebula:

See Minkowski's Butterfly Nebula, above.

Twin Quasar of Ursa Major:

This **telescopic** asterism "Bíquasar Úrsae Majóris" is the galaxy 8C 0985+561 in the IAU constellation Ursa Major. It was the first known gravitational lens, discovered in 1979. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because gravitational lensing make it look like two objects.

Twin Sons of Rebecca:

This German asterism is the IAU constellation Gemini as listed by German poet Philipp von Zesen (1619 – 1689).

Twin Star:

This Latin asterism "Geminum Astrum" is the IAU constellation Gemini.

Twins:

This Babylonian asterism "MUL.MAS.TAB.BA" listed in the *Astrological Reports to the Assyrian Kings* (Hunger 1992) is the IAU constellation Gemini. The Neo-Babylonian (Chaldean) Great Star List (636 – 539 B.C.E.) lists this as "mul mas.tab.ba sa ina igi-it mul sipa.zi.an.na gub-zu", which means "The Twins which stand in front of the True Shepherd of Anu" (Koch-Westenholz 1995).

This Babylonian ziqpu "mulMAS.TAB.BA" from cuneiform text AO 6478 (Schaumberger 1952) is Alpha (α) Geminorum (Castor) in the IAU constellation Gemini.

This Akkadian asterism "Tu'amu" listed in the *Astrological Reports to the Assyrian Kings* (Hunger 1992) is the IAU constellation Gemini.

This ancient Egyptian asterism "Ushaty Bektay" is the IAU constellation Crux. This is also known as Two Ladies.

This Greek asterism "Δίδυμοι" ("Dídymoi")is the IAU constellation Gemini as described in Aratus' poem *Phaenomena* (270 B.C.E.) and as described in Ptolemy's *Almagest* (2nd century). Ptolemy's version is

basically identical to the modern representation on star charts, except that it includes the “heads of both twins:

- Castor’s “head” is the quadrilateral of stars Alpha (α) Geminorum (Castor) and HIP 36896A, 37339, and 37179.
- Pollux’s “head” is the quadrilateral of stars Beta (β) Geminorum (Pollux) and Sigma (σ) Geminorum, HIP 38363 and 38228.

The “Twins” appear in several places:

- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) listed Gemini as “Didymi” and this was latinized to “Dioscuri”.
- NOTE: On the *Daressy Zodiac* of the Roman Imperial Period this Greek asterism is depicted as a man and a woman (as they appear in the Dendera temple) who appear next to a serpent.
- English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists “Twins” many times as an alternate name for Gemini.

This Gaulish asterism “Semiuisoni Prinnios” or “Simiuisoni Prinnios” is the IAU constellation Gemini and appears in the Coligny Calendar (Boutet 2001, 2014). Compare to their asterism Half the Course of the Sun Guiding Star (see above).

This Belarussian asterism “Blizniuki” is the IAU constellation Gemini (Avilin 2009). The stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) symbolized the Great Lithuanian Princedom and the Polish Kingdom. It is also known as “Litwa” (“Gem”) or “Korona” (“Crown”).

This Lithuanian asterism “Dwynaytey” or “Dvynaitiai” is the IAU constellation Gemini (Vairkünas 1999).

This Estonian asterism is the IAU constellation Gemini (Kuperjanov 2006).

This Sardinian asterism “Sa loba”or “sos isteddos lobaos” is the stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini.

This Hawaiian asterism “Na Mahoe”, “Mahau”, “Mahana”, “Na Hoku-Mahana”, or Na-lalani-a-Pili-lua (“the lines of the clinging ones”) is two stars in the IAU constellation Gemini:

- “Nanamua” (“First Star” or “Look Forward”): the star Alpha (α) Geminorum (Castor) and
- “Nanahope” (“Last Star” or “Looking Back”): the star Beta (β) Geminorum (Pollux).

The Hawaiians gave these two stars these names because “Nanamua” is the first of the pair of stars to appear in the sky as “Na Mohe” rises, and “Nanahope” always follows.

This Arabic asterism “Taw'aman” (توأمان) is the IAU constellation Gemini:

- This was later Latinized to “Al Tauʾamān”.
- “al-Tawāmān” was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

This Hebrew asterism “Teōmīm” or “Teonim” is the IAU constellation Gemini and is related to their month Sivan.

This Seleucid asterism is the IAU constellation Gemini.

This Tongan asterism “otu Ma’afu” is related to their asterism “Humu” (see Giant Triggerfish, above) and is the Magellanic Clouds. The twins were part lizard sons of a chief named Ma’afu who took a lizard as a wife: Ma’afulele and Ma’afutoka. He conspired to have them killed by a big wild duck

Toloalahi (see Big Wild Duck, above) and a Humu but they killed the animals he sent and then they climbed to the stars with their prizes. Toloalahi became the Southern Cross, Humu became the Coal Sack Nebula (see Coal Sack Nebula, above), and the twins became the Magellanic Clouds:

- Ma'afulele**:** Large Magellanic Cloud.
- Ma'afutoka**:** Small Magellanic Cloud.

NOTE: The Tongans also used the name Ma'afulele for the star Alpha (α) Canis Majoris (Sirius) and the name Ma'afutoka for the star Alpha (α) Carinae (Canopus).

This Rapanui asterism is the Hyades cluster in the IAU constellation Taurus (Edwards 2016). It is also known as "the Sprout from Hiva" (Hiva being the Rapanui homeland) or "the Weak".

This Kalina asterism is the Pointer Stars Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus. They are the sons of the Sun. Compare this to the (Arawak) asterisms First Son of the Sun (see above) and Second Son of the Sun (see above). The younger son was Duid (see above) and the older son Tuminkar.

This Yokuts asterism is the stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux).

This Anglo-Saxon asterism "Ge Twisan" is the IAU constellation Gemini.

This Italian asterism "Gemelli" is the IAU constellation Gemini.

German astronomer Johann Bayer (1572-1625) lists Gemini as "Zwilling" ("twin"). See Gemini, above.

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Zwillinge, Castor und Pollux".

This Persian asterism "Du Paikar" is the IAU constellation Gemini.

This Sogdian lunar station "Marezānā" is the stars Alpha (α) Orionis (Betelgeuse), Gamma (γ) Orionis (Bellatrix), Eta (η) Orionis, and Lambda (λ) Orionis in the IAU constellation Orion as listed in R. H. Allen's *Star Names* in 1899.

This Korasmian lunar station "Ikhma" is the stars Alpha (α) Orionis (Betelgeuse), Gamma (γ) Orionis (Bellatrix), Eta (η) Orionis, and Lambda (λ) Orionis in the IAU constellation Orion as listed in R. H. Allen's *Star Names* in 1899.

This Hebrew asterism "Teonim" is the IAU constellation Gemini as listed in their list of constellations of the zodiac (mazzaroth) in their Talmud.

This Carib asterism "Pio-kanamo" is Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Mimosa) in the IAU constellation Centaurus (Magaña, and Jara, 1982). The twins Pia and Kanaima are hunting the curassow bird, Wokoyuman.

Twin's Star Near the Shepherd:

This Persian (Achaemenid Period 539 – 331 B.C.E.) star "MAS-MAS sa SIPA" is Gamma (γ) Geminorum in the IAU constellation Gemini (Hunger and Sachs 1988) and is part of their asterism Twins (see above).

Twist:

This Greek asterism “Συστροφή” or “Systrofí” (‘whirling cloud” or “twist”) is open cluster Messier 44 in the IAU constellation Cancer.

Twisted Braid:

This **telescopic** asterism is the open cluster NGC 7193 in the IAU constellation Pegasus. René Merting describes it on the Faint Fuzzies website: ”…at 144x, …an elongated star trail (larger than 5') is visible, which is formed by groups of two and three stars - the star trail runs east-west with a slight bend to the northwest, it looks like a twisted braid.”

Twisted Foot:

This Aztec asterism “Xonecuilli” is the Little Dipper asterism in the IAU constellation Ursa Minor (see Little Dipper, above). It is related to their crippled God “Nanahuatzin”, who sacrificed himself to become “Tonatiuh”, their Sun God.

This Tzotzil, Mixe, Totonac, and Nahua asterism is the Little Dipper asterism in the IAU constellation Ursa Minor (see Little Dipper, above).

Twisted of Antlia:

This **telescopic** asterism “Tórta Ántliae” is the lenticular galaxy NGC 3100 in the IAU constellation Antlia. It was discovered in 1836 by John Herschel who listed it as h 3218 and later as GC 1997 in *the General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Twisted of Eridanus:

This **telescopic** asterism “Tortuósa Erídani” is the barred spiral galaxy NGC 782 in the IAU constellation Eridanus. This was discovered in 1834 by John Herschel and became 2454 on his list. It became GC 473 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name because of its distinctive arms.

Twisted of Virgo:

This **telescopic** asterism “Tórtus Vírginis” is the spiral galaxy NGC 4845 (4910) in the IAU constellation Virgo. It was discovered in 1786 by William Herschel who listed it as “II 536” and as “V3”. John Herschel listed it as h 1491 and later as GC 3330 and GC 3363 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “the small inclination between the dark dust belts in the inner region and the main disk account for the slightly twisted appearance of this galaxy”.

Twister:

This asterism is the IAU constellation Ursa Major as listed in R. H. Allen’s *Star Names* in 1899. Allen writes that it is derived from the Greek asterism Helical (see above).

Twister of Pavo:

This **telescopic** asterism “Stróphis Pavónis” is the spiral galaxy IC 4901 in the IAU constellation Pavo. It was discovered by DeLisle Stewart in 1901. This name appears in *The Catalogue of One Thousand*

Named Galaxies by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the open spiral arms make this galaxy look like a rotating fountain."

Twisting of Lupus:

This **telescopic** asterism "Tórquens Lúpi" is the intermediate barred spiral galaxy NGC 5643 in the IAU constellation Lupus. It was discovered by James Dunlop in 1826. John Herschel listed this as h 3572 and later as GC 3909 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Twisting of Virgo:

This **telescopic** asterism "Stróphus Virginis" is the spiral galaxy NGC 4487 in the IAU constellation Virgo. It was discovered in 1789 by William Herschel who listed it as "II 776". It became GC 3036 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the twisted shape".

Two Ancestors:

This Alawa asterism is the Pleiades cluster in the IAU constellation Taurus (Clarke 2009). The ancestors reached the sky by climbing a large northern stringy-bark tree. Compare this to Waigungari (below and Man Throwing Spears into the Sky (above).

This Jardwadjali asterism is the IAU constellation Crux and the adjacent Coal Sack Nebula (see Southern Cross and Coal Sack Nebula, above). These two ancestors were trapped in the sky when the tree they climbed broke beneath them.

Two Armbands:

This Wardaman asterism is two stars in the IAU constellation Musca: Delta (δ) and Gamma (γ) Muscae. It is right next to their asterism Ceremonial Headband (see above).

Two Arrays:

This Arabic star "an-Nasaqān" (النسقان) is Beta (β) Coronae Borealis in the IAU constellation Corona Borealis, later latinized to "Masākīn" and "Nusakan". The IAU approved the name Nusakan for the star Beta (β) Coronae Borealis A.

Two Asses:

This Arabic asterism "Al Ḥimārain" is the stars Gamma (γ) Cancri and Delta (δ) Cancri in the IAU constellation Cancer. Compare this to the Greek asterism Praesepe (see Manger, above):

- The *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus calls these stars "the Asses".
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Al himáraïn, the two asses".
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), refers to these stars as "the Aselli, or the Ass's Colts".
- R. H. Allen lists "Al Ḥimārain" in his *Star Names* in 1899.

This Latin asterism “Duo Asini” (“two asses”) appears in the 15th century *Alfonsine Tables* and the 1515 edition of the *Almagest*. English poet Philip James Bailey (1816 – 1902) called these stars “Aselline Starlets”. Compare this to Donkey Colts, above.

Two Beautiful Firebrands:

This Rapanui asterism “Ko Tau Erua Ehu” or “Tau a Aru Ahu” is two stars near Canis Major (Edwards and Edwards 2010, Edwards and Edwards 2016, Edwards et al 2018). The Edwards describe it as possibly Delta (δ) and Epsilon (ε) Canis Majoris in the IAU constellation Canis Major or Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini. The Edwards believe that the former pair may be zenithal stars for these people, so I’m listing the stars in Canis Major.

Two Black Birds:

See Two Wolves, below.

Two Black Bulls:

This Arabic asterism “al-ʿawhaqān” or “Al ʿAuhaḳān”, later latinized to “Alahakan”, is the stars Psi (ψ) and Chi (χ) Draconis in the IAU constellation Draco.

Two Brilliant Ones:

This Mayan asterism is made up of two stars from the IAU constellation Gemini: Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux). These two stars were also called the Peccaries (see above).

Two Brothers:

The asterism “Diofrari” is the IAU constellation Gemini as listed on the *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638).

This Belarussian asterism “Dva Braty” is the IAU constellation Lyra (Avilin 2009). It is also known as “Niavesta” (see Bride, above) and “Sapernik” (see Rival, above).

The stars of this Upper Kuskokwim asterism “Nelungha” are unidentified at present (Cannon 2021).

Two Brothers Pursuing Their Sister:

This Dena’ina asterism is Alpha (α) Ursae Majoris (Dubhe) and Gamma (γ) Ursae Majoris (Cannon 2021).

Two Calves:

This Arabic asterism “Al Farḳadain” listed by al-Fayrūzabādī or “Firuzbadi” (1329–1414) and on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya’ al-Qazwini (1203 – 1283) is two stars in the IAU constellation Ursa Major:

- Dimmer of the Two Calves (see above): Zeta (ζ) Ursae Majoris, and
- Brighter of the Two Calves (see above): Eta (η) Ursae Majoris.

NOTE: It is believed that in earlier times this referred to a pair of Ibex. Compare this to their asterism Two Oryx Calves, below.

Two Carriers:

This Tongan asterism “Fatanalua” is the IAU constellation Coma Berenices.

Two Chariots:

This Vedic nakshatra (lunar mansion) “Yamakaue”, also known as “Punarvasu” (see “Two Restorers of Goods” below) is the stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini. “Yamakau” appears on the nakshatra list of the scholar Varahamihir (Leitz 2019).

Two Claws:

This Sogdian lunar station “Ghanwand” is the star Alpha (α) Librae (Zubenelgenubi) and Beta (β) Librae (Zubeneschamali) in the IAU constellation Libra as listed in R. H. Allen’s *Star Names* in 1899.

This Khorasmian lunar station “Ighnuna” is the star Alpha (α) Librae (Zubenelgenubi) and Beta (β) Librae (Zubeneschamali) in the IAU constellation Libra as listed in R. H. Allen’s *Star Names* in 1899.

This Coptic lunar station “Prititthi” is the star Alpha (α) Librae (Zubenelgenubi) and Beta (β) Librae (Zubeneschamali) in the IAU constellation Libra as listed in R. H. Allen’s *Star Names* in 1899. This is Allen’s translation of the name. It was listed by W.B. Yeats in *A Vision* in 1917 with no name, George Yeats having derived this from German Jesuit astronomer Athanasius Kircher’s *Lingua Aegyptiaca Restituta* in 1636, in which Kircher described it as consisting of stars of “Libra and Scorpio” without listing any known name.

Two Companions:

This Arabic asterism “al-anīsān”, is the stars Alpha (α) Arietis (Hamal) and Beta (β) Arietis (Sheratan) in the IAU constellation Aries.

Two Compartments of Tucana:

This **telescopic** asterism “Bicamerátus Túcanae” is the barred spiral galaxy NGC 7733 in the IAU constellation Tucana. It was discovered in 1834 by John Herschel who listed it as h 4001 and later as GC 5001 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “this galaxy is divided into two compartments by a big bar”.

Two Dogs:

This Arabic asterism “al-kalbān”, later latinized to “Al Kalbain” and “Alkalbain”, is the stars Kappa (κ) 1 and 2, Upsilon (υ), Phi (ϕ), and Chi (χ) Tauri in the IAU constellation Taurus (Alkalbain I, II, III, IV, & V):

- “al-Kalbain” is listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- This was later latinized to “Al Anisan” or “Alanisan”.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists it as “Al Kelbeïn”.
- It is associated with their asterism the Camel Herder (see above). Compare this to Dog of Al Dabaran (above).

This Cherokee asterism is the stars Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor and Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major. They guard the path to the land of souls (Milky Way). You must feed them both or you will be trapped between them.

Two Dog Children Brothers:

The stars of this Dena'ina asterism are unidentified at present (Cannon 2021).

Two Dog Children Brothers and Their Mother:

This Tse'khene asterism is the belt of Orion in the IAU constellation Orion (Cannon 2021).

Two Doves:

This Arabic asterism is a line of two stars in the IAU constellation Grus: Alpha (α) and Beta (β) Gruis.

Two Ducks:

This Pawnee asterism is made up of stars of the IAU constellation Scorpius.

Two Eyes:

This KhoiKhoi asterism "Mura" is the Pointers, Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus (Alcock 2014). They see these as the eyes of some great celestial beast (Holt and Slotegraaf 2022).

Two Falcons:

This is a Wardaman name for the Pointers, Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus (Cairns 1999).

This is an alternate name for the Two Wolves (see below).

Two Feet of Al Jawza:

This Arabic asterism "rijla al-jawza'" is the stars Beta (β) Orionis (Rigel) and Kappa (κ) Orionis (Saiph) in the IAU constellation Orion and is part of the larger asterism Al Jawza (see above).

Two Figures:

This Persian asterism "Do Patkar" is the IAU constellation Gemini.

This Khorasmian asterism "Adhupakarik" is the IAU constellation Gemini.

Two First Ones:

This Arabic asterism al-Awwalaan (الأولان) is the stars Alpha (α) Ursae Majoris (Dubhe) and Beta (β) Ursae Majoris (Merak) in the IAU constellation Ursa Major as listed by Arabic navigator Ibn Majid (d. ~1500) and is still used by Red Sea fishermen (Khalid AlAjaji).

Two Fish:

This Arabic asterism "as-samakatan" (السمكتان), later latinized to "Al Samakatain" consisted of two asterisms:

- "al-hut" or "as-samaka al-'azima al-hut" (see Great Fish, above) which includes "batn al-hut" (see Belly of the Fish, above).
- "as-samaka as sughra" (see Smaller Fish, above).

This asterism appears in several places:

- The names “al-Samakatān” and “al-Hūt” are listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- Robert Hues (1659) and John Chilmead (1889) listed it as “Alsemcha”.
- German astronomer Johann Bayer (1572-1625) listed “Sameh”.
- R. H. Allen lists this as “Al Samakah” in his *Star Names* in 1899 and identifies it as the constellation Pisces: This is partially correct as the Great Fish does include stars from Pisces and Andromeda. Allen writes that they also used the plural “Al Samakatain” and later writes that “The Arabs also likened the constellation [Ursa Minor] to a fish, but I’ve not been able to find any other sources that support this.

Two Fishes:

This Egyptian Dendera asterism is the IAU constellation Pisces (Hoffman 2017).

There are two Hebrew asterisms with this name:

- One, “Dagaïm” or “Dagaim” is the IAU constellation Delphinus as listed in John Hill’s *Urania* in 1754. Hill translates this as “sea fish”. Italian astronomer Giovanni Battista Riccioli (1598 – 1671) lists it as “Dagiotho”.
- One, “Dagaïm” or “Dagaim” is the IAU constellation Pisces as listed in R. H. Allen’s Star Names in 1899.

This Latin asterism “Imbrifer Duo Pisces” is the IAU constellation Pisces as listed in R. H. Allen’s *Star Names* in 1899.

Two Fishes in the Gospel:

This German asterism is the IAU constellation Pisces as listed by German uranographer Wilhelm Schickard (1592 – 1635). This appears in Edward Sherburne’s *Sphere of Marcus Manilius* in 1675.

Two Fishing Boats:

This Ainu Nociw (“asterism”) “Yasya Noka nociw” is the “W” asterism of the IAU constellation Cassiopeia: Beta (β) Cassiopeiae (Caph), Alpha (α) Cassiopeiae (Schedar), Gamma (γ) Cassiopeiae, Delta (δ) Cassiopeiae, and Epsilon (ε) Cassiopeiae.

Two Flails:

This Northern Estonian asterism has two parts. The first “flail” is the line of three stars in the IAU constellation Orion (Kuperjanov 2006): Kappa (κ) Orionis, Alpha (α) Orionis (Betelguese), and Gamma (γ) Orionis (Bellatrix): This is also recognized in Southern Estonia as a flail (see Flail, above). The second is the line of stars Beta (β) Orionis (Rigel), Zeta (ζ) Orionis, Epsilon (ε) Orionis, and Delta (δ) Orionis.

Two Forearms:

This Arabic asterism “adh-dhira’an” (الذراعان) has two parts:

- Extended Forearm: “adh-dhira’ al-matsuba”, the stars Beta (β) Geminorum (Pollux) and Alpha (α) Geminorum (Castor) in the IAU constellation Gemini (see Extended Forearm, above).
- Clenched Forearm: “adh-dhira’a al-maqbuda” is Alpha (α) Canis Minoris (Procyon) and Beta (β) Canis Minoris (Gomeisa) in the IAU constellation Ursa Minor (see Clenched Forearm, above).

Two Forelegs:

This is a part of the Arabic asterism Lamb (see above).

Two Forks of Camelopardalis:

This **telescopic** asterism "Bifúrca Camelopardális" is the barred spiral galaxy NGC 2523 (Arp 6) in the IAU constellation Camelopardalis. It was discovered by Edward Swift in 1885. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name due to the "bifurcated arm emerging from the northern side of the ring".

Two Front Ones:

This Arabic asterism is two stars in their asterism Daughter of Na'ash (see above) in the IAU constellation Ursa Major: Alpha (α) Ursae Majoris (Dubhe) and Beta (β) Ursae Majoris (Merak).

Two Gods of Sparta:

This Greek asterism is the IAU constellation Gemini as listed by Cicero (106 – 43 B.C.E.).

Two Guards:

This Bedouin asterism "al-Ḥuwaiğzain" (الحويجزين) is the stars Beta (β) Ursae Minoris (Kochab) and Gamma (γ) 1 and 2 Ursae Minoris in the IAU constellation Ursa Minor. They tell a story of how Al-Jady or al-Ğady (Polaris) killed the father of the Daughters of Na'sh (see above) who then asked these two for protection. It is also known as The Two Refugees (see below) or the Family of Aba Bzay (see above).

This Arabic asterism is the stars Beta (β) Ursae Minoris (Kochab) and Gamma (γ) 1 and 2 Ursae Minoris in the IAU constellation Ursa Minor. It is also known simply as Guards (see above).

Two Handles of Grus:

This **telescopic** asterism "Biansátus Grúis" is the barred spiral galaxy NGC 7410 in the IAU constellation Grus. This was discovered by James Dunlop in 1826. John Herschel listed it as h 3960 and later as GC 4860 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "of the two ansae ["handles"] visible in the inner region of the disk.

Two Hands:

This two-part Arabic asterism "yad al-jawza'" or "yada al-jawza'" (يدا الجوزاء) is part of the larger asterism Al Jawza and is the stars Alpha (α) Orionis (Betelgeuse) and Gamma (γ) Orionis (Bellatrix). "Yad al-Jauzā'" is listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).

Two Haunches:

This Arabic asterism "al-warikan" (الوركان) is in the IAU constellation Virgo and is the stars Beta (β) Virginis (Zavijava), Eta (η) Virginis (Zaniah), Gamma (γ) Virginis (Porrima), Delta (δ) Virginis and Epsilon (ε) Virginis (Vindemiatrix). It is identical to their asterism Howling Dogs (see above). It resembles a medial Arabic letter kaf or an English capital L, which has led to some translating this as "the turn", "the bend".

Two Hearted:

This **telescopic** asterism is made up of stars of the IAU constellation Cygnus. It was posted by "Davedlec" on *Cloudy Nights* in June 2022. The brightest star is magnitude 6.1 HIP 96724 which forms the apex of one of the "hearts".

Two Hearts of Boötes:

This **telescopic** asterism "Dicárdia Boótis" is the galaxy Z 221-50 (Mrk 848) in the IAU constellation Boötes. It was discovered by Cuno Hoffmeister in 1929 but originally thought to be a variable star. John Schmitt identified it as a radio source in 1968. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "two long, highly curved arms emerge from the central region with two cores".

Two Horned of Camelopardalis:

This **telescopic** asterism "Bicórniger Camelopardális" is the spiral galaxy NGC 1961 (IC 2133/Arp 184) in the IAU constellation Camelopardalis-. NGC 1961 was discovered in 1788 by William Herschel who listed it as "III 747". It became GC 1167 in the *General Catalogue* of 1864. French astronomer Guillaume Bigourdan (1851 – 1932) later recorded it as IC 2133. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Two Horned of Virgo:

This **telescopic** asterism "Díceros Vírginis" is the spiral galaxy NGC 5247 in the IAU constellation Virgo. William Herschel listed this as "II 297". John Herschel listed this as h 1649 and later as GC 3614 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the bifurcated spiral arms".

Two Hunters:

This Wotjobaluk asterism is the stars of the IAU constellations Auriga and Gemini and a star cluster in the IAU constellation Cancer:

- The first hunter is "Turree" (Alpha (α) Geminorum (Castor): See Fan Tailed Cockatoo, above.
- The second hunter is "Wanjel" (Beta (β) Geminorum (Pollux): See Eastern Long Necked Turtle, above.
- The smoke from their cookfire "Coomartoorung" (see Campfire Smoke, above) was Messier 44 (the Beehive Cluster, see Beehive, above), and
- The red kangaroo "Purra" that they were cooking (see Red Kangaroo, above) is Alpha (α) Aurigae (Capella).

The Boorong had a similar asterism with the hunters being "Yurree" and "Wanjel".

Two Hyenas:

This Arabic asterism "'adh-Dhi'bayn" ("two hyenas" الذّئبين) is the stars are Eta (η) and Zeta (ζ) Draconis and is part of their asterism Mother Camels (see above), later latinized to "Aldhibain", "Al Dhibain", "Adib", "Addib", "Eddib", "Adid", "Adive", or "Dhibain". English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists it as "Al dhibain, the two jackals". It is also known as Two Wolves (see below).

Two Jackals:

See Two Wolves.

Two Jaguars:

This Palikur asterism is two dark clouds in the Milky Way near the IAU constellation Scorpius (Green and Green 2011). They are hunting a deer, whose horns ("Gituw") appear in the tail of Scorpius. Some Palikur refer to these jaguars as "Kayeb's Pets".

Two-Handed Pot:

This English asterism is the IAU constellation Crater. This relates directly to the description of Ptolemy's original constellation.

Two Headed Anaconda:

This Palikur asterism "Kayeb" is stars in the region of the IAU constellation Scorpius plus the Pointer Stars (Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar)) plus the IAU constellation Crux and the dark clouds of the Milky Way (Green and Green 2011). This is an asterism of the first rain. Crux is seen as Kayeb's "hand" by some Palikur, while others see the Pointer stars as his "hands", or as his two "heads". Some Palikur see the "tail" of Scorpius as Kayeb's "head" and the dark clouds in the Milky Way as his "body". Kayeb is seen as both an anaconda and a shape-shifting shaman.

Two in Front:

This Inuit asterism "Sivulliik" ("two in front" or "those [two] in front") is made up of two stars in the IAU constellation Boötes: Alpha (α) Boötis (Arcturus), which they call "the Old Man") and Eta (η) Boötis, which they call "The Little Orphan Boy" (MacDonald 1998). It is related to their asterism "The One Behind" (see above).

Two in the Ankles:

This Arabic asterism "Al Tawābiʿ al ʿAyyūḳ" is the stars Beta (β) Tauri (Elnath) and Iota (ι) Aurigae (Hassaleh) in the IAU constellations Auriga and Taurus as listed by Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283). These stars are close to one another, and Elnath forms a corner of the hexagon of Auriga. Iota (ι) Aurigae was also known to the Arabs as kaʿb ðīl-ʿinān" (العنان) or "Ankle of the Rein Holder" (see above) which probably influenced al Qazwini's choice of this name.

Two Jaws:

This ancient Egyptian asterism "Aryt" is the "W" of the IAU constellation Cassiopeia (see W below).

Two Ladies:

See the Egyptian asterism Twins, above.

Two Lame Ones:

This Arabic asterism is the stars Gamma (γ) and Delta (δ) Ursae Majoris in the IAU constellation Ursa Major and is part of their asterism Daughters of Na'sh (see above).

Two Lights of Antlia:

This **telescopic** asterism “Bilýchnis Ántliae” is the spiral galaxy IC 2560 in the IAU constellation Antlia. It was discovered by Lewis Swift in 1897. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of “two bright reddish spots can be observed at both sides of the nucleus on the inner disk of this galaxy”.

Two Lines:

This Arabic asterism is made up of a northern line of stars from the IAU constellations Hercules, Lyra, and Serpens, and a southern line of stars from the constellations Ophiuchi and Serpens.

- Northern Line of al-Nasaqān: This asterism, “al-Nasaq al-Sha'āmī”, later latinized to “Nasaḳ Shāmiyy” or “Nasak Shamiya”, runs through Beta (β) Serpentis (Nasak Shamiya I), Gamma (γ) Serpentis (Nasak Shamiya II), Kappa (κ) Herculis, Gamma (γ) Herculis (Nasak Shamiya III), Beta (β) Herculis (Kornephoros), Delta (δ) Herculis, Lambda (λ) Herculis, Mu (μ) Herculis, and Xi (ξ) Herculis, ending at Beta (β) Lyrae (Sheliak).
- Southern Line of al-Nasaqān: This Arabic asterism “al-Nasaq al-Yamānī” runs through Delta (δ) Serpentis, Alpha (α) Serpentis (Unukalhai), Epsilon (ε) Herculis, Delta (δ) Ophiuchi, Epsilon (ε) Ophiuchi, Upsilon (υ) Ophiuchi, Zeta (ζ) Ophiuchi, and Eta (η) Ophiuchi, ending at Xi (ξ) Ophiuchi. This was later latinized to “Nasak Yamani”, “Nasaḳ Yamāniyy”, or “Nasaḳ Yamaniyyah” and the name assigned to two stars in Serpens:
    - Delta (δ) Serpentis (Nasak Yamani I), and
    - Epsilon (ε) Serpentis (Nasak Yamani II).

The area between these lines is known as the Desert Garden and the Goats and the star Alpha (α) Ophiuchi in this area is the (Southern) Shepherd.

NOTE: R. H. Allen in his *Star Names* in 1899 lists these as Northern Boundary of the Pasture and Southern Boundary of the Pasture, calling the Two Lines asterism “the Pasture, Al Rauḍah”.Dorn (1829) lists the Southern Line of al-Nasaqān as “the Yemen or Southern String” as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya’ al-Qazwini (1203 – 1283). English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Nasak Yemáni, or southern boundary” and “Nasak shámi” as the Northern Boundary.

Two Little Dogs:

This Bedouin (central Arabia) asterism “al-Klaibain” (الكليبين) is the stars Delta (α) Canis Majoris and Epsilon (α) Canis Majoris in the IAU constellation Canis Major. Compare this to the Arabic asterisms Greater Dog (see above) and Lesser Dog (see above). It was used in a similar manor to the Arabic manzil “Al-Hanaah” (see Bend in the Neck of the Camel, above).

Two Little Ones:

This Latin asterism “Duo Pauones” is the IAU constellation Gemini. Johann Bayer’s *Uranometria* (1603) lists “Duo Pauones. The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Duo Pauones”.

Two Loons:

This Pawnee asterism is made up of stars of the IAU constellation Scorpius.

Two Male Ostriches:

This Arabic asterism is a line of two stars in the IAU constellation Cetus and Piscis Austrinus: Alpha (α) Piscis Austrini and Beta (β) Ceti.

Two Marks:

The Bedouin manzil "Al-Shartain", "Al-Šarṭain" (الشرطين),"'Ash-Sharatayn" (ٱلشَّرَطَيْن), or "'An-Nath" (ٱلنّطح) is in the IAU constellation Aries and is the stars Alpha (α) Arietis (Hamal), Beta (β) Arietis (Sheratan), and Gamma (γ) 2 Arietis (Mesarthim). Ibn Qutayba (d. 879 C.E.) listed this manzil. It is also known as "Two Signs" (see below). Dorn (1829) lists this as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283). This is part of their asterism Mosque of Al Thurayya (see above).

Two Men:

This Tongan asterism "Lua Tangata" or "Lua a Tangata" is their name for the stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini.

This Samoan asterism "Luatagata" is Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus (Fitisemanu 2022). It is associated with the legend of Sumu (see Triggerfish, above). The names of these men are Filo and Mea and they are fishing for the triggerfish.

This Palawa asterism "Lua Tangata" is their name for the stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini. One of the "star men", who brought fire to earth, is named Pormpenner, Pardedarpedder, or Parpedder, depending on the region. The name of the other is lost.

This Kokatha and Ngalea asterism "Wati Kutjera" is the IAU constellation Gemini as listed by Leaman and Hamacher (2014).

Two Men and Two Women:

This Palawan asterism is the IAU constellation Crux (Gantevoort 2015). They also call this the "Cross of Fire" (see above). These two men, Una and Bura, bring fire to earth (thunder and lightning).

Two Nostrils:

This Arabic asterism "al-mankhiran" (المنخران) is in the IAU constellation Cancer and is the stars Gamma (γ) Cancri and Delta (δ) Cancri. This is identical to the Arabic manzil "Al-Nuthrah" or "Al-Nathrah (see Tip of the Nose, above) and Messier 44 (see Sneeze, above) and is part of the Arabic asterism Lion (see above).

Two Oryx Calves:

This Arabic asterism is the stars Beta (β) Ursae Minoris (Kochab) and Gamma (γ) Ursae Minoris in the IAU constellation Ursa Minor. Robert Hues lists this as "Alferhathas" in his *A Learned Treatise on Globes* in 1659.

Two Ostriches:

There are two Arabic asterisms with the name "ẓalīmān" (ظليمان) or "al-thalīmain" ("two male ostriches"):

- One, later latinized to “Al Thalimain” and “Althalimain” is the stars Iota (ι) and Lambda (λ) Aquilae in the IAU constellation Aquila:
    - “Al Thalimain” and “Althalimain” are listed by German astronomer Christian Ludwig Ideler (1776 – 1846).
    - English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “el dhalimaīn, the two ostriches” as appearing on the Borgian globe. The first is probably the Borgian globe of 1225.
    - In his *Star Names* in 1899 R. H. Allen notes that the four stars Delta (δ), Theta (θ), Kappa (κ), and Lambda (λ) Aquilae in the IAU constellation Aquila are depicted on two Arabic globes as the Two Ostriches. Allen writes that one globe is dated 1225 and the other 1289 but doesn’t identify the globes.
- One, latinized to “Toliman” is the star Alpha (α) Centauri B in the IAU constellation Centaurus. The IAU approved the name Toliman for Alpha (α) Centauri B.

Two Parallel Lines:

This **telescopic** asterism Sánta 186, listed in 2007 by Hungarian astronomer Sánta Gábor, which is in the IAU constellation Hercules. It is two parallel lines of 9^{th} – 12^{th} magnitude stars.

Two Parts of Sextans:

This **telescopic** asterism “Bifária Sextántis” is the edge-on spiral galaxy IC 575 (Arp 292) in the IAU constellation Sextans. They were discovered by French astronomer Stephane Javelle in 1893. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it “seems to be divided in two parts by its flat dust-rich disk”.

Two Placed Far Apart:

This Inuit asterism “Akkuttujuuk**”** (“two placed far apart” or “those [two] apart”) is the two stars Alpha (α) Orionis (Betelgeuse) and Gamma (γ) Orionis (Bellatrix) in the IAU constellation Orion (MacDonald 1998).

This Inuit (Greenlandic) asterism “Akuttut**”** (“two placed far apart” or “those [two] apart”) is the two stars Alpha (α) Orionis (Betelgeuse) and Gamma (γ) Orionis (Bellatrix) in the IAU constellation Orion.

Two Poles:

This ancient Egyptian asterism is made up of stars of the IAU constellations Cepheus, Draco, and Ursa Minor. This is two arrows side by side pointing in the same direction:

- The first “arrowhead” has the star Alpha (α) Draconis (Thuban) at the “tip” and Gamma (γ) and Beta (β) Ursae Minoris (Kochab) at the base, with a “shaft” running out to Kappa (κ) Cephei, and
- The second “arrowhead” is 12 Draconis, with the stars Theta (θ), Eta (η), and Zeta (ζ) Draconis forming one side of a triangle and the “shaft” running out to the star Delta (δ) Draconis.

NOTE: Thuban was the northern pole star between the 4^{th} and 2^{nd} millennia B.C.E.

Two Proceeding to the Water:

This Arabic asterism is two stars in their asterism Pond (see above) in the IAU constellation Ursa Major: Upsilon (υ) and 23 Ursae Majoris.

Two Pronged Forks of Serpens:

This **telescopic** asterism “Bidentátus Serpéntis” is the grand design galaxy NGC 6118 in the IAU constellation Serpens. It was discovered in 1785 by William Herschel who listed it as “II 402”. It became GC 4180 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “this galaxy has two spiral arms… fragmenting in the outer disk”. It is also known as the “Blinking Galaxy” (see above).

Two Refugees:

This Bedouin asterism “al-Diḫīlain” (الدخيلين) is the stars Beta (β) Ursae Minoris (Kochab) and Gamma (γ) Ursae Minoris in the IAU constellation Ursa Minor. It is also known as Two Guards (see above) and the Family of Aba Bzay (see above). These are two who sought protection from Al-Jady (Polaris) after killing the father of the Daughters of Na’sh (see above).

Two Restorers of Goods:

This Vedic nakshatra (lunar mansion) “Punarvasu” appears in the *Atharveda* on the nakshatra list of the scholar Varahamihir (Leitz 2019) and is also known as “Yamakau” (see Two Chariots, above), is the stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini. It is related to their deity Aditi, the all-mother. The ancient *Brhad Samhita* text lists five stars. Ivanković (2021) lists it as “Púnarvasū” and translates it as “restoring goods”. W. Brennand lists this as “Punarvasu” in his *Hindu Astronomy* in 1896 and translates this as “a house”. Bhagwath (2019) lists its symbols as a bow and quiver.

This Myanmar nekkhat (lunar mansion) “Ponnahpukshu” (ပုဏ္ဏဖုသ္သ) is the stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini.

This Tibetan gyukar (lunar house) “Nab So”, “Nabso Gyaltö” or “Möndru” is the stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini (Johnson-Groh 2013).

Two Rings of Fornax:

This **telescopic** asterism “Dicýclus Fornácis” is the barred grand-design spiral galaxy NGC 1079 in the IAU constellation Fornax. It was discovered in 1835 by John Herschel who listed it as 2494 in his catalogue and later listed it as GC 603 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as it is the best-defined example of a R1R2' morphology in the sky, i.e. a galaxy with a distinct closed ring and a strong pseudoring made of spiral arms breaking from the R1 ring”.

Two Rivers:

This Arabic asterism “Al Nahrān” is made up of stars of the IAU constellations Leo and Virgo. This is the stars Beta (β) Virginis (Zavijava), Eta (η) Virginis, Gamma (γ) Virginis, Delta (δ) Virginis, Epsilon (ε) Virginis, and Beta (β) Leonis (Denebola):

- It is listed by el-Fīrūz Abādī”, also known as “al-Fayrūzabādī (الفيروزآبادي) and “Firuzbadi” (1329–1414) whose *al-Qamous* (القاموس) dictionary was in use for five centuries.

- . English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Al anharán, the two rivers".
- It is listed in R. H. Allen's *Star Names* in 1899.
- Compare this to Howling Dogs (above).

This Persian asterism "Mashaha" is identical to the Arabic asterism "Al Nahrān" above and is listed in R. H. Allen's *Star Names* in 1899.

This Sogdian asterism "Fastashat" is identical to the Arabic asterism "Al Nahrān" above and is listed in R. H. Allen's *Star Names* in 1899.

This Khorasmian asterism "Afsasat" is identical to the Arabic asterism "Al Nahrān" above and is listed in R. H. Allen's *Star Names* in 1899.

Two Salutations:

This Samoan star "Ta'ulua" is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Fitisemanu 2022). It refers to the time of year when this star is visible at both sunrise and sunset, thus it is "greeted twice" in the same day. It is also known as "Telegese" (see Slow Moving, above), and "Fētūsolonu'u" (see Gliding Star, above).

Two Salutations Eastward:

This Samoan star "Ta'uluatuāfanua" is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Fitisemanu 2022). This is Sirius as seen as sunrise (see Two Salutations, above).

Two Salutations Westward:

This Samoan star "Ta'uluaalofi" is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Fitisemanu 2022). This is Sirius as seen as sunset (see Two Salutations, above).

Two Seats of Fire of Camelopardalis:

This **telescopic** asterism "Bifóculus Camelopardális" is the Magellanic barred irregular dwarf galaxy NGC 2366 in the IAU constellation Camelopardalis. William Herschel listed this as "III 748". It became GC 1515 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Two Separated Stars:

This Arabic asterism is two stars in the IAU constellation Cepheus called "Two Separated Stars" or "Two Stars of Separation": Alpha (α) Cephei (Alderamin) and Beta (β) Cephei (Alfirk).

Two Shanks:

This Arabic asterism "as-saqan" (الساقان) is two stars:

- One is Alpha (α) Virginis (Spica) in the IAU constellation Virgo (see Unarmed High One, above).
- One is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes and.

Compare this to the Arabic asterism Two Sky Raisers, below.

Two Shiny Ones:

This K'iche' asterism is the stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini (Milbrath 1999).

Two Shi'ra Sisters:

This Arabic asterism "ash-shi'rayan" is made up of two stars and appeared in the poetry of Muhalhil (d. 531 C.E.):

- The Teary-Eyed Woman or Southern Shi'ra: Alpha (α) Canis Majoris (Sirius): See Teary-Eyed Woman, above. She was also called "ash-shi'ra al-'abur" or "The Shi'ra Who Crossed Over"
- The Bleary-Eyed Woman: Alpha (α) Canis Minoris (Procyon): See Bleary-Eyed Woman, above. She was also called "ash-shi'ra al-ghumaysa'" or the "Little Bleary-Eyed Shi'ra".

Two Shrikes:

This Arabic asterism is a line of two stars in the IAU constellations Indus and Pavo: Alpha (α) Pavonis and Alpha (α) Indi.

Two Sickles of Canes Venatici:

This **telescopic** asterism "Bifalcátus Cánum Venaticórum" is the barred spiral galaxy NGC 5383 in the IAU constellation Canes Venatici. It was discovered in 1787 by William Herschel who listed it as "I 181". It became GC 3723 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the two sickle-shaped outer arms of this galaxy."

Two Signs:

There are two Arabic asterisms by this name:

- One is the Arabic and Bedouin manzil "Al-Shartain", "Al-Šarṭain" (الشرطين),"'Ash-Sharatayn" (ٱلشَّرَطَيْن), or "'An-Nath" (ٱلنَّطح) is in the IAU constellation Aries and is the stars Alpha (α) Arietis (Hamal), Beta (β) Arietis (Sheratan), and Gamma (γ) 2 Arietis (Mesarthim): This is part of their asterism the "Lamb" (see above). Compare this to the Arabic asterism ash-sharat (see Sign, above) and al-ashrat (see Signs, above):
    - Ibn Qutayba (d. 879 C.E.) listed this manzil:
    - It is listed on a 14th century Christian Spanish astrolabe #4560 as "al saratān". It is also known as "Two Marks" (see below).
    - Qutrub (d. 821 C.E.) listed this as their third manzil, which matches their rains star calendar, but Ibn Qutayba (d. 889 C. E.) listed it as the location of the vernal equinox and the first manzil.
    - W. Brennand lists this as "Al Sheratau" in his *Hindu Astronomy* in 1896 and attributes this to by Persian astronomer Ulugh Beg Mirza (1394 – 1449).
- One is the Arabic star "ash-Sharāṭān" (الشرطان) is Beta (β) Arietis in the IAU constellation Aries:
    - This was later latinized to "Ash-Sharatan", "Al Saraṭān", "Al Sharatain", "Sheratan", and "Sharatan".
    - The star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985) lists the Arabic name "al-shamāli min al-nath" and the Hebrew name "ha-qeren ha-semoli meha-menagge'h".

- German astronomer Johann Bayer (1572-1625) listed it as “Sartai” (see Servants above).
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists this as “Sheratan or Sharataïn”.
- English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists this star as “Sheratan”.
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as “Sheratan”.
- The 1st edition of British schoolmaster Arthur P. Norton’s *A Star Atlas and Telescopic Handbook* (1910) lists “Sheratan” and “Sharatain” for this star, but the 14th edition (1959) lists this star as “Sheratan”.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this star as “Sheratan”.
- The IAU approved the name Sheratan for the star Beta (β) Arietis A.

This Yemeni manzil “Sharaţān” is made up of stars of the IAU constellation Aries (Varisco 1995): Beta (β) Arietis (Sheratan) and Gamma (γ) Arietis. Compare this to Sign (above) and Signs (above). This appears in the *Kitāb al-Tabşira Fī’ilm al-Nujūm* of 13th century Rasulid ruler al-Malik al-Ashraf ‘Umar ibn Yūsuf (d 1296).

Two Sisters:

This Japanese asterism is the belt and sword of Orion in the IAU constellation Orion. They were chased into the sky by an ogre that bit the leg off one of them, and that one carries a bamboo pole (see Bamboo Joints above), and her remaining leg is the sword of Orion.

Two Sky Raisers:

See Uplifted Ones, below.

Two Sparks:

This K’iche’ asterism is the stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini (Milbrath 1999).

Two Small Ribs:

This Arabic asterism “al-kharāt” or “al-khurt” (small rib”), “ʾAl-Kharātān” (ٱلْخرَاتَان), or “Al Ḥarātān” (“two small ribs”) is the stars Theta (θ) and Delta (δ) Leonis in the IAU constellation Leo:

- In the *Century Cyclopedia* of 1894 this was Latinized as “Chort”.
- Other variations include “Chertan”, “Chortan”, or “Khurt”.
- R. H. Allen lists “Chertan” in his *Star Names* in 1899.
- The name Chertan was approved for Theta (θ) Leonis by the IAU.

Two Spouts:

This Arabic asterism “al-farghan” is made up of two smaller asterisms which are part of the Arabic asterism Well Bucket (see below):

- “al-fargh al-awal”: See First Spout, above. This is also known as the Front Bucket Mouth.
- “al-fargh ath-thani: See Second Spout, above. This is also known as the Rear Bucket Mouth.

Two Stacked Saucers:

This **telescopic** asterism is the open cluster NGC 6124 (Caldwell 75) in the IAU constellation Scorpius. It was discovered by French astronomer Abbe Nicolas Louis de Lacaille (1713 – 1762) who listed it as Lac I 9. It is GC 4184 in the *General Catalogue* of 1864. It was given this name by American astronomer Wayne Schmidt, who describes it as two stacked saucers 20 arcminutes in diameter. It is also known as Strings of Pearl (see above).

Two Stars:

This Ikoot asterism "Ihkiaw Okas" is the stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini.

This Persian asterism "Taraha" is the stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini as listed in R. H. Allen's *Star Names* in 1899.

This Sogdian asterism "Ghamb" is the stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini as listed in R. H. Allen's *Star Names* in 1899.

This Khorasmian asterism "Jiray" is the stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini as listed in R. H. Allen's *Star Names* in 1899.

This French asterism is the stars Alpha (α) Ursae Majoris (Dubhe) and Beta (β) Ursae Majoris (Merak) in the IAU constellation Ursa Major as listed by R. H. Allen in his *Star Names* in 1899.

Two Stars in the Rump of the Eagle:

This Babylonian and Sumerian ziqpu "two stars in the rump of ur-a" is Delta (δ) and Theta (θ) Leonis in the IAU constellation Leo and is listed as ziqpu 23 in the star catalogue BM 78161 (Liechty 1988).

Two Stars of Separation:

See Two Separated Stars, above.

Two Stars of the Head of the Eagle:

This Babylonian and Sumerian ziqpu "two stars of the head of ur-a" is Mu (μ) and Epsilon (ε) Leonis in the IAU constellation Leo and is listed as ziqpu 21 in the star catalogue BM 78161 (Liechty 1988).

Two Stars that Go Together:

This K'iche' asterism is the stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini (Milbrath 1999).

Two Stretchers, with Medicine man, Wife, Errand Man, and Dog:

This Pawnee asterism is made up of the stars of the IAU constellations Ursa Major and Ursa Minor. The stars of these constellations represent two stretchers bearing deceased persons surrounded with mourners with the star 80 Ursae Majoris (Alcor) as the "dog". Compare this to the Musquakie (Iroquois) asterism Hold Tight (see above).

Two Sunbeams:

This Inuit asterism "Aagjuuk" ("indistinct" or "two sunbeams") is the stars Alpha (α) Aquilae (Altair) and Gamma (γ) Aquilae in the IAU constellation Aquila (MacDonald 1998). Sometimes the star Beta (β) Aquilae (Alshain) is included. The rising of these stars indicated the arrival of the winter solstice.

This Inuit (Greenlandic) asterism “Aassutit” or “Aassuutit” is the stars Alpha (α) Aquilae (Altair) and Gamma (γ) Aquilae in the IAU constellation Aquila. Compare this to the Inuit asterism “Aagjuuk” (above).

Two Swallowers:

This Arabic asterism “al-bulaʿān” (ألبولعان), later latinized to “Albulan” (I and II) or “Albulaan”, is the stars Mu (μ) and Nu (ν) Aquarii in the IAU constellation Aquarius.

Two Tails of Eridanus:

This **telescopic** asterism “Bicódulus Erídani” is the spiral galaxy IC 382 in the IAU constellation Eridanus. This was first observed by French astronomer Stéphane Javelle (1864 – 1917) This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of “the two extending outer arms”.

Two Teenaged Boys:

This Boorong asterism “Kulkanbulla” is in the IAU constellation Orion and has two parts:

- One “boy” is the upper part of Orion:
    - The belt of Orion being “his shoulders”,
    - His “hands” the stars Sigma (σ) and 31 Orionis,
    - His “waist” is the star HIP 26762,
    - His “legs” are two lines of stars from HIP 26762:
        - One runs through 51 Orionis and HIP 26870 to a “foot” formed by HIP 26795 and Omega (ω) Orionis, and
        - One runs through HIP 27253 to a “foot” formed by HIP 27588 and 56 Orionis.
- The other “boy” is the lower part of Orion:
    - The sword of Orion is his “body”,
    - His “hands” are the stars 49 and 36 Orionis, and
    - One “foot” is Eta (η) Orionis, and
    - The other “foot” is the stars HIP 26713 and 26820A

Two Toothed of Puppis:

This **telescopic** asterism “Bídens Púppis” is the barred spiral galaxy NGC 2559 in the IAU constellation Puppis. It was discovered in 1837 by John Herschel who listed it as h 3118 and later as GC 1643 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name because “Two hooky arms extend like teeth from this galaxy…”.

Two Tortoises:

This ancient Egyptian asterism “Shetui” is the stars Alpha (α) Canis Minoris (Procyon) and Beta (β) Canis Minoris (Gomeisa) in the IAU constellation Canis Minor and appeared from the New Kingdom (16^{th} — 11^{th} century B.C.E.) onward.

Two Triangles:

This **telescopic** asterism is Tóth 1, listed by Hungarian astronomer János Tóth, which is in the IAU constellation Taurus. Tóth describes this as: “Object diameter 30’. The bright stars form two triangles, the view is much more beautiful in a telescope…”

Two Vultures:

This Arabic asterism “an nasran” is found on the rain star calendar of Qushayr and is made up of two smaller asterisms, the Flying Vulture (see above) and the Alighting Vulture (see above). They marked the rainy season of fruit harvest.

Two Wings:

This asterism “Duae Alae” was created by German astronomer Petrus Apianus in 1533 in his *Horoscopion Apiani General*. It is a ring of stars representing “feathers” tucked under the “right wing” of the IAU constellation Cygnus surrounding the star 19 Cygni.

Two Wings of Fornax:

This **telescopic** asterism “Dípterus Fornácis” is the edge-on galaxy NGC 1365 in the IAU constellation fornax. It was discovered by English astronomer John Herschel in 1837.It is GC 731 on the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “the wide symmetric arms of this splendid galaxy put in mind the two wings of a propeller”. It is also known as the Great Barred Spiral Galaxy (see above), the “Fornax Propeller” or simply the “Propeller” (see above), and “Z” (see below).

Two Wolves:

There are two asterisms with the name “two wolves”:

- One, “Adzh-Dzhi'bayn” or “Adzh-Dzhi'ebayn”, is the stars are Eta (η) and Zeta (ζ) Draconis and is part of their asterism Mother Camels (see above). It is also known as “Two Hyenas” (see above), “Two Black Birds” (see above), and Two Falcons (see above). This was later latinized to “Athebyne”. Johann Bayer’s Uranometria (1603) lists “Douque Lupi” and attributes it to “Azophi Arabi”. The name Athebyne was approved for Eta (η) Draconis A by the IAU’s Working Group on Star Names in 2017.
- One, “adh-Dhi'ban” or “Al Dhībain” (“two wolves” or “two jackals” الذئبان), is the double star Psi (ψ) Draconis in the IAU constellation Draco, later latinized to “Dziban” or “Dsiban”. Dziban has been approved as a name for Psi (ψ) Draconis A by the IAU. The star Phi (ϕ) 1 Draconis B has the unofficial name “Dziban II”. Compare this to the asterism Two Hyenas, above.

NOTE: R. H. Allen lists this asterism as “Female Wolves, or, perhaps, Hyaenas” in his *Star Names* in 1899, giving the name “Al Dhi’bah”. Allen is confusing this with the two stars with the Arabic name “al-dhi’b” (see Wolf, below). English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Al dhibá, the antelopes”. There aren’t any Arabic asterisms called “The Antelopes” and claims that this is stars in Ursa Major including Sigma (σ) Ursae Majoris: What he has done is confused this with the Arabic asterism Three Leaps of a Gazelle (see above).

Two Wooden Blocks:

This Japanese asterism “Waki Boshi”, “Hyoushigi” (“Wooden Blocks”) or “Kanatsuki no Ryowaki Boshi” (“Striking Both Sides Stars”) is the IAU constellation Orion:

- The stars Alpha (α) Orionis (Betelgeuse), Zeta (ζ) Orionis (Alnitak) and Kappa (κ) Orionis (Saiph) form one block, and
- The stars Gamma (γ) Orionis (Bellatrix), Delta (δ) Orionis (Mintaka), and Beta (β) Orionis (Rigel) form the other.

Two Young He Goats:

This Arabic asterism “Al Jadyain” is the is the Haedi asterism (see Kids above). John Hill lists “Giedyan” in his *Urania* in 1754.

Tyberone:

This star “Tyberone” and “Tuberoni Regia” is Alpha (α) Leonis (Regulus) in the IAU constellation Leo:

- Johann Bayer’s *Uranometria* (1603) lists “Regia Tuberoni” and “Tyberone” as an alternate names for Leo.
- R. H. Allen’s *Star Names* in 1899 lists“Tyberone“ and “Tuberoni Regia“ and points out that this name was listed by “[Johann] Bayer and others” and that it was a “a misconception of Pliny the Elder's ‘Stella Regia appellata Tuberoni in pectore Leonis” (which translates as “the star called by Tubero the Royal One in the Lion's breast”) in his *Naturalis Historia* in the 1st century C.E. This was a reference to Lucius Tubero, a literary friend of Roman statesman Marcus Tullius Cicero (106 – 43 B.C.E.).

Tyche:

This Greek asterism “Τύχη” (“Týchi”) is the IAU constellation Virgo as listed in R. H. Allen’s *Star Names* in 1899. Tyche was the Greek Goddess of luck.

Tycho’s Supernova:

This **telescopic** asterism is supernova remnant Tycho’s Supernova or Tycho’s Nova SN 1572 is B Cassiopeiae in the IAU constellation Cassiopeia. It is the remains of a type 1a supernova which was recorded by Danish astronomer Tycho Brahe in 1572.

Tyl:

This star is Epsilon (ε) Draconis in the IAU constellation Draco.

Tyndarians:

This Latin asterism “Pueri Tyndarii”, “Tyndarides”,”Tyndaridae”, and Horace's “clarum Tyndaridae Sidus” is the IAU constellation Gemini. King Tyndareus was the wife of Leda, who was the mother of Castor and Pollux. Johann Bayer’s *Uranometria* (1603) lists “Tyndaridae”. “Tyndaridae” is listed on the *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638). This constellation is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as “Tyndaridae”.

Typhan:

This asterism is the IAU constellation Scorpius as listed in an “Ancient Zodiac of Egypt” in *Hindu Astronomy* by W. Brennand in 1896. Brennand has labelled this illustration “from the Barberini

Museum", which is probably a reference to the 17th century Palazzo Barberini, which is now the Galleria Nazionale d'Arte Antica. This depicts a male mermaid holding a lightning bolt in each hand with clouds streaming out of his lips. Brennan attributes this name for this constellation to the 5th century Roman Macrobius Ambrosius Theodosius, who believed that the Egyptians created the signs of the zodiac and that they were later adopted by the Greeks. In ancient Egyptian skies Scorpius was their asterism "Prow" (see above) and in Seleucid skies it had become the Scorpion. Typhon was a marine monster in ancient Greek mythology, not Egyptian. Typhon is a name for the Egyptian asterism "Kher-khept-Kenumt" (see below) in the IAU constellation Leo assigned by German Jesuit astronomer Athanasius Kircher (1602 – 1680).

Typhon:

This Greek asterism is the IAU constellation Hydra as listed by Hesiod and Mosenkis in his *Mycenaean Oecumene* (date n/k). Typhon was a marine monster in Greek mythology.

Typhon of Canes Venatici:

This **telescopic** asterism "Týphon Cánum Venaticórum" is the pair of interacting galaxies Messier 51 (NGC 5194, Arp 85), in the IAU constellation Canes Venatici. It was discovered by French astronomer Charles Messier in October 1773. Irish astronomer Lord Rosse first recorded its spiral structure in 1845. Dreyer describes it in the 1888 New General Catalogue as the "Great Spiral Nebula". It is listed in the 1864 General Catalogue as GC 3572 and in John Herschel's catalogue as h 1623. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). Typhon ("whirlwind") in Greek mythology was the God of all winds who wanted to replace Zeus as the principal God. It is also known as the "Whirlpool" (see below), the "Question Mark" (see above), and the "Vortex" (see below).

Tyrant of the Water:

This Latin asterism "Tyrannus aquae" is the IAU constellation Aquarius.

- Johann Bayer's *Uranometria* (1603) lists "Aquae Tyrannus" as a name for Aquarius.
- R. H. Allen's *Star Names* (1899) lists „Tyrannus Aquae" and attributes it to 1st century B.C.E. Roman poet Quintus Horatius Flaccus (Horace (65 – 8 B.C.E.)).

Tyrant:

This star "Tyrannus" is Alpha (α) Scorpii (Antares) in the IAU constellation Scorpius. In his Uranometria (1603) German astronomer Johann Bayer (1572-1625) listed "Tyrannus" for this star: Bayer interpreted the original Greek name "star "Ἀντάρης" ("Antáris" or "Rival to Ares"), probably influenced by Hesychius of Alexandria, who had called it "Ἄνταρτης" ("Ántartis" or "rebel"). See Rival to Ares, below. "Tyrannus" is listed for this star in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

Tyre:

This Latin asterism "Tyrius" is the IAU constellation Taurus by Roman poet Marcus Valerius Martialis (Martial) and refers to the birthplace of Europa, who was seduced by Zeus, who appeared to her in the form of a bull.

Tyrolean Hat:

This **telescopic** asterism is in the IAU constellation Perseus and is Ennis 37 on the observing list of Canadian astronomer Charles Ennis. This curving line starts at the double star HIP 18370A and runs through the double star HIP 18366, then HIP 18167, HIP 17963, the double star HIP 17877A, HIP 17800, HIP 17675, HIP 17718, HIP 17807, HIP 17905, HIP 17869, HIP 17827, ending at the double star HIP 17772. A row of three stars of increasing magnitude HIP 17869, 17827, and 17772 are a "feather" in this cap. This is Corder 588 on the list of Jeffrey Corder, who describes it as a "curved chain".

Ty's Oil Can:

This **telescopic** asterism is in the IAU constellation Virgo close to the Sombrero Galaxy, Messier 104. Two 8th magnitude stars and a double star (HIP 61654 and 61656) form the bottom of the "oil can". A curve of six 10th magnitude stars forms the curved "spout" of the "oil can" and one magnitude 9.4 star and three 11th – 12th magnitude stars form the "handle". It is also known as "Jaws" (see above). Size 15'.

U:

This asterism is Corder 1247 in the IAU constellation Puppis and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 300'. This includes HIP 34922, 35020, 34670, 33357, 32918, 32765, and 61, 71 and 72 Puppis.

There are seventeen **telescopic** "U" asterisms:

- One is Corder 494 in the IAU constellation Perseus and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Corder describes this as an "obvious group of 8 stars that are magnitudes 7 to 9. The group forms a nearly 'U' shaped asterism that is open to the NW." Size 30'. I think that it almost exactly matches the shape of the Greek letter Nu (ν). It includes HIP 14892, 14946, 14923, and 14871. Size 30'.
- One is Corder 991 in the IAU constellation Auriga and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 8'. It includes the stars 34 Camelopardalis and HIP 28589. NOTE: 34 Camelopardalis is now within the boundaries of Auriga.
- One is Corder 1096 in the IAU constellation Gemini and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 20'. This is a group of 10 8th to 11th magnitude stars including the star HIP 30723. NOTE: Two faint lines of stars ending at HIP 30771 make this into a "Droplet" (see above).
- One is Corder 2671 in the IAU constellation Boötes and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 120'. This includes the stars 33 Boötis, HIP 71568, 71466, 71206A, 71008, and 70844. I personally think this looks more like a Greek letter Nu (ν).
- One is Corder 3079 in the IAU constellation Norma and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 15'. This includes the stars HIP 81434, 81096, and 81458.
- One is Corder 3996 in the IAU constellation Draco and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 45'. This includes the stars HIP 97989, 97978, and 98256.

- One is Corder 4159 in the IAU constellation Aquila and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 20'. This is 5 stars between 7th and 9th magnitude and includes HIP 100296.
- One is Corder 4257 in the IAU constellation Delphinus and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 40'. This is 8th – 9th magnitude stars that include HIP 102929.
- One is in the IAU constellation Taurus and is Corder 607 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is 8 stars of magnitude 8 to 11 including HIP 18228.
- One is in the IAU constellations Orion and Taurus and is Corder 904 on the observing list of American astronomer Jeffrey Corder. Size 100' X 25'. This is made up of ten stars of between 7th and 9th magnitude including HIP 26590, 26647, 26807, 27022, and 26930.
- One is in the IAU constellation Orion and is Corder 1058 on the observing list of American astronomer Jeffrey Corder. Size 60'. This is twelve 8th – 9th magnitude stars including HIP 30026, 30030, and HIP 29813.
- One is in the IAU constellation Scorpius and is Corder 3381 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is ten 8th – 10th magnitude stars.
- One is in the IAU constellation Sagittarius and is Corder 3628 on the observing list of American astronomer Jeffrey Corder. Size 6'. This is eight 10th – 11th magnitude stars.
- One is in the IAU constellation Vulpecula and is Corder 4241 on the observing list of American astronomer Jeffrey Corder. Size 30'. This is eight 7th – 9th magnitude stars including HIP 102620 and 102461.
- One is in the IAU constellation Cygnus and is Corder 4415 on the observing list of American astronomer Jeffrey Corder. Size 30'. This is eight 8th – 9th magnitude stars including HIP 105874 and 105739 and the double star HIP 105813.
- One is in the IAU constellation Pegasus and is Corder 4423 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is eight 9th – 10th magnitude stars including the double star HIP 105996A.
- One is in the IAU constellation Grus and is Corder 4782 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is six 8th – 11th magnitude stars including HIP 113126 and 113209.
- One is in the IAU constellation Andromeda and is Corder 4875 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is eight 8th – 9th magnitude stars including HIP 115134 and 115106.
- One is the open cluster NGC 6819 in the IAU constellation Cygnus. This was discovered by English astronomer Caroline Herschel in 1784. It is GC 4511 in the *General Catalogue* of 1864. Size 5' X 5'. It is also known as the Octopus (see above), or the Fox Head (see above) and has also been described as a letter "K", or "X".
- One is open cluster NGC 3293 in the IAU constellation Carina. It was discovered by Nicolas Louis de Lacaille in 1751. Lacaille described it in his 1755 catalogue as a "small heap of 4 small stars forming a lozenge." It is GC 2144 in the *General Catalogue* of 1864. It is also known as the Spider Spit Cluster (see above), the Hubbly Bubbly Pipe (see above), the Little Jewel Box (see above), and the Gem Cluster (see above). South African astronomer Carol Botha described it in 2016 as a "'U' or horseshoe shape".

U-Mnqamlezo wase zantsi:

This Xhosa asterism (eastern cape, 1903) is the constellation Crux Australis, which is now the IAU constellation Crux (Alcock 2014).

U-Pondo 'lunye:

This Xhosa asterism (eastern cape, 1903) is the IAU constellation Monoceros (Alcock 2014).

Ueros:

This Celtic (Gaulish) star "Ueros" ("overly") is Zeta (ζ) Ursae Majoris in the IAU constellation Ursa Major (Boutet 2014). Compare to the Vedic Vashishtha (see below). This is the name of one of Seven Sages who are part of their asterism by that name (see Seven Sages, above).

Uesos:

This Celtic (Gaulish) star "Uesos" ("knower") is Eta (η) Ursae Majoris in the IAU constellation Ursa Major (Boutet 2014). Compare this to the Vedic Marīci (see above). This is the name of one of Seven Sages who are part of their asterism by that name (see Seven Sages, above).

UFO:

This **telescopic** asterism is NGC 2683, a field spiral galaxy in the IAU constellation Lynx. It was discovered by English astronomer William Herschel in February 1788 who listed it as "I 200" in his catalogue. It is GC 1713 in the *General Catalogue* of 1864. It was given this name by the Astronaut Memorial Planetarium and Observatory at Eastern Florida State College. It is also known as the "Cloud of Dust of Lynx" (see above). Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) lists this as O'Meara 47 but does not list a name.

UFO of Draco:

This **telescopic** asterism "Óvi Dracónis" is the edge-on spiral galaxy NGC 5908 in the IAU constellation Draco. It was discovered in 1788 by William Herschel who listed it as "II 760". It became GC 4085 and GC 4088 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Ughlak:

This Turkish asterism "Ughlak" is the IAU constellation Capricornus as listed in R. H. Allen's *Star Names* in 1899.

Uindonos:

This Celtic (Gaulish) star "Uindonos" ("dazzling") is Delta (δ) Ursae Majoris in the IAU constellation Ursa Major (Boutet 2014). Compare this to the Vedic asterism Atri (see above). This is the name of one of Seven Sages who are part of their asterism by that name (see Seven Sages, above).

Uirionos:

This Celtic (Gaulish) star "Uirionos" ("truth") is Alpha (α) Ursae Majoris (Dubhe) in the IAU constellation Ursa Major (Boutet 2014). Compare this to the Vedic asterism Kratu (see above). This is the name of one of Seven Sages who are part of their asterism by that name (see Seven Sages, above).

Ukdah:

See Knot, above.

Uklun:

See We, below.

Ulgher:

This Turkish asterism is the Pleiades cluster in the IAU constellation Taurus as listed in R. H. Allen's *Star Names* in 1899. Allen does not supply a translation.

Umbillicus of the Llama:

This Quechua asterism "Ombiligo de la Llama" is a narrow, curving dark streak from Alpha (α) Centauri (Rigil Kentaurus) in the IAU constellation Centaurus to Theta (θ) Scorpii in the IAU constellation Scorpius (Urton 1981).

Umbrella:

There are six **telescopic** "umbrella" asterisms:

- One is NGC 4651, a spiral galaxy in the IAU constellation Coma Berenices. This was discovered in 1783 by English astronomer William Herschel who listed it as "II 12". It became GC 3184 in the *General Catalogue* of 1864. It is called this as a stellar stream forming a "handle" is stretching out to one side. Size 4' X 2.7'.
- One, from *Pattern Asterisms* by American astronomer John A. Chiravalle, is found in the IAU constellation Hydra. One edge of the curved "umbrella" is the brightest star 6 Hydrae, with the other stars in the curve being the stars HIP 42444, 42336, and 42309. The base of the "handle" is a blue/white star, HIP 42348. Size 75' X 45'. Jeffrey Corder lists it as Corder 1658 and describes it as "hook-shaped".
- One is the "Umbrella Cluster", Alessi 2 from the lists of Brazilian astronomer Bruno Alessi, which is in the IAU constellation Camelopardalis. René Merting describes it on the *Faint Fuzzies* website: "I can make out the open umbrella with averted vision".
- One is in the IAU constellation Taurus and is Corder 889 on the observing list of American astronomer Jeffrey Corder. The "handle" of the umbrella starts at 126 Tauri and runs through 122 Tauri, the double star HIP 25950A, and 117 Tauri to the "tip" of the umbrella at 111 Tauri. The "umbrella" runs from 120 Tauri through 119 Tauri (see Ruby Star, above), 115, Tauri, 111 Tauri, 110 Tauri, 113 Tauri, and 116 Tauri, to HIP 25790.
- One is in the IAU constellation Camelopardalis and is Ennis 43 on the observing list of Canadian astronomer Charles Ennis. The top of the "umbrella" is the curved line of stars starting at HIP 26814 and running through HIP 26988, 23 Camelopardalis, and HIP 26899 to 21 Camelopardalis. The "shaft" runs from 23 Camelopardalis through HIP 26890 through a line of 8^{th} – 9^{th} magnitude stars ending at a "handle" of the two stars HIP 26371 and 26350. Size 75' X 50'. NOTE: This includes stars of Corder 900.
- One is in the IAU constellation Columba and is Corder 1112 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is twelve 7^{th} – 10^{th} magnitude stars including HIP 30962, 30884, and 30896.

Umhabi:

Credo Vusamazulu Mutwa, a South African diviner, claims that "Umhabi'" is the name of a Ndebele asterism (but not specific as to which group of Ndebele) which is the part of the IAU constellation

Orion, possibly the “shield” or “lion’s skin”. This is a line of six stars in a curved line west of Bellatrix: Pi (π) 1 to 6 Orionis.

uMushi wenkhosatana:

This Swazi asterism “uMushi wenkhosatana” is the IAU constellation Crux.

Unadorned of Sculptor:

This **telescopic** asterism “Inornáta Sculptóris” is the lenticular galaxy NGC 439 in the IAU constellation Sculptor. It was discovered by English astronomer John Herschel in 1834. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to its simple shape.

Unarmed High One:

This Arabic and Bedouin manzil “ʾAs-Simāk” (ٱلسِّمَاك), “as-simak al-a’zal” (السماك الأعزل), “Al-Smak al-ʿazal” (السماك الأعزل), or “ʾAs-Simāku ʾl-Aʿzil” (ٱلسِّمَاكُ ٱلأَعْزِل), translated as “unarmed high one” or “unarmed sky raiser” is the star Alpha (α) Virginis (Spica) in the IAU constellation Virgo This is part of the Arabic asterism “as-saqan” (see Uplifted Ones, below):

- “al-Simāk al-A’zal” was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- This is listed as “Simāk a’zal” on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992).
- This was later latinized to “Al Simāk al Aʿzal”, “Al-Simak”, or “Azimech”.
- The star list of Abraham Bar Hiyya in 1104 (Goldstein 1985) lists the Arabic name of this star as “simāk a’zal” and the Hebrew name as “nitmakh lo’ mezuyyan”.
- The star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985) lists the Arabic name “al-simāk al ‘azāl” and the Hebrew name “ha-gibbor belo’ romah”.
- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists “al-simāk al-a’zal”.
- An anonymous Hebrew star list from 1392 (Goldstein 1985) lists the Arabic name “Simak al-a’zal” and the Hebrew name “nismakh lo’ mezuyyan”.
- Dorn (1829) lists this as “unarmed Spearman” and describes it as appearing on on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya’ al-Qazwini (1203 – 1283).
- The 15th century *Alfonsine Tables* list “Inermis Asimec”, “Acimon”, “Alaraph”, “Almucedie”, and “Alacel”, and the 1515 edition of the *Almagest* lists “Aschimech inermis”.
- German astronomer Johann Bayer (1572-1625) lists “Alaazel”, “Alazel”, “Azimon”, “Alzimon”, and “Hazimet Alazel” as well as “Alacast”, “Alcalst”, “Alaraph”, and “Almucedie” for Epsilon (ε) Virginis (see Custom, above). Bayer also lists “Alazel”, “Alaazel”, and “Hazimet Alazel” as alternate names for Alpha (α) Virginis (Spica).
- Italian astronomer Giovanni Battista Riccioli (1598 – 1671) lists “Eleazalet”, “Eltsamecti” and “Eltsamach”.
- French scholar Joseph Justus Scaliger (1540 – 1609) lists “Hazimeth Alhacel”, as did Robert Hues in his *A Learned Treatise of Globes* in 1659: Hues translates this as “a handful of corne”.
- German astronomer Wilhelm Schickard (1592 – 1635) lists “Huzimethon”.

- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Asimam" and "Asimech".
- "Azimech" and "Huzimethon" are listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.
- John Hill lists this as "Simak Al Azal" in his *Urania* in 1754.
- The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) lists "Azimech" for this star.
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "As Simák al a'zal, the unarmed or defenceless one", which is a reference to the asterism Throne of the Unarmed One (see above).
- W. Brennand lists this as "Sinak-Al-Azal" in his *Hindu Star Names* in 1896 and translates this as "the spike of Virgo".
- The rete of the 14th century Spanish astrolabe NMM AST0570 in the National Maritime Museum lists this as "Alchimec" (Dekker 2000).
- The Sloane astrolabe BM SL 54 in the British Museum which dates to 1290 – 1300 lists this as "AChIMEC" (Dekker 2000).
- English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Eleazelet" as a name for this star and attributes it to Riccioli.
- In his *Star Names* in 1899 R. H. Allen lists "Alhaiseth" as a name used by "alchemists" and lists the name "Al Haris Al Simāk" which Allen translates as "Keeper of Simak".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and the 14th edition (1959) list "Azimech" for this star.

This Yemeni manzil "Simāk" is the star Alpha (α) Virginis (Spica) in the IAU constellation Virgo (Varisco 1995). This appears in the *Kitāb al-Tabşira Fī'ilm al-Nujūm* of 13th century Rasulid ruler al-Malik al-Ashraf 'Umar ibn Yūsuf (d 1296).

Uncombed One of Apus:

This **telescopic** asterism "Actenísta Ápodis" is the spiral galaxy IC 4633 in the IAU constellation Apus. It was discovered by DeLisle Stewart in 1900. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the sloppy appearance of this late type spiral galaxy".

Uncombed One of Triangulum:

This **telescopic** asterism "Incómptus Triánguli" is the barred spiral galaxy NGC 925 in the IAU constellation Triangulum. It was discovered in 1784 by English astronomer William Herschel who listed it as "III 177". It became GC 542 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave this name due to the "rather advanced state of dissociation of this late-type galaxy".

Uncombed One of Virgo:

This **telescopic** asterism "Impéxus Vírginis" is the barred spiral galaxy NGC 4781 in the IAU constellation Virgo. It was discovered in 1786 by English astronomer William Herschel who listed it as "I 134". It became GC 3292 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One*

Thousand Named Galaxies by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of the "disorganized shape of the disk".

Under Chi of Ursa Major:

This **telescopic** asterism "Hypóchius Úrsae Majóris" is the spiral galaxy NGC 3877 in the IAU constellation Ursa Major. It was discovered in 1788 by William Herschel who listed it as "I 201". It became GC 2545 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because It is located below the magnitude 3.7 star Chi (χ) Ursae Majoris.

Under Tunic:

This Latin asterism "Subuculae" is a group of stars in the IAU constellation Taurus listed in the 11th century *De signis caeli ("of the signs of heaven*"): This is possibly the Pleiades cluster. A subuculae is an under tunic worn by either gender: Some believe it can be translated as "sacrificial cake".

Underside of a Shark:

This Kiribati star "Batuaro" or "bæ/tuáro" is currently unidentified (Trussel and Groves 1978). This is their name for the underside and front portion of a shark.

Unharmed of Ursa Major:

This **telescopic** asterism "Illibáta Úrsae Majóris" is the lenticular galaxy NGC 3995 (Arp 313) in the IAU constellation Ursa Major. It was discovered by Prussian astronomer Heinrich d'Arrest. It became GC 5596 in the General Catalogue of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to its "perfect, unharmed shape".

Unicorn of Virgo:

This **telescopic** asterism "Unicórnis Vírginis" is the spiral galaxy NGC 4378 in the IAU constellation Virgo. It was discovered in 1786 by William Herschel who listed it as "I 123". It became GC 2915 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name because the galaxy has "only one spiral arm, winding at least one and a half times around the nucleus".

Unicorn's Horn:

See "Arrowhead" above.

Uninitiated Boys:

This Kamilaroi/Euahlayi asterism "Birray Birray" or "Beraiberai" represents a group of uninitiated boys who are in love with the seven young women (sisters), Miyay Miyay (see Seven Young Women above), who make up the Pleiades star cluster (Fuller et al 2014). Birray means "boy" and Birray Birray means "several boys". The Birray Birray chased the Miyay Miyay, who prayed for deliverance. Bhaiami and Turramulan heard them and lifted them up into the sky, and the uninitiated boys were placed in the IAU constellation Orion, as the three stars that make up the belt of Orion The star Beta (β) Orionis (Rigel) is their campfire, and the sword of Orion is their fire poker. They are kept from the Miyay Miyay by the Wiringin, Old Dthillar (see above), who is the star Alpha (α) Tauri (Aldebaran). Compare this to Dthanes, above.

Union of Ursa Major:

This **telescopic** asterism "Concórdia Úrsae Majóris" is the interacting galaxy NGC 5256 in the IAU constellation Ursa Major. It was discovered in 1787 by William Herschel who listed it as "III 673". It became GC 3623 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the whole system is somewhat heart-shaped."

Unique Sovereign:

This Polynesian star "Tahi-anii" from the Society Islands is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga.

Universe:

This **telescopic** Hebrew star "Tevel" ("world" or "universe") is HAT-P-9 in the IAU constellation Auriga (magnitude 12.35). It was given this name in the IAU NameExoWorlds campaign. It has an exoplanet named Alef, which is the first letter in the Hebrew alphabet and also means "bull".

Unorganized Sculptor:

This **telescopic** asterism "Inordinatus Sculptóris" is the spiral galaxy NGC 24 in the IAU constellation Sculptor. It was discovered by William Herschel in 1785. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as it has a rather disordered structure.

Untying:

This Vedic asterism "Vicrtau" is an alternate name for their nakshatra "Mula" (see Root, above) which appears in the *Taittirīya Samhitā* and the *Atharveda* and is the stars Epsilon (ε), Xi (ξ), Eta (η), Theta (θ), Iota (ι), Kappa (κ), Lambda (λ), Mu (μ), and Nu (ν) Scorpii in the IAU constellation Scorpius (Ivanković 2021).

Unukalhai:

See Neck of the Snake, above.

Unurgunite:

See Jacky Lizard, above.

Uocomarcos:

This Celtic (Gaulish) star "Uocomarcos" ("research") is Epsilon (ε) Ursae Majoris in the IAU constellation Ursa Major (Boutet 2014). Compare this to the Vedic asterism Angiras (see above). This is the name of one of Seven Sages who are part of their asterism by that name (see Seven Sages, above).

Uplifted Ones:

This Arabic asterism "as-simakan" (السماكان) or "as-saqan", translated as "Uplifted Ones" or "Two Sky Raisers" is two stars:

- One, “As-simak” or “Unarmed High One” is Alpha (α) Virginis (Spica) in the IAU constellation Virgo (see Unarmed High One, above).
- One, “Al Ḥāmil Luzz”, “Armed One” or “Spear Bearer” is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes.

“Two Sky Raisers” is the name used by Dhu Ar-Rumma (735 C.E.). These were part of the rain stars of the calendar of Qushayr. Compare this to the Arabic asterism Two Shanks, above.

Uplifted One of the Lancer:

This Arabic star “as-simāk ar-rāmiħ” (السماك الرامح), translated as “Uplifted One of the Lancer” or “Spear Bearing Sky Raiser” is Alpha (α) Virginis (Spica) in the IAU constellation Virgo and is part of their asterism Uplifted One (see above):

- “al-Simāk al-Rāmih” and “al-Rāmih” are listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- The star list of Abraham Bar Hiyya in 1104 (Goldstein 1985) lists the Arabic name “simāk al-rāmih” and the Hebrew name “Ha nitmakh ha-rome’h” but identifies it as Alpha (α) Boötis (Arcturus).
- The star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985) lists the Arabic name “al-simāk al-rāmih” and the Hebrew name “ha-gibbor belo’ romah”. NOTE: Ibn Ezra lists the Arabic name “al simāk al-rāmih” and the Hebrew name “ha-gibbor ba’al romah” for Alpha (α) Bootis (Arcturus).
- An anonymous Hebrew star list from 1392 (Goldstein 1985) lists the Arabic name “Simak al-rawmih” and the Hebrew name “nismakh ha-romah” but associates it with Alpha (α) Boötis (Arcturus).
- 14th century Greek geographer and astronomer Georgius Chrysococcas called it “μικρὸς Κονταράτος” (“mikrós Kontarátos” or “little lance bearer”).
- The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists “Ascimech Arramech”.
- It appeared as “Al Simak Al Ramih” in the *Calendarium* of Al Achsasi Al Mouakket in 1650.
- This is listed as “[Al-] Simāk al-rāmih” on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992): Savage-Smith translates this as “the armed simāk”.
- This was later latinized to “Al Simak Lanceator” (“al simak lance”), “Aramec”, “Aramech”, “Ariamech”, “Al Ramec”, “Aremeah”, “Ascimec”, “Azimeth”, “Aramakh”, and “Azimech”.
- English author Geoffrey Chaucer (c.1340s – 1400) lists it in his *A Treatise on the Astrolabe* as “Alramih”.
- A celestial globe (1522) of German polymath Johann Schöner (1477 – 1547) lists “Azimeth”.
- Johann Bayer’s *Uranometria* (1603) lists: “Aramech, Alramech, Azimech seu Azimeth,… Alkameluz”.
- The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch lists “Arabibus Aramech, rectius Arramicho” and “Arcturi Lanceator” but places it in Boötes.
- John Hill lists it as “Simak Al Ramih” in his *Urania* in 1754.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists the name “little lance bearer”, attributing this to 13th century astronomer Georgius Chrysococcas Smyth’s *Bedford*

Catalogue in 1844 lists “Simák al rámih, the prop or leg of the lancer” as a name for both Alpha (α) Boötis (Arcturus) and Alpha (α) Virginis (Spica) and “al rámih, the lancer” for Boötes.

- John Chilmead lists it as “Somech haramach” in his *A Learned Treatise on Globes*, 1889, which was a translation of the Latin work by English geographer and mathematician Robert Hues (1553 – 1632), although Hues also calls it “the Launce bearer” and gives the names “Alramech” and “Alsamech” in that treatise and lists it as Arcturus.
- R. H. Allen lists it as Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes in his *Star Names* in 1899 and Dorn (1829) lists the name “Essimak Erramih”, which he writes“ has passed over into the Alphonsine tables in the words “Ascimech arameah” as the star Alpha (α) Boötis (Arcturus) and translates this as “Ear with a Spear” and “Javelin” (citing Georgius Chrysococcas) and describes this as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul , based on the work of Persian cosmographer Zakariyya’ al-Qazwini (1203 – 1283).
- The Arabic asterism Uplifted One contained stars of both Boötes and Virgo, which may have led to this assumption. Smyth also lists “Aramech” and “Azimech”, and notes that Italian astronomer Giovanni Battista Riccioli (1598 – 1671) called it “Kolauza”.

Upper Arm:

There are two Arabic stars with the name “as-Sāʿid” (الساعد):

- One is the star Beta (β) Pegasi in the IAU constellation Pegasus:
  - This is listed on the 14th century astrolabe #4560 from Christian Spain as “OMER9I”, the “9” representing a hard “C” sound, making it “Omerci” or “Omerqi” (King 2002), which is probably an abbreviation of the Latin “Omer Equi” (“shoulder of a horse”) which is a more common name for Alpha (α) Pegasi (see Shoulder of a Horse, above).
  - The star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985) lists the Arabic name “mankib al-faras” (“shoulder of a horse”) and the Hebrew name “shekhem ha-sus”.
  - The Sloane astrolabe BM SL 54 in the British Museum which dates to 1290 – 1300 lists “Bedalferaz” (Dekker 2000).
  - The rete of the 14th century Spanish astrolabe NMM AST0570 lists “Alferaz” (Dekker 2000).
  - Austrian astronomer John of Gmunden (d. 1442) lists this as “Scheat Alferaz id est crus equi” (“Scheat Alferaz is the horse's leg”- Kunitzsch 1986).
  - Variations listed in editions of the *Alfonsine Tables* include “Menekeb Alferach” and “Mekebalferaz” and other editions list “Bedalferaz” and “Mentichel” (Kunitzsch 1986). One edition lists “sceath ide es crus” (“sceath that's your leg”) and associates it to Delta (δ) Aquarii (Kunitzsch 1986) and yet another edition spells this “sceach” (Kunitzsch 1986).
  - The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists this star as “Scheat”.
  - Danish astronomer Tycho Brahe (1546 – 1601) listed it as “Scheat”.
  - This star is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as “Scheat Alferaz”.
  - Italian astronomer Giovanni Battista Riccioli (1598 – 1671) listed it as “Scheat Edeleu” and “Scheat Alpheraz”.
  - German astronomer Johann Bayer (1572-1625) listed it as “Seat Alpheras” in his *Uranometria* (1603).
  - Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius labels this star “Scheat Alferas”.

- This is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 as "Scheat".
- The *Atlas Coelestis* of German astronomer Johann Gabriel Doppelmayr (1742) lists "Scheat" but incorrectly labels it "D" instead of "B" for Beta.
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Scheat".
- *An Improved Moveable Planisphere* (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, lists this star as "Scheat".
- John Chilmead listed it as "Seat Alfaras" in his *A Learned Treatise of Globes* in 1889, as does Robert Hues (1659).
- German astronomer Wilhelm Schickard (1592 – 1635) listed it as "Saidol-pharazi".
- The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) lists this star as "Scheat".
- Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this star as "Scheat".
- American uranographer William Croswell (1760 – 1834) lists this star as "Scheat" on his *Mercator Map of the Starry Heavens* in 1810.
- Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich list this star as "Scheat".
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as "Scheat".
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Scheat".
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as "Scheat".
- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Scheat" and describes it as "foreleg".
- *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Scheat" for this star.
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) lists "Scheat" and "Sheat" for this star, but the 14th edition (1959) only lists this star as "Scheat".
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists "Scheat" for this star.
- The IAU approved the name Scheat for Beta (β) Pegasi.
- NOTE: English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Scheat… a corruption of said, an arm, or cubit". This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Scheat". Burnham (1978) lists "Al Sa'id" and "Sa'd" and translates it as "upper part of the arm" or "foreleg".

- One is the star Xi (ξ) Persei in the IAU constellation Perseus and is part of their asterism Al-Thurayya (see Little Abundant One, above).

The name "Scheat" is also used for Delta (δ) Aquarii in the IAU constellation Aquarius.

- The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists "Sceath" for this star.
- "Scheat" is depicted on gores of the globe of Petrus Plancius published in 1598 by Jodocus Hondius for this star.
- Johann Bayer's *Uranometria* (1603) list "Scheat" as a name for this star.

- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Scheat" for Delta (δ) Aquarii.
- "Scheat" is listed as a name for Delta (δ) Aquarii in the IAU constellation Aquarius in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch
- Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius lists the name "Scheat" for this star.
- "Scheat" is listed as a name for Delta (δ) Aquarii i in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801).

Upper Arm of al-Thurayyā:

This Arabic asterism "al-aḍdud al-thurayyā" or "Al-Adud" (العضد) is the stars Delta (δ), Epsilon (ε), and Nu (ν) Persei in the IAU constellation Perseus and is part of their asterism Al Thurayya (see Little Abundant One, above).

Upper Part of the Back:

See Mane, above.

Upper Star of the Head of the Scorpion:

This Persian (Achaemenid Period 539 – 331 B.C.E.) star "MUL e sa SAG GIR-TAB" is Beta (β) Scorpii (Acrab) in the IAU constellation Scorpius (Hunger and Sachs 1988).

Upper Step:

This Chinese xing guan is a line of two stars in the IAU constellation Ursa Major and is part of their xing guan "Sāntái" (see Three Steps, above): Iota (ι) Ursae Majoris and Kappa (κ) Ursae Majoris.

Upsilon:

This **telescopic** asterism is in the IAU constellation Cetus and was listed as Corder 315 on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Corder attributes it to John Raymond. It is a group of 4 stars including Upsilon (υ) Ceti, 57 Ceti, and HIP 9249. Size 30'. Size 20'.

Upsilons:

This **telescopic** asterism is the double star Upsilon (υ) Tauri in the IAU constellation Taurus. *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), labels these the "Upsilons" but incorrectly describes this as "two Upsilons, forming a wider pair above [Kappa (κ) 1, and 2 Tauri]' which Serviss calls "the Kappas". In fact, the double star Upsilon (υ) Tauri is a tight double, and the star which Serviss is describing as "Upsilon 2" is actually the star 72 Tauri.

Ura-pane Lopatin:

This Palawa asterism is the IAU constellation Crux (Gantevoort et al 2016).

Urania:

There are two Greek asterisms with the name "Οὐρανία" ("Ouranía") which means "heavens":

- One is the IAU constellation Pisces as listed in R. H. Allen's *Star Names* in 1899. Urania is the muse of astronomy, but Allen lists her as "the Sarmatian Aphrodite", linking this to the asterism Venus and Cupid (see below).
- One is the IAU constellation Virgo as listed in R. H. Allen's *Star Names* in 1899.

Urania's Sextant:

This asterism "Sextants Uraniae" was created by Polish astronomer Johannes Hevelius (1611 – 1687) and is the IAU constellation Sextans.

Uraniscus:

This asterism is the IAU constellation Corona Australis as listed in John Hill's *Urania* in 1754.

Uray-nociw:

This Ainu Nociw ("asterism") is the IAU constellation Taurus.

Urayumari:

This Carib star is currently unidentified (Magaña, and Jara, 1982).

Urdur:

This Norse star "Urdur" or "Urðr" (Old Norse "fate") is Alpha (α) Librae (Zubenelgenubi) in the IAU constellation Libra and was created by Canadian Bjorn Jónsson (1920 – 1995) who was trying to reconstruct traditional Scandinavian skies (Kuperjanov 2006). Urðr is one of the three Norns in Norse mythology.

Urdarbrunnur:

This Norse asterism "Urdarbrunnur" or "Urðarbrunnr" (Old Norse for the "Well of Urðr") is made up of stars of the IAU constellation Scutum and was created by Canadian Bjorn Jónsson (1920 – 1995) who was trying to reconstruct traditional Scandinavian skies (Kuperjanov 2006). Urðarbrunnr is a well in Norse mythology that is situated beneath the world tree Yggdrasil.

Urger of the Star:

This Arabic star "hadi an-najm" is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus:

- "hadi an-najm" is listed by Umayyad poet Dhu r-Rumma (d. 735 C.E.), as this star appeared to him to be driving "an-Najm" ("the Star"), which is an Arabic name for the Pleiades cluster (see Star, below).
- "Hadī al-Najm" is listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- Compare to the Bedouin asterism Driver of Al Thurayya (above).

Urgulu Demon:

This Babylonian asterism from the MUL.APIN tablets and the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) "MUL.UR.MAH" (Hunger 1992), or "MUL.UR.GU.LA" (Hunger 1992, Parpola 1993), "UR.GU.LA" (Bartel van der Waerden 1974, Anthony 1996) or "UR.MAH" is the IAU

constellation Leo. It appears in the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period as “mu lur.gu.la” (Koch-Westenholz 1995) and in the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) as “mulUR.GU.LA. The star Alpha (α) Leonis (Regulus) is known to the ancient Babylonians as the “Star of the King”. This demon was depicted as a winged lion, which may have been what influenced the Greeks to later describe it as a lion.

This Akkadian asterism “Urgulû” or “Urgulu” (Hunger 1992) or “Nēšu” or “Nesu” (Hunger 1992) from the *Astrological Reports to the Kings* of the late Assyrian period (Parpola 1993) is the IAU constellation Leo.

This Seleucid asterism from as “UR” or “UR.MAH” (“lion”) from tablet SBTU II No 43 (W 22646) from the Seleucid (Hellenistic) period (275 B.C.E. – 116 C.E.) is the IAU constellation Leo (Foxvog 1993).

This Sumerian asterism “mulur-gu-la” as listed in the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is the IAU constellation Leo. ”. It is listed in the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) as “la-ta-rak” and “[mul…] x-am-me”.

This Persian asterism “UR.GU.LA”, “Urgu[lu]” from the K 250 and VAT 9418 lists, “UR.A” from the list of Zodiacal Signs in VAT 4956 (Bartel van der Waerden 1974), and from the list of Tikpi Stars from the K 250 and VAT 4918 lists of the Persian (Achaemenid) Period (539 – 331 B.C.E.) as listed by Franz Boll in his *Ancient Observations of Coloured Stars* in 1918 and Alfred Jeremias in his *Handbuch der Altorientalischen Geisteskultur* in 1929 is identical to the Babylonian asterism “MUL.UR.GU.LA” above. Ernst Weidner lists it as “ur-gu-[la]” in his *Fixsterne* in 1971.

Uri ni kareke:

This Kiribati asterism is stars surrounding Alpha (α) Aurigae (Capella) in the IAU constellation Auriga (Trussel and Groves 1978), which they called “Batere” (see above).

Urn:

This Latin asterism “Urna” is the IAU constellation Crater.

- Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) lists this as “Urnus”.
- Johann Bayer’s *Uranometria* (1603) lists “Urna”.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Urna”.

Ursa Major:

The stars of Ursa Major appear in 949 asterisms of the world’s sky cultures.

The IAU constellation Ursa Major (IAU abbreviation UMa) appears in Homer’s *Iliad and Odyssey* (8th century B.C.E.) and in Hesiod’s poem *Works and Days* (late 8th century B.C.E.) It was mentioned in Aratus’ poem *Phaenomena* (270 B.C.E.) both as a bear and as a wain. It was described in Hipparchus’ *Star Catalogue* (Gysembergh et al 2022). It became one of Ptolemy’s 48 original constellations in the 2nd century, which Ptolemy called “άρκτος μεγάλη” (“Arktos Megale”- “big bear”). Homer (8th century B.C.E.) gave it the names “Ἄρκτος” (“Árktos” or “bear”) and “Ἅμαξα” (“Ámaxa” or “cart”) in the *Iliad and the Odyssey*. Roman poet Sextus Propertius (55 – 15 B.C.E.) called Ursa Major and Ursa Minor “Geminae Ursae” (“twin bears”) while 1st century B.C.E. Roman poets Quintus Horatius Flaccus (Horace), 1st century B.C.E. Roman poet Publius Vergilius Maro (Vergil, 70 – 19 B.C.E.), and the Roman poet Publius

Ovidius Naso (Ovid, b. 43 B.C.E.) all called them “Gelidae Arcti” (“ice cold bears”). Variations include “Arctoi” and “Arctoe”. The Roman general Germanicus (15 B.C.E. – 19 C.E.) used the masculine terms “Ursus Major” and “Arctus” to describe it.

Its Latin name Ursa Major translates as “greater she-bear”: This shows up in the Belarussian asterism “Viadmedzitsa” (see She-Bear, above). An older Greek name “χελική” (“chelikí”) is “helical” or “turning”, which refers to its revolution around the pole star. in the 8th century B.C.E. Greek author Homer first refers to it as “the wain” which influenced people elsewhere to also use this image. It is one of the few constellations mentioned in the *Bible* (Job 9:9; 38:32). The Greeks came up with a myth that has Zeus throwing Callisto and her son into the sky, where they became bears that had their tails stretched by the force of the throw. English Mathematician Thomas Hood (1556 – 1620) , writing on the astrolabe in 1590, said “Imagine that Jupiter, fearing to come to night unto her teeth, layde holde on her tayle, and thereby drewe her up into the heaven; so that shee of herself being very weightie, and the distance from the earth to the heavens very great, there was a great likelihood that her taile must stretch”. It has been suggested that an early influence for this constellation may have been the Egyptian asterism Crocodile (see below) which of course does have a long tail.

The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) depicts this constellation as what looks more like a dog than a bear.

The Mainz Globe from the eastern end of the Roman empire (c. 150 – 220 C.E.) depicts this constellation as a hairy bear.

Ursa Major appears in the Leiden *Aratea* (816) as the dark silhouette of a bear (Katzenstein & Savage-Smith, 1988).

Ursa Major appears in the 8th century *Revised Aratus Latinus*:

- In several editions (Dresden DC 183, Paris BN 12957, Prague IX. C. 6) Ursa Major is facing to the left,
- In two editions (St Gall 250, St Gall 902) the bear’s tongue is hanging out,
- In the Cologne 83 II edition Ursa Major and Ursa Minor are facing in different directions.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Ursa Major as a long-tailed bear walking to our left.

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Ursa Major as a long-tailed bear walking to our left.

The mid 15th century Wein, Oesterr. National Bibl., manuscript Lat 5415, ff.168v-169r depicts Ursa Major as a long-tailed bear running to our left but does not label it. Ursa Minor is labeled.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscripts CLM 14583, ff.70v-71r and 71r-72v depict Ursa Major as a bear with a long tail. Neither chart is labelled as these charts seem to be intended to illustrate primarily the asterisms of the zodiac.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Ursa Major as a *short-tailed* bear walking to our left. It is not labelled.

The vault of the Old Sacristy of the Basilica di S. Lorenzo in Firenze, Italy (1442) depicts Ursa Major as a *short-tailed bear* walking to our right.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Ursa Major as a short-tailed bear walking in a counterclockwise direction around the north celestial pole.

Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) depicts Ursa Major as a long-tailed bear walking to our left.

The *Germanicus Aratea* (Siciliensis, c. 1469) depicts Ursa Major as a short-tailed bear.

The *Germanicus Aratea* with scholia Strozziana (c. 1475) depicts Ursa Major as a short-tailed bear.

De Astronomica ("the astronomy"), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This depicts Ursa Major as a bear with a long tail.

The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts "Ursa Major vel Arctur" as a long-tailed bear.

The early 16th century Real Academia de Historia, manuscript D-97, f.102v – 103r depicts Ursa Major as a long-tailed bear running to our right. It is not labelled.

The "Nuremburg Maps" *(Die Karte des Nördlichen Sternenhimmels* inv.-Nr. Hz 5576), a pair of celestial hemispheres made in 1503 by Conrad Heinfogel, depicts "Ursa Major" as a bear with a long tail walking to our left.

The *imagines coeli septentrionales cum duodecint imaginibus zodiaci* ("images of the northern sky with twelve images of the zodiac"), commonly known as the *Northern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius (Dekker & Lippincott, 1999) lists "Vrsa Major" and depicts it as a bear with a long tail walking to our left.

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts "Ursa Maior" as a long-tailed bear walking to our right.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts Ursa Major as a long-tailed bear running to our left.

The *Horoscopion generale* (1533) of Petrus Apianus (1495 – 1552) depicts Ursa Major as a long-tailed bear walking to our right.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts Ursa Major as a bear with a long tail walking to our left.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts "Ursa Major" as a long-tailed bear walking to our left and lists the alternate name "Plaustrum".

Dele Stelle Fisse (“Of the Fixed Stars”) by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this as “L’Orsa Maggiore”. The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as “Dipper” and “Ursa Major”.

The Northern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Ursa Major as a long-tailed bear walking to our left.

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts “Ursa Major” as a bear with a long tail walking to our left.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts “Le Grande Ourse” as a long-tailed bear walking to our right.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts “Ursa Maj” as a long-tailed bear walking to our left.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts “Ursa Major” as a long-tailed bear walking to our left.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) depicts “Ursa Major” as a long-tailed bear walking to our left.

Johann Bayer (1572 – 1625) depicted this in his *Uranometria* in 1603 as a bear with a long tail and lists the names “Cynosuris, Plaustriluca, Licaonia, Parrhasis, Maenalis, Erymathis, Nonacrina, Septentrio, Arctos Major, Maxima Hyginio, Magna Ouidio, Plaustrum seu Plostrum Maius, Germanis honvagen, Helice, Callisto, Megistor, Elix, Arcturus, Dubhelacbar, in tabulis Elkeid”.

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) as “Ursa Major” and depicted as a long-tailed bear walking to our left.

“Ursa Major” is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and depicted as a long-tailed bear walking to our right.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) depicts Ursa Major and Ursa Minor (labeled the “Arctoe”) as bears with short tails.

Giovanni Paolo Gallucci’s *Theatrum Mundi, et Temporis* (1614) depicts “Ursa Mayor LLamada Helize” (“Ursa Major called Helice”) as a long-tailed bear walking to our left. For “Helice” see “Helical” (above).

“Ursa Major” is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a long-tailed bear.

Gores for a celestial globe Bibliothèque Nationale de France, Département Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius labels this constellation “Ursa Maior”, “Helice”, and “Casto” and depicts it as a long-tailed bear walking to our left.

The huge *Gottorf Globe* (c1650) made for the Duke of Holstein, Frederick III, one of the world’s first planetariums, depicts Ursa Major as a long-tailed bear walking to our right.

Ursa Major is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661.

Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) labels this constellation "Ursa Maior" with the subtitle "Calisto" and depicts it as a bear with a long tail.

English uranographer John Seller's *A coelestiall planisphere* (1678) depicts "Ursa Major" as a bear with a long tail.

The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678 by English uranographer James Clerk depicts "Ursa Major" as a bear with a long tail.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts "Ursa Major" as a long-tailed bear walking to our right.

A celestial pocket globe created by British uranographer Herman Moll in 1719 depicts "Ursa Major" as a long-tailed bear walking to our left.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, depicts Ursa Major as a long-tailed bear.

Ursa Major is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729: It is depicted as a bear with a long tail.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts Ursa Major as a bear with a long tail walking to our right.

The *Atlas Coelestis* of German astronomer Johann Gabriel Doppelmayr (1742) depicts Ursa Major as a bear with a long tail walking to our right.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Ursa Major as a bear with a long tail.

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) depicts Ursa Major as a bear with a long tail.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) depicts "La Grande Ourse" as a bear with a long tail.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts "Ursa Mayor" as a long tailed bear walking to our left.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "La G. de Ourie" ("the Great Bear") as a bear with a long tail walking to our right. The 1778 edition is identical.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as "Grand Orsa" in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts "Ursa Major de Groote Beer" as a long-tailed bear.

William Herschel's *Catalogue of 500 New Nebulae, nebulous stars, planetary Nabulae, and Clusters of Stars; with Remarks on the Construction of the Heavens* (1802) lists the abbreviation "Ursae" for "Ursa Major" and "Ursae Min" for Ursa Minor.

American uranographer William Croswell (1760 – 1834) depicts "Ursa Majora vel Helice the Great Bear" on his *Mercator Map of the Starry Heavens* in 1810 as a bear with a long tail.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as "Grosse Baer". Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Der Grosse Bär" and depicts it as a long-tailed bear running to our right.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts "Ursa Major" as a long-tailed bear walking to our left.

Ursa Major is listed in Scottish uranographer Alexander Jamieson's Celestial Atlas and on his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822) which depict it as a bear with a long tail.

American uranographer Elijah Burritt's *The Constellations for each Month in the Year* (1835) depicts "Ursa Major the Greater Bear" as a long-tailed bear.

"Ursa Major" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and depicted as a long-tailed bear walking to our right.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depict "Ursa Major" as a long tailed bear walking to our left.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts "Ursa Major" as a bear with a long tail.

Ursa Major is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on Jamieson's *Celestial Atlas*. It is depicted as a bear with a long tail facing to our right.

"Ursa Major" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It is depicted as a long-tailed bear walking to our right.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this constellation both as "Ursa Major" in the text and the "Great Bear" on a chart.

English astronomer Richard A. Proctor (1837 -1888), a major advocate of shortening constellation names to make more room on star charts, recommended shortening the name of this constellation to "Ursa". "Ursa, The Bear" appears for this constellation in Proctor's *A New Star Atlas* (1887) as an official constellation "recognized in the catalogue of the British Association".

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as "Ursa Major, the Greater Bear".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Ursa Major" in his *Star Atlas* (1893) and describes it as "The Great Bear".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Ursa Major" and describes it as the "Greater Bear".

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists this constellation as "Ursa Major… the Great Bear".

American artist and illustrator Hans Augusto Reyersbach (H. A. Rey, 1898-1977), best known for his children's book *Curious George* (1941) redesigned the constellation lines for Ursa Major in his book *The Stars - A New Way to See Them* (1952), turning the "bear" around 180 degrees:

- The bear's "head" is formed by the stars Psi (ψ) Ursae Majoris, Chi (χ) Ursae Majoris, 3 Canum Venaticorum, 21 Canum Venaticorum, Eta (η) Ursae Majoris, Zeta (ζ) Ursae Majoris, Epsilon (ε) Ursae Majoris, and Delta (δ) Ursae Majoris,
- The bear's "back" runs from Delta (δ) Ursae Majoris to 23 Ursae Majoris where Rey describes a "rump" consisting of 23 Ursae Majoris, Omicron (ο) Ursae Majoris, to Iota (ι) Ursae Majoris,
- The "front paw" is Xi (ξ) and Nu (ν) Ursae Majoris, and
- The "back paw" is Mu (μ) and Lambda (λ) Ursae Majoris.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) redesign Ursa Major in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik*, in this manner:

- The "head" is a roughly triangular pattern formed by the stars 23, 24, Rho (ρ), Pi (π) 2 and Omicron (ο) Ursae Majoris,
- The "body" is a roughly rectangular pattern formed by the stars 23, Theta (θ), Psi (ψ), Chi (χ), Gamma (γ), Delta (δ), and Alpha (α) Ursae Majoris (Dubhe),
- A line of the four stars Delta (δ), Epsilon (ε), Zeta (ζ), and Eta (η) Ursae Majoris form the "tail",
- Two lines running out from Psi (ψ) Ursae Majoris form the "back legs":
    - One running to Lambda (λ) Ursae Majoris, and
    - One running to Mu (μ) Ursae Majoris,
- Two lines running out from Theta (θ) Ursae Majoris form the "front legs":
    - One running to Iota (ι) Ursae Majoris, and
    - One running to Kappa (κ) Ursae Majoris.

The Italians call this constellation "Orsa Maggiore", and the Germans "Grosse Bär".

The French call this constellation "Grande Ourse" ("big bear").

NOTE: Prior to the European navigators of the 15th and 16th centuries recording the southern skies they viewed, astronomers in the Classical world such as 1st century Roman poet Marcus Manilius believed that the sky around the southern celestial pole must have constellations resembling Ursa Major and Ursa Minor and Draco. The 15th century *Anglo Saxon Manual of Astronomy* mentions such possible duplicate constellations. English alchemist and translator Richard Eden (c.1520 -1576), quoting "Aloysius Cadamustus" (Alvise Cadamosto, a 15th century Venetian explorer and slave trader) mentions a "chariotte or wayne of the south".

Ursa Major Cluster:

The Facts of File Dictionary of Astronomy, 2nd edition, 1985, by Valerie Illingworth, ed., describes the "Ursa Major Cluster" as "an open cluster containing over 100 stars that are scattered over an area of sky more than 1000 minutes of arc in diameter." Made up of stars of the IAU constellations Auriga (Beta (β) Aurigae), Canis Major (Alpha (α) Canis Majoris (Sirius)), Corona Borealis (Gamma (γ) Coronae Borealis), Eridanus (Beta (β) Eridani (Cursa)), Leo (Zeta (ζ) Leonis), Ursa Major (Beta (β) Ursae Majoris (Merak), Gamma (γ), Delta (δ), Epsilon (ε), and Zeta (ζ) Ursae Majoris),

Ursa Minor:

Stars of Ursa Minor appear in 402 asterisms of the sky cultures of the world.

The IAU constellation Ursa Minor (IAU abbreviation UMi) was first mentioned in the works of Eudoxus (408 – 355 B.C.E.), who used the name "ArktoB Mikrά" (Little Bear). Aratus (315 – 240 B.C.E) called it "Κυνόσουρα" or "Kynósoura" (see Dog's Tail, above) in his poem *Phaenomena* (270 B.C.E.). It was described in Hipparchus' *Star Catalogue* (Gysembergh et al 2022). It became one of Ptolemy's 48 original constellations in the 2nd century, which he listed as "Μικρή ᾽Αρκτος" (see Small Bear, above) in his *Almagest*. The ancient Greeks called this the Phoenician Bear "Φοινίκη" ("Foiníki"), later latinized to "Ursa Phoenicia", influenced by the Phoenician navigators using it. The Phoenicians called it the "Wagon of Heaven" (see below).

The oldest known celestial globe, the Kugel Globe (2nd century B.C.E.) depicts this constellation as more of a dog than a bear. The Mainz Globe from the eastern end of the Roman empire (c. 150 – 220 C.E.) depicts a hairy bear.

Ursa Minor appears in the Leiden *Aratea* (816) as the dark silhouette of a bear (Katzenstein & Savage-Smith, 1988).

This constellation appears in the 8th century Revised Aratus Latinus:

- In several editions (Dresden DC 183, Paris BN 12957, Prague IX. C. 6) the bear is facing left,
- In the Cologne 83 II edition the bear is facing left but looking backwards,
- In the Paris BN n.a. 1614 edition the bear is facing right,
- In two editions (St Gall 250, St Gall 902) the bear's tongue is hanging out.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi's son depicts Ursa Minor as a long-tailed bear.

The Oxford Laud 644, Padua 27 and Venice VIII 22 manuscripts of the 11th century *De signis caeli ("of the signs of heaven*") depicts Ursa Minor crouched, front legs spread apart, roaring at something over its right shoulder.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Ursa Minor as a long-tailed bear walking to our right.

Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) depicts Ursa Minor as a long-tailed bear walking to our right and labels it "sūrat al-dubh al-asghar" ("picture of the smaller bear").

The Paris manuscript of al-Sufi's Book of Fixed Stars (Bibliothèque nationale de France, Ms. Arabe 5036), from Ulugh Beg's library (c 1430 – 1440) depicts Ursa Minor as a long-tailed bear.

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Ursa Minor as a long-tailed bear walking to our right.

The mid 15th century Wein, Oesterr. National Bibl., manuscript Lat 5415, ff.168v-169r depicts "Ursa Minor" as a long-tailed bear running to our left.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscripts CLM 14583, ff.70v-71r and 71r-72v depict Ursa Minor as a small bear with a long tail. Neither chart is labelled as these charts seem to be intended to illustrate primarily the asterisms of the zodiac. It is very poorly drawn and looks more like a lizard on both charts.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, does not depict Ursa Minor: The central rivet obscures it.

The vault of the Old Sacristy of the Basilica di S. Lorenzo in Firenze, Italy (1442) depicts Ursa Minor as a *short-tailed bear* walking to our left.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Ursa Minor as a short-tailed bear walking in a counterclockwise direction around the north celestial pole.

The *Germanicus Aratea* (Siciliensis, c. 1469) depicts Ursa Minor as a short-tailed bear.

The *Germanicus Aratea* with scholia Strozziana (c. 1475) depicts Ursa Minor as a short-tailed bear.

De Astronomica ("the astronomy"), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This depicts Ursa Minor as a bear with a long tail.

The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts "Ursa Minor aut Cinosura" as a small bear with a long tail.

The early 16th century Real Academia de Historia, manuscript D-97, f.102v – 103r depicts Ursa Minor as a long-tailed bear walking to our left. It is not labelled.

The "Nuremburg Maps" *(Die Karte des Nördlichen Sternenhimmels* inv.-Nr. Hz 5576), a pair of celestial hemispheres made in 1503 by Conrad Heinfogel, depicts "Ursa Minor" as a bear with a long tail walking to our left.

The *imagines coeli septentrionales cum duodecint imaginibus zodiaci* ("images of the northern sky with twelve images of the zodiac"), commonly known as the *Northern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius (Dekker & Lippincott, 1999) lists this as "Vrsa minor" and depicts it as a bear with a long tail walking to our left.

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts "Ursa Minor" as a long tailed bear walking to our left.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts Ursa Minor as a long-tailed bear walking to our left.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts Ursa Minor in the same manner as Dürer et al.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts "Ursa Minor" as a long-tailed bear walking to our left.

Dele Stelle Fisse ("Of the Fixed Stars") by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists "L'Orsa Minore". The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as "Cynosura" and "Ursa Minor".

The Northern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Ursa Minor as a long-tailed bear walking to our left.

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists this constellation as "Ursa Minor sive Cynosura" in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

The *Globus Coelestis* chart (1584) of Swiss-German artist Jost Amman (1539 – 1591) depicts "Ursa Minor" as a bear with a long tail walking to our left.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts this constellation as a small, long-tailed bear walking to our right. It is not labelled.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts "Ursa Mi" as a long-tailed bear walking to our left.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts "Ursa Minor" as a long tailed bear walking to our left.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) depicts Ursa Major and Ursa Minor (labeled the "Arctoe") as bears with short tails.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) depicts "Ursa Minor" and a long-tailed bear.

German astronomer Johann Bayer (1572 – 1625) depicted it as a bear with a long tail in his *Uranometria* in 1603 and listed the following names: Septentrio, Arctos Minor, Cynosura, Phaenice, Plostrum Seu Plostrum Minus, Eruccabah, and Ezra. I am not sure where this last name Ezra comes from: A reference to astronomer Abraham Ibn Ezra?

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts "Ursa Minor" as a long tailed bear walking to our left.

"Ursa Minor" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and is depicted as a long-tailed bear.

Giovanni Paolo Gallucci's *Theatrum Mundi, et Temporis* (1614) depicts "Ursa Menor" as a long-tailed bear walking to our left.

"Ursa Minor" is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a long-tailed bear.

Gores for a celestial globe Bibliothèque Nationale de France, Département Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts "Ursa Minor" as a long-tailed bear walking to our left.

The huge *Gottorf Globe* (c1650) made for the Duke of Holstein, Frederick III, one of the world's first planetariums, depicts Ursa Minor as a long-tailed bear walking to our right.

Ursa Minor is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661.

Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) depicts Ursa Minor as a bear with a long tail.

The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678 by English uranographer James Clerk depicts "Ursa Minor" as a bear with a long tail.

English uranographer John Seller's *A coelestiall planisphere* (1678) depicts "Ursa Minor" as a bear with a long tail.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts "Ursa Minor" as a long-tailed bear walking to our left.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli depicts this as a long-tailed bear walking to our left. The labels are blurred and unintelligible.

A celestial pocket globe created by British uranographer Herman Moll in 1719 depicts "Ursa Mi" as a long tailed bear walking to our left.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, depicts Ursa Minor as a long-tailed bear.

Ursa Minor is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729: it is depicted as a bear with a long tail.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts Ursa Minor as a bear with a long tail walking to our right.

The *Atlas Coelestis* of German astronomer Johann Gabriel Doppelmayr (1742) depicts Ursa Minor as a bear with a long tail walking to our right.

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) depicts Ursa Minor as a bear with a long tail.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Ursa Minor as a bear with a long tail.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) depicts "La Petite Ourse" as a bear with a long tail.

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts “Ursa Mi” as a long tailed bear walking to our left.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts “La Petite Ourse” as a bear with a long tail walking to our right.

Johann Elert Bode‘s *Vorstellung Der Gestirne* (1782) lists this constellation as “der Kleine Bär” and depicts it as a long-tailed bear walking to our right.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as “Orsa Minor” in his *Della Specola Astronomica De’ Regj Studj Di Palermo* (1792).

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts “Ursa Minor” as a long-tailed bear.

A celestial pocket globe created by English uranographer Dudley Adams circa 1795 depicts “Ursa Minor” as a long tailed bear walking to our left.

William Herschel’s *Catalogue of 500 New Nebulae, nebulous stars, planetary Nabulae, and Clusters of Stars; with Remarks on the Construction of the Heavens* (1802) lists the abbreviation “Ursae” for “Ursa Major” and “Ursae Min” for Ursa Minor.

Ursa Minor is listed in Scottish uranographer Alexander Jamieson’s Celestial Atlas in 1822: it is depicted as a long-tailed bear. Jameison’s *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822) depicts Ursa Minor as a bear with a long tail but it is not labelled.

American uranographer Elijah Burritt’s *The Constellations for each Month in the Year* (1835) depicts “Ursa Minor the Lesser Bear” as a long-tailed bear.

“Ursa Minor” is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) as a long-tailed bear walking to our right.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts “Ursa Minor” as a bear with a long tail: It is partially hidden behind the cross bars of this instrument.

Ursa Minor is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852: The author is unknown, but it is based on Jamieson’s *Celestial Atlas*.

German astronomer Johann Elert Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation with the abbreviated label “Kl Baer”.

“Ursa Minor” is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It is depicted as a long-tailed bear walking to our right.

English astronomer Richard A. Proctor (1837 – 1888), a major advocate of shortening constellation names to make more room on star charts, recommended changing the name of this constellation to “Minor”. However, Proctor’s *A New Star Atlas* (1887) lists “Ursa Minor” as an official constellation “recognized in the catalogue of the British Association”.

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as "Ursa Minor, the Lesser Bear".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Ursa Minor" in his *Star Atlas* (1893) and describes it as "The Little Bear".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Ursa Minor" and describes it as the "Lesser Bear".

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists the name "Ursa Minor" for this constellation.

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Ursa Minor".

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Ursa Minor in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* simply as the Little Dipper asterism.

The Italians call it "Orsa Minore" and the French "Petite Ourse".

Ursa Minor includes two of the 90 brightest stars in the sky. One possible influence for this constellation is the ancient Egyptian constellation Hippopotamus (see below).

Note: In Babylonian times the star Beta (β) Ursae Minoris (Kochab) was actually closer to the celestial pole than Alpha (α) Ursae Minoris (Polaris), so these ancient navigators used the entire constellation to indicate North. It was not until Medieval times that it became convenient to use Polaris as the North Star, even though it is still not exactly at celestial North. The name Polaris (originally Stella Polaris) is relatively modern.

NOTE: The Chinese have a "little dipper" xing guan in the southern IAU constellation Chamaeleon (see Little Dipper below).

Uruk:

This telescopic Iraqi star is HIP 96078 (HD 231701) in the IAU constellation Sagitta (magnitude 8.97). This name was given to this star in the IAU NameExoWorlds campaign. Uruk was an ancient city of the Sumer and Babylonian civilizations. It has an exoplanet named Babylonia.

Ururangi:

This Māori star, "Ururangi", is in their asterism "Matariki" (See Chief's Eyes, above) which is the Pleiades cluster in the IAU constellation Taurus (Harris et al 2013).

Usa:

This Vedic star "Uṣā" is Zeta (ζ) Orionis (Alnitak) in the belt of Orion in the IAU constellation Orion.

Ushas:

This Vedic asterism "Usaṣ" or "Ushas" is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus as listed in the Rig-Veda (Ivanković 2021). Ushas, whose name means "dawn", is the daughter of the God Prajapati. In one version of the story Ushas transforms herself into an antelope to escape the attentions of her father Prajapati (see below) who transforms himself into a male antelope to pursue her (Vahia 2014). There is another version of this story where they turn themselves into Deer (see Deer, below).

Usher to the Court:

This Chinese xing guan “Yèzhě” (谒者) is the star 16 Virginis in the IAU constellation Virgo. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Yezhe” is the star 16 Virginis in the IAU constellation Virgo.

Usthȧ:

This Egyptian decan “Usthȧ” was in the IAU constellation Virgo. In later Hellenistic texts it was named “ⲁϕⲟⲥⲟ” (“Aposot”). In the Testament of Solomon, it became “Modobel” or “Buldumêch”, Aristobulus of Paneas (2nd century B.C.E.) called it “Baroche”, in Greek Hermeticism it became “Amphatham”, in Latin Hermeticism “Michulais”, 4th century Roman astrologer Julius Firmicus Maternus called it “Afut” or “Asuth”, Cosmas of Maiuma (d. 760) called it “Hestia”, French scholar Joseph Justus Scaliger (1540 - 1609) called it “Aphut” and German Jesuit astronomer Athanasius Kircher (1602 – 1680) called it “ⲕⲣⲟⲛⲟⲥ” (“Cronus”). It has been depicted as a man wrapped from chest to feet with a hat on his head and a scepter in both hands.

Utdjungon’s Cave:

This Wardaman asterism is the Coal Sack Nebula in the IAU constellation Crux (see Coal Sack Nebula, above), which they see as a cave where the monster Utdjungon lives. Utdjungon punishes those who break traditional law.

V:

There are thirty-five **telescopic** V-shaped asterisms:

- One is Messier 73, discovered by Charles Messier in 1780 in the IAU constellation Aquarius. Messier described it as a cluster of four stars with some nebulosity: It is these four stars that form the “V”. John Herschel lists it in his General Catalogue of 1864 as GC 4617. M 73 was originally thought to be an open cluster but determined to be an asterism in 2002. Size 2.8’ X 2.8’.
- One is the Coma Star Cluster in the IAU constellation Coma Berenices (Melotte 111).
- One is Sánta 64, listed in 2007 by Hungarian astronomer Sánta Gábor, which is described by Gábor as a “V-shape asterism [of] 6 stars, 8.5 – 11 [magnitude]” in the IAU constellation Puppis.
- One is Sánta 4, listed in 2007 by Hungarian astronomer Sánta Gábor, which is described by Gábor as a “63 [Geminorum] group V-shaped binocular asterism of 5 stars, brightest 63 Geminorum” in the IAU constellation Gemini.
- One is Sánta 169, listed in 2015 by Hungarian astronomer Sánta Gábor, which is described by Gábor as a “V-shaped asterism of 9.5 – 12 [magnitude] stars” in the IAU constellation Cygnus.
- One is Vastagh 1, listed in 2009 by Hungarian astronomer László Vastagh, which is in the IAU constellation Monoceros. Vastagh describes is as “in the immediate vicinity of NGC 2324, an asterism consisting of 8 stars outward curving legs and forming the letter “V” can be seen… Its brightest star is 9.1 [magnitude], the total apparent brightness of the system is 7.5 [magnitude]. It stands out from its surroundings and has a diameter of 8’…It is an ideal target for spotters with low magnification binoculars”.
- One is Vastagh 23, listed in 2009 by Hungarian astronomer László Vastagh, which is in the IAU constellation Cepheus near NGC 7129. Its apparent diameter is 14’. Vastagh describes it as “Five

loosely spaced members with a light order of 9-10 form an open letter V. Near the top or from that to D, further faint members form a rectangular shape thickening. These stars are difficult to distinguish from each other…It consists of 10 stars…Its brightest member is the leader of the flying wild goose formation, the 8.9 mag SAO19559."

- One is Corder 4736 in the IAU constellation Cepheus and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 60' X 45'. This is 5 stars of magnitude 8 to 9, including HIP 112373 and 112114.
- One is in the IAU constellation Taurus and is Corder 671 on the observing list of American astronomer Jeffrey Corder. Size 90' X 50'. This is six stars between 5th and 8th magnitude including 66 Tauri, HIP 20447, the double star HIP 20457, and HIP 20458.
- One is in the IAU constellation Auriga and is Corder 878 on the observing list of American astronomer Jeffrey Corder. Size 5'. This is six stars of 9th – 10th magnitude with the "V" opening to the NNE.
- One is in the IAU constellation Orion and is Corder 967 on the observing list of American astronomer Jeffrey Corder. Size 220' X 180'. This is the double star 59 Orionis, the stars HIP 28232, 60 Orionis, and HIP 27939, and the double star 56 Orionis.
- One is in the IAU constellation Gemini and is Corder 1415 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is stars of 9th – 10th magnitude including HIP 37783.
- One is in the IAU constellation Leo Minor and is Corder 2031 on the observing list of American astronomer Jeffrey Corder. Size 50'. This is nine 9th – 10th magnitude stars and one 7th magnitude star including HIP 51616, 51460, and 51457.
- One is in the IAU constellation Vela and is Corder 1705 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is nine 7th – 11th magnitude stars including HIP 43484.
- One is in the IAU constellation Vela and is Corder 1764 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is six 8th – 9th magnitude stars.
- One is in the IAU constellation Vela and is Corder 1786 on the observing list of American astronomer Jeffrey Corder. Size 120' X 60'. This includes HIP 45544, 45439, 45448, 45623, 45814, and 46075, and the double star HIP 45386A.
- One is in the IAU constellation Vela and is Corder 1847 on the observing list of American astronomer Jeffrey Corder. Size 210' X 120'. This is a large asterism of 5th – 10th magnitude stars including HIP 47267, 47082, 46996, 46881, 46630, 46615, 46194, and the double stars HIP 47202, 46319, and 46535.
- One is in the IAU constellation Draco and is Corder 3177 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is six 6th – 8th magnitude stars including HIP 83305, 83160, and 83168.
- One is in the IAU constellation Hercules and is Corder 3235 on the observing list of American astronomer Jeffrey Corder. Size 55'. This is six 7th – 9th magnitude stars including HIP 84631, 84623, and 84488. Corder describes this as a "'U' or 'V'".
- One is in the IAU constellation Sagittarius and is Corder 3440 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is seven 8th – 9th magnitude stars.
- One is in the IAU constellation Sagittarius and is Corder 3958 on the observing list of American astronomer Jeffrey Corder. Size 45'. This is seven 6th – 10th magnitude stars including HIP 97401, 97405, and the double star HIP 97515.

- One is in the IAU constellation Cygnus and is Corder 4055 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is six 9^{th} – 10^{th} magnitude stars including HIP 99052.
- One is in the IAU constellation Cygnus and is Corder 4118 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is twelve 8^{th} – 10^{th} magnitude stars including HIP 100218.
- One is in the IAU constellation Aquarius and is Corder 4228 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is five 8^{th} – 9^{th} magnitude stars including HIP 102055.
- One is in the IAU constellation Vulpecula and is Corder 4244 on the observing list of American astronomer Jeffrey Corder. Size 45'. This is fifteen 7^{th} – 10^{th} magnitude stars including HIP 102640 and the double star HIP 102650A.
- One is in the IAU constellation Equuleus and is Corder 4288 on the observing list of American astronomer Jeffrey Corder. Size 65'. This is twelve 6^{th} – 9^{th} magnitude stars including HIP 103686 and the double stars HIP 103483 and 103652A.
- One is in the IAU constellation Grus and is Corder 4544 on the observing list of American astronomer Jeffrey Corder. Size 40'. This is five 7^{th} – 9^{th} magnitude stars including HIP 108199 and 108267.
- One is in the IAU constellation Cepheus and is Corder 4986 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is four 6^{th} – 8^{th} magnitude stars including HIP 117681 and 117973.
- One is in the IAU constellation Ophiuchus and was brought to our attention by Halifax Centre RASC member David Chapman: We don't know who gave it this name at present. This is eight 10^{th} – 13^{th} magnitude stars.
- One is NGC 7479 (Caldwell 44), a barred spiral galaxy in the IAU constellation Pegasus. It was discovered by English astronomer William Herschel in 1784 who listed it as "I 55". It is GC 4892 in the *General Catalogue* of 1864. It is also known as the Superman Galaxy (see above), the Lawn Sprinkler (see above) and the Propeller (see above). American astronomer and meteorologist Todd Gross (1999) wrote "I was able to make out one of the two spiral arms shooting off the (west) tip of the main bar. It was unusual that it came out at an acute angle, to the north, making a 'V' with the bar".
- One is the open cluster NGC 3228 in the IAU constellation Carina. It was discovered by French astronomer Nicolas Louis de Lacaille in 1751-2 who listed it as "II 7" in his catalogue. It is GC 2090 in the *General Catalogue* of 1864. It is also known as the Queen's Cache (see above) and the Little Flower Cluster (see above). South African astronomer Auke Slotegraaf (1998) describes it as a "knot of stars… mainly in an east-pointing V configuration". Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) lists this without a name.
- One is the open cluster Messier 11 (NGC 6705) in the IAU constellation Scutum. It was discovered by German astronomer Gottfried Kirch in 1681. It is listed in John Herschel's *General Catalogue* of 1864 as GC 4437. The 14^{th} edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) describes it as "fan shaped". American astronomer Phil Harrington describes it as a "blunt V" as does American astronomer Steve Coe. It is also known as the Wild Duck Cluster (see below), the July Salt and Pepper Cluster, the Scutum Salt and Pepper Cluster (see Salt and Pepper, below), the Cluster of the Shield of Sobieski (see below), and the Arrowhead (see above).
- One is the Hyades cluster (Caldwell 41, Collinder 50, Melotte 25, see above) in the IAU constellation Taurus. This is an ancient Roman asterism.

- One is Raymond 18 in the IAU constellation Aquila. René Merting describes it on the Faint Fuzzies website: “Up to 45x, southwest of a medium-bright star, about 10 relatively equally faint stars are visible, forming a V in groups of two or three - the brightest stars are on the southwest flank - at 103x, some fainter stars are added within the V - the star formation is conspicuous in the surroundings.”
- One is made up of stars of the IAU constellation Cygnus. It was posted on *Cloudy Nights* by Spanish astronomer “Takuan” in July 2024: 60 Cygni, HIP 103949, 63 Cygni, 59 Cygni, and HIP 103312.
- One is made up of stars of the IAU constellation Cygnus. It was posted on *Cloudy Nights* by Spanish astronomer “Takuan” in July 2024: HIP 102585, 55 Cygni, HIP 102827, HIP 102530, HIP 102430, and HIP 102306.
- One is made up of stars of the IAU constellation Cygnus. It was posted on *Cloudy Nights* by Spanish astronomer “Takuan” in July 2024: 56 Cygni, 57 Cygni, HIP 103144, HIP 103322, HIP 103519, HIP 103371 and HIP 103094.
- One is made up of stars of the IAU constellation Cygnus. It was posted on *Cloudy Nights* by Spanish astronomer “Takuan” in July 2024: HIP 99813, HD 192819, HIP 99968, HIP 100069A, and HD 193633.
- One is made up of stars of the IAU constellation Perseus. It is Dezsi 6 on the list of Hungarian astronomer Attila Dezsi. This includes the stars HD 236967, Gaia DR3 457772187240678912, and HIP 11782.

Vacuum Cleaner:

There are two **telescopic** “vacuum cleaner” asterisms:

- One is Messier 109 (NGC 3992) which is a barred spiral galaxy in the IAU constellation Ursa Major. It was discovered by French astronomer Pierre Méchain in 1781. English astronomer William Herschel listed it as “IV 61”. It is GC 2635 in the *General Catalogue* of 1864. It is also known as the “Well Formed of Ursa Major” (see below).
- One is in the IAU constellation Hydra and is listed by American astronomer John A. Chiravalle. Jeffrey Corder lists it as Corder 2070. Size 65’ X 50’. The “handle” of the vacuum starts at HIP 53022 and runs through HIP 52990 to 52804. The “vacuum” is HIP 52804, 52800, and 52693.

Vagabond:

This Hawaiian star “Paikauhale” is Tau (τ) Scorpii in the IAU constellation Scorpius. The IAU approved the name Paikauhale for the star Tau (τ) Scorpii A in 2018.

Vague One of Triangulum:

This **telescopic** asterism “Ásaphes Triánguli” is the barred spiral galaxy NGC 784 in the IAU constellation Triangulum. It was discovered by Prussian astronomer Heinrich d’Arrest and became GC 5207 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as they describe it as a “rather inconspicuous object”.

Vahik:

This Zoroastrian asterism is the IAU constellation Aquarius as listed in R. H. Allen's *Star Names* in 1899. Allen describes it as being in the "Bundehesh", which is the *Bundahishn*, a collection of cosmogony and cosmology in the Zoroastrian *Book Pahlavi*. Later in his book Allen lists "Vahik" as a Persian name for Capricornus.

Väinämöinen's Belt:

This Finnish asterism "Väinämöisen vyö" is the belt of Orion, named after their mythical hero Väinämöinen, a principal character in Carl Axel Gottlund's classic *The Kalevala*.

Väinämöinen's Scythe:

This Finnish asterism "Väinämöisen Viikate" is the belt and sword of Orion, named after their mythical hero Väinämöinen, a principal character in Carl Axel Gottlund's classic *The Kalevala*.

Väinämöinen's Shoes:

This Finnish asterism "Väinämöisen virsut" is Pleiades cluster in the IAU constellation Taurus, named after their mythical hero Väinämöinen, a principal character in Carl Axel Gottlund's classic *The Kalevala*.

Väinö's Belt:

This Finnish asterism "Väinön vyö" is the Belt of Orion asterism in the IAU constellation Orion.

Väinö's Scythe:

This Finnish asterism "Väinön viikate" is the Belt of Orion asterism in the IAU constellation Orion.

Valentine Nebula:

This **telescopic** asterism is the nebula and open cluster IC 1805 (SH 2-190, LBN 654, Mel 15, Ced 7) in the IAU constellation Cassiopeia. It was first recorded by American astronomer Edward Emerson Barnard (1857 – 1923). This is also known as the Heart Nebula (see above) and the Running Man (see above).

Valentine Rose Nebula:

This **telescopic** asterism is the planetary nebula SH 2-174 (LBN 598, PK 120+18.1, PN G120.3+18.3) in the IAU constellation Cepheus. American astronomer Stewart Sharpless discovered it in 1959.

Van Biesbroeck's Star:

This **telescopic** red dwarf star is VB 10 in the IAU constellation Aquila (magnitude 17.3). It was discovered by Belgian American astronomer George Van Biesbroeck in 1944: At that time, it was the smallest and faintest star known.

Van Maanen's Star:

This **telescopic** star, Van Maanen 2, is HIP 3829 in the IAU constellation Pisces (magnitude 12.38). This is the closest known solitary white dwarf to Earth. It was discovered in 1917 by Dutch-American astronomer Adriaan van Maanen. This was the second white dwarf ever discovered.

Vanishing Galaxy:

This **telescopic** asterism is NGC 3628, a spiral galaxy with a prominent dust lane in the IAU constellation Leo. This was discovered by English astronomer William Herschel in 1784 who listed it as "V 8" in his

catalogue. It is GC 2378 in the *General Catalogue* of 1864. It is also known as Sarah's Galaxy (see above), the Hamburger Galaxy (see above), and the King Hamlet's Ghost (see above).

Vānrājā:

This Vedic star "Vānrājā" or "Vanraja" is Beta (β) Orionis (Rigel) in the IAU constellation Orion.

Varak:

This Zoroastrian asterism is the IAU constellation Aquarius as listed in R. H. Allen's *Star Names* in 1899. Allen describes it as being in the "Parsi Bundehesh", which is the *Bundahishn*, a collection of cosmogony and cosmology in the Zoroastrian *Book Pahlavi*.

Vârdice:

This Chakavian asterism is the IAU constellation Gemini.

Variabilis Coronae:

This eruptive variable star is R Coronae Borealis (HIP 77442, HD 141527) in the IAU constellation Corona Borealis (magnitude 5.71). It was given this name in 1797 by English astronomer Edward Pigott and antiquarian Henry Charles Englefield.

Variable of Lacerta:

This **telescopic** asterism "Poécile Lacértae" is the blazar LB Lac (QSO 220+420) in the IAU constellation Lacerta. It was discovered by Cuno Hoffmeister in 1929 but originally thought to be a variable star. John Schmitt identified it as a radio source in 1968. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Varsayanti:

This Vedic star from the *Taittiriya Brahmana* is 28 Tauri (Pleione) in the IAU constellation Taurus (Leitz 2019). It is part of their asterism Krttika (see Cutters, above).

Vase of Virgo:

This **telescopic** asterism "Alabáster Vírginis" is the spiral galaxy NGC 4527 in the IAU constellation Virgo. William Herschel listed this as "II 37". John Herschel listed this as h 1330 and later as GC 3076 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the general appearance of this galaxy… puts in mind an alabaster, a Greek vase for body oil or perfumes".

Vashishṭha:

This Vedic star "Vashishṭha", "Vaśisṭha" "Vasishtha", "Vasistha", "Vaśisṭha" is Zeta (ζ) Ursae Majoris in the IAU constellation Ursa Major (Boutet 2014, Bhagwath 2019). It was listed in R. H. Allen's *Star Names* in 1899. This is an aspect of Brahma, whose sons are the other stars in the Big Dipper asterism (see Seven Sages, below).

Vassal of Northern Dipper:

See "Assistant of Northern Dipper" above.

Vast Amount:

This Kaykavian asterism “Vóleki’ is the IAU constellation Lyra.

This Chakavian asterism “Volÿtje” is the IAU constellation Lyra.

Vast Four Legged:

This Latin asterism “Quadripes Vasta” (“Vast Four Legged”) is the IAU constellation Lupus as listed by Roman statesman Marcus Tullius Cicero (106 – 43 B.C.E.).

Vector of Arion:

This Latin asterism “Vector Arionis” is the IAU constellation Delphinus and relates to the rescue of Arion by dolphins on his voyage to Corinth. Johann Bayer’s *Uranometria* (1603) lists “Vector Arionis” for this constellation. The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Vector Arionis” as an alternate name for Delphinus. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists this name.

Vedurfolnir:

This Norse star “Vedurfolnir” or “Veðrfölnir” (Old Norse “storm pale," "wind bleached", or "wind-witherer") is Alpha (α) Aquilae (Altair) in the IAU constellation Aquila and was created by Canadian Bjorn Jónsson (1920 – 1995) who was trying to reconstruct traditional Scandinavian skies (Kuperjanov 2006). Veðrfölnir is a hawk sitting between the eyes of an unnamed eagle that is perched on top of the world tree Yggdrasil. Jónsson depicts this as a hawk sitting on the head of this eagle, which is represented by Aquila.

Vega:

See Alighting Vulture, above.

Veil:

This Arabic star “ʾizār” (إزار), later latinized to “Izar”, is Epsilon (ε) Boötis in the IAU constellation Boötes. In 2016 the IAU Working Group on Star Names approved the name Izar for Epsilon (ε) Boötis A.

Vehement of Antlia:

This **telescopic** asterism “Saévus Ántliae” is the spiral galaxy IC 2522 in the IAU constellation Antlia. It was discovered by DeLisle Stewart in 1900. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “the name is appropriate for this rather disordered vehemently looking galaxy”.

Veil Nebula:

There are two **telescopic** “Veil” asterisms:

- One is SH 2-103 (NGC 6960, 6992, 6995) is a supernova remnant also known as the Cygnus Loop, which contains the Eastern Veil Nebula, the Western Veil Nebula, Pickering’s Triangle, and several other nebulae in the IAU constellation Cygnus. *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this “Veil Nebula”.

- One is SH 2-91, a supernova remnant in the IAU constellation Cygnus roughly between ϕ Cygni and 91 Cygni. It is often referred to as the "other Veil" and is much dimmer than SH 2-103.

Veil of Veronica:

This Czech asterism "Sudarium Veronicae" or "Sudarium of Veronica" was created by Czech astronomer, optician, and friar Antoine Marie Schyrle de Rheita in 1643. It is a rectangle of stars with the corners being Rho (ρ) and Omicron (ο) Leonis, Beta (β) Sextantis, and Iota (ι) Hydrae. De Rehita writes "Sudarium Veronicae sive faciem Domini maxima similitudine in astris expressum" ("The shroud of Veronica, or the face of the Lord, expressed in the greatest similitude in the stars"). English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists this "napkin of S. Veronica". Compare to Face of the Lord, above.

Veil of Virgo:

This **telescopic** asterism "Vélans Vírginis" is the elliptical galaxy NGC 5846 in the IAU constellation Virgo. It was discovered in 1786 by William Herschel who listed it as "I 128". It became GC 4045 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the outer envelope of this elliptical galaxy is veiling another elliptical galaxy, NGC 5846A".

Veiled of Vela:

This **telescopic** asterism "Velátus Velórum" is the barred spiral galaxy NGC 3261 in the IAU constellation Vela. It was discovered in 1836 by John Herschel who listed it as h 3258 and later as GC 2119 in his *General Catalogue* of 1864 This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They call it this because it is "seen behind a veil of foreground stars."

Veins of the Heart:

This Arabic asterism is the stars Sigma (σ) and Tau (τ) Scorpii in the IAU constellation Scorpius and is part of their asterism the "Scorpion" (see above). It is called this because theses stars are either side of Alpha (α) Scorpii (Antares) which the Arabs called the Heart of the Scorpion (see above).

Vela:

Vela's brightest stars are 2nd magnitude Gamma (γ) Velorum (Regor) which is the 30th brightest star in the sky and Delta (δ) Velorum (Alsephina) which is the 45th brightest star in the sky and its stars appear in 138 asterisms in this handbook.

The IAU constellation Vela (IAU abbreviation Vel) was once part of the larger and older constellation Argo Navis (see Argo's Ship, above). As this was such a large and unwieldy group of stars, in 1763 French astronomer Abbé Nicolas Louis de Lacaille (1713 – 1762) divided it into three constellations now recognized by the IAU: Carina (the hull or keel), Puppis (the poop deck), and Vela (the sails). NOTE: Lacaille did not rename the stars, keeping the Greek letters of the Bayer star classifications for Argo Navis, so Carina has stars in the first part of the Greek alphabet, Vela has the middle letters, and Puppis has the end of the alphabet.

"Vela" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875): He indicates the borders of this constellation on the chart but offers no illustration of it. NOTE: On another chart in this atlas Argelander depicts "Argo".

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Vela, The Sails" as an official constellation "recognized in the catalogue of the British Association".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Vela" and describes it as the "Sails (of Ship Argo)".

Vela is depicted on standard IAU charts as the oval of stars Gamma (γ), Omicron (ο), Delta (δ), Kappa (κ), Mu (μ), p, q, Psi (ψ), and Lamba (λ) Velorum.

Veletÿćі:

This Chakavian asterism is the IAU constellation Aquila.

Velisazar:

This Belarussian asterism is the Pleiades cluster in the IAU constellation Taurus (Avilin 2009). It relates to the ancient Slavic God Veles, the God of cattle and ruler of the underworld. It is believed to have originated in the Russian word "Vlasezhelische" ("kingdom of Veles"). It appears elsewhere in eastern Europe as "Volosozhary".

Velitoa Hahake:

This Tongan star is Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion.

Velitoa Hififo:

This Tongan star is Beta (β) Orionis (Rigel) in the IAU constellation Orion.

Vena:

This Polynesian (Cook Islands) star is Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor as listed by R. H. Allen in his *Star Names* in 1899. Allen describes it as "their goddess". Allen lists this as the "Hervey Islands" which is the former name given to the southern part of the Cook Islands by Captain James Cook in the 18th century.

Venant:

This Persian star "Venant" ("watcher of the north") is Alpha (α) Leonis (Regulus) in the IAU constellation Leo and is part of their asterism Four Guardians of Heaven (see above). Compare this to the Zoroastrian star "Wanand" (see General of the West, above). R. H. Allen translates this as "Watcher of the North" in his *Star Names* in 1899.

Venerable Star King:

"Sonjō-Ō"(尊星王) meaning "Venerable Star King", also known as "Sonshō-Ō" or "Sonsei-Ō" is an alternate name for the Japanese asterism Myōken (see above).

Ventral:

This Latin star "Ventrale" ("ventral") is Beta (β) Andromedae (Mirach) in the IAU constellation Andromeda. Compare this to Waist Cloth, below.

Venice:

This asterism "Venise" was created from stars of the IAU constellation Hydra by German astronomer Erhard Weigel (1625 – 99) who produced his *Astrocopium Orbi Europaeo Sacrum* chart in 1661, 1681

and 1688 in which he tried to replace existing constellations a new system based upon the heraldry of the nation states and principalities of seventeenth century Europe, as well as of its principal hierarchies and social classes. It represents Venice and is depicted as a book being read by a lion.

Venus of the Northern Sky:

This Quechua star "Pachapacariq Ch'aska" is Alpha (α) Aquilae (Altair) in the IAU constellation Aquila (Urton 1981).

Venus' Mirror:

This Western asterism is in the IAU constellation Orion. The "handle" of this square "mirror" is the "sword" of Orion, with Orion's "belt" forming one top edge and a line from Delta (δ) Orionis (Mintaka) to Eta (η) Orionis the other top edge.

Venus and Cupid:

This asterism is the IAU constellation Gemini, which John Hill lists as an asterism of the "old astronomers" in his *Urania* in 1754. Venus is a Roman Goddess of love (cognate with the Greek Aphrodite) and Cupid is a Roman God of desire (cognate with the Greek Eros) that is Aphrodite's son.

This Latin asterism "Venus et Cupido", "Venus Syria cum Cupidine" ("Venus Syria with Cupid"), "Venus cum Adone" ("Venus with Adone"), and "Veneris Mater" is the IAU constellation Pisces.

- Johann Bayer's *Uranometria* (1603) lists "Veneris Mater" and "Venus and Cupido".
- "Venus et Cupido", "Venus Syria cum Cupidine", "Venus cum Adone", and "Veneris Mater" are all listed in R. H. Allen's *Star Names* in 1899. Allen explains that the Greeks "confounded Ἀφροδίτη [Afrodíti] (Venus) with… Astarte" and this led to a myth describing Venus and "her son Ἔρως [Éros] (Cupid)", turning themselves into fishes in the Euphrates to escape the monster Typhon.

Verdandi:

This Norse star "Verdandi" or "Verðandi" is Beta (β) Librae (Zubeneschamali) in the IAU constellation Libra and was created by Canadian Bjorn Jónsson (1920 – 1995) who was trying to reconstruct traditional Scandinavian skies (Kuperjanov 2006). Verðandi is a Norse Goddess of Fate and one of the three Norns encountered during The Word of Fate.

Veritate:

See Where There is Truth, below.

Verrucose:

This asterism "Vereux" is the IAU constellation Aries. This name is listed in Johann Bayer's *Uranometria* (1603).

Vertebrae in al Jauzah's Back:

This Arabic asterism "Faḳār al Jauzah" is the belt of Orion in the IAU constellation Orion as listed in R. H. Allen's *Star Names* in 1899.

Very Beautiful of Dorado:

This **telescopic** asterism “Bellíssimus Dorádus” is the intermediate spiral galaxy NGC 1566 in the IAU constellation Dorado. It was discovered by Scottish astronomer James Dunlop in 1826. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). It is also known as the “Spanish Dancer” (see above).

Very Elegant of Virgo:

This **telescopic** asterism “Elegantíssimus Vírginis” is the spiral galaxy NGC 4567 in the IAU constellation Virgo which is colliding with NGC 4568. These were discovered by English astronomer William Herschel in 1784 who listed them as “IV 8” and “IV 9”. His son John Herschel listed them as “1358” and “1359” in his catalogue. They are GC 3108 and GC 3109 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “H. L. d’Arrest… called this pair ‘elegantissimum et permirum phaenomenon'. (Les Etoiles, 1882, p.377)”. They are also known as the Butterfly Galaxies (see above), the Fish and Chips Galaxies (see above), and the “Siamese Twins” (see above).

Very Flat of Virgo:

This **telescopic** asterism “Planíssima Vírginis” is the edge-on elliptical galaxy NGC 4623 in the IAU constellation Virgo. It was discovered in 1784 by William Herschel who listed it as “II 149”. It became GC 3157 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Very Good:

This Vedic nakshatra (lunar mansion) “Swati”, “Svati”, “Svāti”, or “Swāti” (Devanagari स्वाति), “Svāti”, “Svāti̍” or “Su-Ati” (“great goer” or “very good”) is the star Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes. Ivanković (2021) lists it as “Svati’, translates this as “self-going” or “independent”, and relates it to Vayu, the God of winds and breath, who is the wind that turns the stars. Ivanković also gives the alternate name “Nistyā” (see Alien, above). R. H. Allen lists it as “Svati” in his *Star Names* in 1899. It appears as “Svati” in the *Atharveda* and as “Swati” on the nakshatra lists of the maharshis Varahamihir and Parasara (Leitz 2019). W. Brennand lists this as “Swati” in his *Hindu Astronomy* in 1896 and translates this as “a piece of coral”. Bhagwath (2019) lists its symbols as a shoot of a plant or coral.

This Myanmar nekkhat (lunar mansion) “Thwati” (သွာတီ) is the star Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes.

This Tibetan gyukar (lunar house) “Sa Ri” “or “Sari” is the star Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes (Johnson-Groh 2013).

Very Handsome Man:

This Selk’nam star “Kosórenk” is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major.

Very Strong:

This Kiribati asterism “Katikikora” is the stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini (Trussel and Groves 1978).

Very Whirling of Pisces:

This **telescopic** asterism “Verticósus Píscium” is the spiral galaxy Messier 74 (NGC 628) in the IAU constellation Pisces. This was discovered by Pierre Méchain in 1780. It was listed in the General Catalogue of 1864 as GC 327, and in John He rschel’s catalogue as h 142. It became GC 372 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They named it this due to its “marked whirling appearance”. It is also known as the “Phantom Galaxy” (see above) and the “Perfect Spiral Galaxy” (see above).

Very Wonderful of Virgo:

This **telescopic** asterism “Perimus Vírginis” is the spiral galaxy NGC 4568 in the IAU constellation Virgo which is colliding with NGC 4567. These were discovered by English astronomer William Herschel in 1784 who listed them as “IV 8” and “IV 9”. His son John Herschel listed them as “1358” and “1359” in his catalogue. They are GC 3108 and GC 3109 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “H. L. d’Arrest… called this pair ‘elegantissimum et permirum phaenomenon'. (Les Etoiles, 1882, p.377)”. They are also known as the Butterfly Galaxies (see above), the Fish and Chips Galaxies (see above), and the “Siamese Twins” (see above).

Vessel:

This Latin asterism “Vas” or “Vas Aquarium” is the IAU constellation Crater as listed in the 15th century *Alfonsine Tables*. The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Vas” as an alternate name for Crater.

Vesta:

This Latin asterism “Vesta” is the IAU constellation Ara. Vesta was the Roman Goddess of hearth and home.

Victim of a Centaur:

This Latin asterism “Victima Centauri” (“victim of a centaur”) is the IAU constellation Lupus as listed by Italian astronomer Giovanni Battista Riccioli (1598 – 1671): Lupus is right next to the IAU constellation Centaurus, so could be seen as the centaur’s prey.

Victims in the Temple:

This asterism is the IAU constellation Taurus as listed in R. H. Allen’s *Star Names* in 1899. Allen does not specify the source but writes that it represented “later victims in the Jewish temple”.

Victor of the Gorgon Monster:

This Latin asterism “Victor Gorgonei Monstri” is the IAU constellation Perseus as listed in R. H. Allen’s *Star Names* in 1899.

Victorious:

This Vedic nakshatra (lunar mansion) “Abhijit” is in the IAU constellation Lyra and is the stars Alpha (α) Lyrae (Vega), Zeta (ζ) Lyrae and Epsilon (ε) Lyrae. It is related to their deity Brahma in some texts. Ivanković (2021) lists this as just the star Vega with no deity associated to it. It appears on the nakshatra list of the maharshis Varahamihir and Parasara, while the *Atharvaveda Parisistha* and *Brhat Samhita* list only one star (Leitz 2019). It does not appear in the *Taittirīya Samhitā*.

This Myanmar nekkhat (lunar mansion) “Abizi” (အဘိဇိ) is in the IAU constellation Lyra and is the stars Alpha (α) Lyrae (Vega), Zeta (ζ) Lyrae, and Epsilon (ε) Lyrae.

This Tibetan gyukar “Drozhin” is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra (Johnson-Groh 2013).

Vigorous of Ursa Major:

This **telescopic** asterism “Strénuus Úrsae Majóris” is the barred spiral galaxy NGC 3198 in the IAU constellation Ursa Major. It was discovered in 1788 by William Herschel who listed it as “I 199”. It became GC 2066 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to “two strong, well-developed arms”.

Village:

This Chinese Chenzhuo xing guan “Xiang” is the star Iota (ι) Aurigae in the IAU constellation Auriga. It is part of their xing guan Five Chariots.

Village of Sky:

This Korean asterism “Haneul-ui Ma-eulis” (하늘의 마을) is a line of three stars in the IAU constellation Taurus: Upsilon (υ), Omega (ω) and 53 Tauri.

Vindemiatrix:

See Female Grape Gatherer, above.

Vine:

This German asterism is the IAU constellation Boötes as depicted on one the globes of German Jesuit scholar Athanasius Kircher (1602 – 1680).

Vine Branch:

This early Arabic asterism “Al Ḳaḍb al Karm” is made up of stars in the IAU constellation Centaurus and Lupus. Compare this to their asterism Palm Branches, above.

Vine Ladder:

This Barasana asterism is an unidentified line of stars near the IAU constellation Delphinus (Hugh-Jones 2006): The Barasana call Delphinus the Corpse Bundle (see above).

Vines:

This asterism “Vergiliae” is the Pleiades cluster in the IAU constellation Taurus:

- The *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus lists the northern end of the Pleiades as ”Vergiliae”
- The *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch lists the Pleiades as “Vergiliae”

Vinyl LP:

This **telescopic** asterism is NGC 4699, an intermediate spiral galaxy in the IAU constellation Virgo. It was discovered by English astronomer William Herschel in 1786 who listed it as “I 129”. It is GC 3229 in the *General Catalogue* of 1864. This was given this name by Astronomy Magazine contributing editor Stephen James O’Meara. It is also known as the Mealie (see above). This name was Latinized in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): “Longísonans Vírginis” (“long playing of Virgo”). Stephen James O’Meara’s *Hidden Treasures Catalogue* (2007) lists this galaxy.

Violet of Leo:

This **telescopic** asterism “Vióleus Leónis” is the spiral galaxy NGC 3686 in the IAU constellation Leo. It was discovered in 1784 by William Herschel who listed it as “II 160” and “III 28”. John Herschel listed it as h 894 and later as GC 2423 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name due to its resemblance to a violet.

Virgil’s Star:

This Latin asterism “Vergilae” or “Sidus Vergiliarum” (“Virgil’s Star”) is the Pleiades cluster in the IAU constellation Taurus:

- “Vergilae” and “Sidus Vergilarum” are listed in *De Natura Rerum Liber (“book on the nature of things*”) by Isidori Hisapensis (Isidore of Seville, ca 560 – 636 C.E.).
- This appears in editions of the 8th century *Revised Aratus Latinus* as “Virgiliae”.
- The 11th century *De signis caeli (“of the signs of heaven*”) lists “Virgiliae”.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Vergiliae”.
- This appears as “Vergilae” or “Sidus Vergiliarum” in Robert Hues’ *A Learned Treatise of Globes* in 1659.
- This appears as “Vergilae” or “Sidus Vergiliarum in R. H. Allen’s *Star Names* in 1899: Allen translates this as “stars of spring”. Variations include “Virgilia”. Allen notes that one translation *Naturalis Historia* of Pliny by the Elder (23 -79) translates this as “garment hanging out at a Broker’s shop”.

Virgin:

This German asterism “Jungfrau” is the IAU constellation Virgo. “die Jungfrau” is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch. “Jungfrau” is listed in the *Nördliche Sternhimmel* sky map of O. S. Reuters based on the work of German astronomer Johann Elert Bode (1747 – 1826). Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists this constellation as “Die Jungfrau“. See Virgo, below.

This Romanian asterism “Fecioara” is the IAU constellation Virgo (Ottescu 2009, Lite, Lodina, and Ignat 2018).

There are three Arabic asterisms by this name:

- One, “al-ʻAdhārā” (“virgin” or “nymph” العذارى) is Epsilon (ε) Canis Majoris in the IAU constellation Canis Major:
  - This was later latinized to “Adhara”, “Adara, “Adard”, “Udara”, or “Udra”.
  - It was also called “al-ʻAdhāriy” (“first of the virgins/nymphs” الْعَذَارِي) and the star Omicron (o) Canis Majoris was the Second of the Virgins (see below). This is part of their asterism Virgins (see below).
  - English Admiral Henry William Smyth’s *Prolegomena* of 1844 lists “Adara” and his *Bedford Catalogue* in 1844 lists “Adara, from al’adhára, the virgins” which is a reference to the asterism Virgins (see below).
  - The 1st edition (1910) and 14th edition (1959) of British schoolmaster Arthur P. Norton’s *A Star Atlas* lists this star as “Adara”.
  - *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed. Lists “Adhara” for this star.
  - The IAU approved the name Adhara for Epsilon (ε) Canis Majoris A.
- One,“al-ʻUdhrah” or “al-adhraa” (العذرة) is the IAU constellation Virgo.
  - “Al-‘Adhrā” was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
  - Englis Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Adhrá nedhifah, the pure virgin” as a name for Virgo.
- One is the star Eta (η) Canis Majoris in the IAU constellation Canis Major and later latinized to “Aludra”:
  - English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists Aludra, from the Arabian al’adhrá, which is the singular of al’adhara”.
  - The IAU approved the name Aludra for Eta (η) Canis Majoris.

This Hebrew asterism “Betulah” is the IAU constellation Virgo as listed in their list of constellations of the zodiac (mazzaroth) in their *Talmud* and is related to their month Elul.

This Egyptian asterism “Aludra” from the Old Kingdom (3100 B.C.E.) is the IAU constellation Virgo (Berio 2014). Compare this to the Arabic asterism Virginity (see above).

Virgin in Maiden Neatness:

This Persian asterism “Secdeidos de Darzama” is the IAU constellation Virgo.

- Johann Bayer’s *Uranometria* (1603) lists “Seclenidos de Darzama“ as a name for Virgo.
- R. H. Allen’s *Star Names* in 1899 lists “Secdeidos de Darzama”.

Virgin Mary:

This German asterism “Virgo Maria” is the IAU constellation Virgo. This name is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch.

Virgin Mary Assumed Heaven:

This Italian asterism “Virgo Maria Asumpta in Coelum” is the IAU constellation Virgo as depicted on the 1710 globe of Italian monk and uranographer Amantius Moroncelli (Stevenson 1921).

Virgin of Guadalupe:

This Quechua asterism “Guadalupe” is the Hyades cluster in the IAU constellation Taurus (Ciancia 2018).

Virgin of Nonacris:

This Latin asterism “Virgo Nonacrina” is the IAU constellation Ursa Major and refers to the Arcadian town Nonacris. Johann Bayer’s *Uranometria* (1603) lists “Nonacrina” as a name for Ursa Major.

Virgin of Parrhasia:

This Latin asterism “Parrhasis” or “Parrhasia Virgo” is the IAU constellation Ursa Major and is a reference to a region in southern Arcadia.

Virgin of Tegea:

This Latin asterism “Tegeaea Virgo” is the IAU constellation Ursa Major and refers to the Arcadian town of Tegea.

Virgin Stars:

This Greek asterism is the Pleiades cluster as listed by the Greek poet Hesiod and by R. H. Allen in his *Star Names* in 1899.

Virgins:

This Arabic asterism “Al ʿAdhārā” (العذاري) is made up of stars in the IAU constellation Canis Major:

- “First of the Virgins”: Epsilon (ε) Canis Majoris
- “Second of the Virgins”: Omicron (o) 2 Canis Majoris
- “Weight”: Delta (δ) Canis Majoris (Wezen)
- “Virgin”: Eta (η) Canis Majoris (Aludra)
- “Third of the Virgins”: Omicron (o) 1 Canis Majoris (Thalath al Adzari)

Al ʿAdhārā is found in several places:

- It appears on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya’ al-Qazwini (Dorn 1829).
- It is listed in the 17th-century *Calendarium* of Al Achsasi al Mouakket.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “al’adhára, the virgins” and “El Zára, the virgins”, though this is a mistranslation of “Maidens” (see Maidens, above

Virgin’s Girdle:

This Babylonian star “Sa-Sha-Shirū” is Alpha (α) Virginis (Spica) in the IAU constellation Virgo as listed by R. H. Allen in his *Star Names* in 1899.

Virgin’s Spike:

This English star is the is Alpha (α) Virginis in the IAU constellation Virgo as listed in R. H. Allen's *Star Names* in 1899. Allen vaguely describes this as originating in "Old England" but does indicate that English astronomer John Flamsteed (1646 – 1719) listed it under this name. It is a corruption of the Latin name "Spika Virginis" (see Ear of Grain, above).

Virgo:

Virgo's brightest star is 1st magnitude Alpha (α) Virginis (Spica), whichis the 16th brightest star in the sky and its stars appear in 478 of the asterisms in this handbook.

This IAU constellation (IAU abbreviation Vir) was first mentioned in Aratus' poem *Phaenomena* (270 B.C.E.) and became one of Ptolemy's 48 original constellations in the 2nd century, appearing in the *Almagest* as "Παρθένος" or "Parthenos" (see Maiden, above). It originated in the Babylonian asterism "Furrow" (see above). One of Virgo's ancient Greek names is "Παρθένος Δίος" ("Parthénos Díos" or "virgin goddess").

The Temple of Khnum at Esna has a Latopolitan zodiac on the ceiling of the pronaos dating to the age of Ptolemy II Euergetes (246 – 221 B.C.E.) depicts Virgo as a figure facing to our left holding something in its hands. (Bullinger 1882, Seiss 1882).

The Mainz Globe from the eastern end of the Roman empire (c. 150 – 220 C.E.) depicts Virgo as winged and holding something in her right hand.

Libra and Virgo are merged in editions of the 8th century *Revised Aratus Latinus*:

- In several editions (Dresden DC 183, Paris BN 12957, Prague IX. C. 6) Virgo is dressed in a long gown holding the scales of Libra in her outstretched left hand and a sheaf of grain in her right hand,
- In the Cologne 83 II edition Virgo is depicted as winged wearing a gown which exposes her shoulder with the scales beside her,
- In several editions (St. Gall 250, Vat Reg lat 1234) Virgo has wings.

The *De ordine ac positione stellarum in signis* ("*On the order and position of the stars in the signs*") in the Salzburg compilation (810 – 818) of Abbot Arno of Salzburg (785 – 821) depict Virgo with wings holding a plant in her left hand and raising her right hand in benediction. The 9th century Berlin 130, Madrid 3307, Monza F.9/176 and Vat lat 645 manuscripts of the *De ordine ac positione stellarum in signis* depict Virgo without wings. The Austin, TX, Ransom Ms 29, Paris BN, n.a. 1614, and St. Petersburg, Q.V. IX, no.2 manuscripts of the *De ordine ac positione stellarum in signis* depict Virgo holding scales in her left hand and a plant in her right, except in the Austin manuscript, which omits the plant. The Paris BN, 12117 and Vat Reg lat 309 manuscripts of the *De ordine ac positione stellarum in signis* depict Virgo with scales in her left hand and a palm frond in her right hand. The Los Angeles, Getty Ludwig XII, 5 and Paris BN lat 8663 manuscripts of the *De ordine ac positione stellarum in signis* depict Virgo holding a plant and scales.

This constellation appears in a 10th century copy of the Leiden *Aratea* (Boulogne-sur-Mer, Bibliotèque municipal MS 188) but is missing from the 9th century edition.

The Bodleian manuscript of the *Book of Fixed Stars* by 'Abd al-Rahman al-Sufi (903 – 986) Marsh 144 (1009/10) which was copied by al-Sufi's son depicts Virgo as a long-haired female wearing ankle-length robes. No wings are depicted. She is wearing earrings and bracelets. On one page she is looking to our

left, with her empty right hand at her side and gesturing with her left hand. On the other page she is looking to our right, gesturing with her right hand and her empty left hand is at her side.

The 11th century *De signis caeli ("of the signs of heaven*") lists "Virgo" and "Lusticia" (see Justice, above). The Oxford Laud 644, Padua 27 and Venice VIII 22 manuscripts of *De signis caeli* depicts Virgo with wings holding a plant in her right hand. The Dijon 448 manuscript of *De signis caeli* depicts her with wings raised, holding a branch in her left hand and making a sign of benediction with her right hand. The Klosterneuberg 685, Paris BN 5239, Paris BN 5543, Vat lat 643, Germanicus Aberyswyth 735C, Hyginus Leiden 8° 15, and Zwettl 296 manuscripts of *De signis caeli* depict Virgo holding a branch in one hand and a balance in the other. The Klosterneuberg 685, Paris BN 5239, Paris BN 5543, Vat lat 643, Montecassino 3, and Zwettl 296 manuscripts of *De signis caeli* depict depict her with wings downward holding the balance in her left hand and a plant in her right. In the Paris BN 5543 and Vat lat 643 manuscripts she is flying. In the Vat Lat 643 and Zwettl 296 manuscripts the scales are labelled "Libra" at the bottom of the page. The Laon 422 and Rouen 26 manuscripts of *De signis caeli* depict Virgo with wings raised and a plant in her right hand. The Freiburg im Breisgau 35 manuscript of *De signis caeli* depicts her holding a wand in one hand and making a benediction gesture with the other.

The 12th century Vienna ÖNB Vindob 12600 manuscript of the *De ordine ac positione stellarum in signis* depicts Virgo as winged, holding the scales in her right hand and a palm frond in her left hand.

An Islamic celestial globe dated 1275-76 in the British Museum depicts Virgo as a winged female facing us in ankle length robes holding up either a feather or a leaf in her left hand.

Shams al-Dīn Muhammad B. Mu'ayyad al-'Urdī's inlaid celestial globe (1288) depicts Virgo as a winged female facing us holding up an ear of grain in her left hand.

A Hebrew translation of the Almagest from Catalonia (c1361), Philadelphia (USA), University of Pennsylvania Libraries, Lawrence Schoenberg Collection, ms. ljs057 (old Ms.Sassoon 823), ff.56v, 57r, depicts Virgo as a female with multi-coloured wings in an ankle length robe. Her hands are open (and empty) to either side.

A quadrans novus found at the House of Agnes site in Canterbury in 2005 in soil dated to c 1375-1425 lists "VIRGO" (Dekker 2007).

The early 15th century Northern Italian Sufi Latinus manuscript Gotha Forschungsbiblithek, Membr II 141 depicts Virgo as a wingless female in calf length robes who is looking downward and gesturing downward with both hands.

The mid 15th century Wein, Osesterr. National Bibl., manuscript Lat 5415, ff.168v-169r depicts "Virgo" as a winged female in a full-length robe as viewed from the rear. Her head is turned to her right and her right hand appears to be gesturing someone to approach. Her left arm is not visible.

The mid 15th century Munchen, Bayer. Stadts. Blbl., manuscript CLM 14583, ff.70v-71r depicts "Virgo" as a winged female in a full-length robe as viewed from the rear. Her head is turned to her right and her right hand appears to be gesturing someone to approach. Her left hand down by her side.

The 15th century astrolabe in the Museo Astronomico e Copernicano, Albion, depicts Virgo as a winged female in an ankle length robe. She is pointing skyward with her left hand and her right hand is at her side.

A translation of The *Liber Introductorius* of Scottish polyglot Michael Scot (1175 – c.1232), dated c.1450, Berlin Staatsbibliothek, Ms germ fol 244, depicts Virgo as a winged female in full-length robes with a crown on her head. In her left hand she holds a caduceus, and in her right hand she is holding what a leafy branch. Another illustration is similar, but in her right hand she appears to be holding a long lock of hair.

A translation of The *Liber de signis* of Scottish polyglot Michael Scot (1175 – c.1232) in the second half of the 15th century, Darmstadt, Hessische Hochschulebibliothek, Ms 266, depicts "Virgo" as a winged female. She wears a full-length skirt but is naked from the waist up. In her right hand she holds a sheaf of grain and in her left hand she holds a caduceus. Scot (1175 – c.1232) depicts Virgo holding a sceptre in her right hand. Scot explains that Virgo is in the house of Mercury, who gave her that caduceus.

De Astronomica ("the astronomy"), also known as *Poeticon Astronomicon*, is illustrated stories attributed to the 1st century Roman historian Gaius Julius Hyginus, (though the true authorship is disputed). The first known printing was 1475, with a formal publication in 1482 by Erhard Ratdolt. This depicts Virgo as winged and wearing long robes. She has a sprig of foliage in her right hand and a trident with two rings at the top in her left hand.

The *Germanicus Aratea* (Siciliensis, c. 1469) and the *Germanicus Aratea* with scholia Strozziana (c. 1475) depicts Virgo as a winged, robed female with arms outstretched and holding an ear of grain in her right hand.

Virgo appears on the *Imagines constellationum Australium* chart of Romanian theologian Johannes Honter (1498 – 1549) as a winged female in a long robe facing us holding a stalk of grain in her left hand and pointing towards the sky with her right hand.

The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) depicts "Virgo" as a winged female in a full-length robe facing away from us. She is looking to her right and holds a sceptre in her right hand with a banner that reads "Justitia terras reliquit, guia victa jacet pietas" ("Justice has left the land, piety lies defeated in the path."). She holds a stalk of grain in her left hand.

The "Nuremburg Maps" *(Die Karte des Nördlichen Sternenhimmels* inv.-Nr. Hz 5576), a pair of celestial hemispheres made in 1503 by Conrad Heinfogel, depicts "Virgo" as a winged female viewed from behind. She is looking to her right and pointing at her face with her right hand. She is holding a stalk of grain at her side in her left hand.

The *imagines coeli septentrionales cum duodecint imaginibus zodiaci* ("images of the northern sky with twelve images of the zodiac"), commonly known as the *Northern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius (Dekker & Lippincott, 1999) depicts "Virgo" as a winged female viewed from behind. She is looking to her right and pointing at her face with her right hand. She is holding a stalk of grain at her side in her left hand.

Celestial globe gores (1517) of German polymath Johann Schöner (1477 – 1547) depicts "Virgo" as a winged female in long robes as viewed from behind. Her hands are at her sides and she is holding an ear of grain in her left hand.

The *Himmelsglobus* (1532) of Cologne cartographer and instrument maker Caspar Vopel (1511 – 1561) depicts Virgo as a winged robed female facing away from us, looking over her right shoulder.

The *Horoscopion generale* (1533) of Petrus Apianus (1495 – 1552) depicts Virgo as a female in full length robes with no wings. Her hands are in front of her holding a stalk of grain.

The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts Virgo in the same manner as Dürer et al.

The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts "Virgo" as a winged, robed female viewed from the rear. She is holding a stalk of grain in her left hand and waving at someone in front of her with her right hand.

Dele Stelle Fisse ("Of the Fixed Stars") by Tuscan mathematician and astronomer Paolo dal Pozzo Toscanelli (1397 – 10 May 1482), published in Venice in 1542 lists this constellation as "Del la Vergine". The charts in *Dele Stelle Fisse* only depict the star patterns and magnitudes and do not illustrate the constellation.

This constellation appears in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus as the "Virgin".

The Northern Hemisphere *Creation of Heaven* (C 1550) painted on the ceiling at Palazo Besta in Teglio depicts Virgo as a winged female in full-length robes as viewed from behind. She is looking to her right and appears to be pointing towards her face with her right hand.

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists Virgo in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

The *Globus Coelestis* chart (1584) of Swiss German artist Jost Amman (1539 – 1591) depicts Virgo as a winged female in a long robe pointing to the north with her left hand and holding a sheaf of grain in her left hand: This constellation is labelled only with the astrological sign for Virgo.

In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicts "Virgo" as a winged female in an ankle length robe holding a sheaf of grain in her right hand.

The *Globe Celeste* celestial chart (1592) by pedagogue Simon Girault (1552 – 1613) depicts "la Vierge" as a winged female in a long robe. She is facing us with her right hand raised and holds a sheaf of grain at her side in her left hand.

The *Orbis terrarium typus de integro multis in locis emedatus* (1594) of Flemish astronomer Petrus Plancius depicts "Virgo" as a winged female in full-length robes as viewed from behind. She is holding up a stalk of grain in her right hand. Her left arm is not visible, being off the edge of the chart.

English Astronomer John Blagrave (~1563 – 1611) in his *Astrolabium uranicum General* (1596) depicts "Virgo" as a winged female in a full-length robe as viewed from behind. She is looking over her right shoulder at us, pointing at the sky with her right hand and holding a stalk of grain in her left hand.

The *Syntagma Arateorum Opus Poeticae et Astronomiae* (1600) of Dutch diplomat Hugo Grotius (1583 - 1645) depicts "Virgo" as a winged female in a long robe holding a caduceus in her left hand which is resting on her left shoulder and an ear of grain in her right hand.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) depicts "Virgo" as a winged woman in long robes viewed from behind. Her right hand is raised with her finger

pointing upwards and there is a golden circle formed by the tail of Leo in the background surrounding her hand. Her left hand is holding an ear of grain at her side.

Virgo is listed in Danish astronomer Tycho Brahe's *Astronomiae Instauratae Progymnasmata* (1602).

German astronomer Johann Bayer (1572-1625) listed it as "Junckfraw" in his Uranometria in 1603 and depicts it as a winged woman holding a stalk of grain. Bayer lists these names for Virgo: "Virgo, Astrea, Erigone, Atargatis, Fortuna, Ceres, Auieno Isis, Pax, Panda vel Pantica, Iusta, rectius Iustitia, Spicifera Dea, Virgo Sicea, Jungfrau, Eladari, Sunbala, Adrenedesa Album, Seclenious de Darzama".

The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) depicts "Virgo" as a winged female in a long robe viewed from the rear. She is holding up a leafy branch in her right hand (which is encircled by the tail of Leo) and holding a stalk of grain at her side in her left hand.

Virgo is listed by German astronomer Johannes Kepler (1571 – 1630) in his *Tabulae Rudolphinae*, a new edition of Brahe's catalogue, in 1627.

"Virgo" is listed on the *Planiglobium celeste universal* (1628) of French uranographer Isaac Habrecht II (1589 – 1633) and depicted as a winged woman in a long robe holding up a scythe in her right hand and holding a stalk of grain in her left hand.

Virgo is depicted by German astronomer Johann Bayer (1572-1625) in his Uranometria in 1603 as a winged woman in ankle length robes: She is holding aloft a branch in her right hand and holding an ear of grain at her side in her left hand.

"Virgo" is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and depicted as a winged woman in a long robe. She is facing us holding an ear of grain in her left hand by her side and her right hand is holding something out but the chart is faded and it is hard to make out what it is.

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the name "Virgo" for this constellation.

Gores for a celestial globe Bibliothèque Nationale de France, Départment Carte set plans, GE D-12623 (1649) based on the work of Petrus Plancius depicts "Virgo: as a winged female in full-length robes facing away from us. Her left hand is at her side holding a stalk of grain and her right hand is raised skyward.

The huge *Gottorf Globe* (c1650) made for the Duke of Holstein, Frederick III, one of the world's first planetariums, depicts only part of Virgo, her lower parts obscured below the edge of the dome. She is a winged female in long robes facing away from us. She is holding aloft a branch in her left hand. Her left arm is out of sight.

Virgo is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661 and depicted as a winged woman holding aloft a sheaf of grain in her right hand.

Dutch cartographer Frederik de Wit's *Planisphaerium Coeleste* (1670) depicts Virgo as a robed winged female viewed from behind holding aloft a branch in her right hand.

The Right Ascensions and declinations of the principal fixed stars in both hemispheres to year 1678 by English uranographer James Clerk depicts “Virgo” as a winged female with her left hand raised.

English uranographer John Seller’s *A coelestiall planisphere* (1678) depicts “Virgo” as a winged female in a long robe holding a sheaf of grain in her left hand.

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts “Virgo” as a winged female in a long robe as viewed from behind, pointing at something above her with her right hand and holding a sheaf of grain in her right hand.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli labels this “La Vierge”, “Virgo”, and “Παρθένος” and depicts her as a seated, winged female holding a sheaf of grain at her side in her right hand and holding aloft a leafy branch in her left hand.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley’s pirated catalogue of Flamsteed’s observations of 1712, depicts Virgo as a winged female in a long pink robe who is facing away from us and pointing at something with her left hand.

Virgo is listed in English astronomer John Flamsteed’s *Atlas Coelestis* in 1729: She is depicted as a winged woman in a long robe holding a frond in her right hand and a sheaf of grain in her left hand.

A wooden precession globe (1730) by German uranographer Johann Georg Puschner (Dekker 2003) lists this constellation as “Virgo”.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts “Virgo” as a winged female. It is hard to make out details as it is situated across the hinge that separates the two halves of the globe.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts “Virgo: as a winged, robed female as viewed from the rear. She is gesturing aloft with her left hand and her right hand is holding a sheaf of grain.

German engraver and cartographer Tobias Conrad Lotter’s *Planisphaerium Coeleste* (1750) depicts Virgo as a winged, robed female facing away from us with her right hand raised.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Virgo as a winged female in ankle length robes. She is holding up a branch in her right hand and is holding a stalk of grain at her side in her left hand.

French uranographer Gabriel Phillipe de la Hire’s *Planisphere Celeste* (1760) depicts “La Vierge” as a winged female in a long robe holding a leafy branch in her left hand.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts “la Vierge” as a winged woman in a long robe holding a ear of grain in her left hand and gesturing to her right with her empty right hand in the Northern hemisphere chart. On a later closeup chart she is depicted as a winged woman in a long robe holding a ear of grain in her left hand and a large quill pen in her right hand. The French 1778 edition of the *Atlas Céleste* depicts a winged woman in a long robe holding a frond in her right hand and a sheaf of grain in her left hand.

German astronomer Johann Elert Bode's *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this constellation as "Jungfrau" and depicts it as a winged female viewed from the rear. This name also appears in the various editions of Bode's *Jahrbuch*. Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Jungfrau" and depicts it as a robed and winged female holding a frond in her right hand and an ear of grain in her left hand.

Italian priest, mathematician, and astronomer Giuseppe Piazzi (1746 – 1826) lists this constellation as "Vergine" in his *Della Specola Astronomica De' Regj Studj Di Palermo* (1792).

The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer depicts "Virgo" as a winged female in a long robe viewed from behind: She is holding a stalk of wheat in her left hand and pointing at something in front of her with her right hand.

Virgo is listed in the *Planisphaerum Colestum* (1798) of Dutch uranographer Gerard Hulst van Keulen (1733 – 1801) as "Maagd" ("virgin"): She is depicted as a winged female in a long robe facing us holding a stalk of grain in her left hand.

American uranographer William Croswell (1760 – 1834) depicts "Virgo the Virgin" on his *Mercator Map of the Starry Heavens* in 1810 as a winged woman in a long robe holding a leafy twig in her right hand and gesturing with her left hand.

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Virgo in his *Celestial Atlas* and his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822): She is depicted as a winged woman with a laurel wreath on her head with a frond in her right hand and a sheaf of wheat in her left hand.

"Virgo" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and is depicted as a winged woman facing us wearing a long robe holding a stalk of grain in her left hand.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depicts "Virgo" as a winged female in long robes holding a sheaf of grain in front of her in her right hand and having her left arm by her side.

Virgo is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852: The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822. Virgo is depicted winged, wearing a long robe and sandals , holding a frond upright in her right hand and a sheaf of grain in her left hand.

"Virgo" is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): She is depicted as a winged female facing us in a long robe holding up a stalk of grain in her right hand and another stalk in her left hand by her side.

Popular Astronomy (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this constellation as "Virgin" on the charts and "Virgo" in the text and describes it as "a beautiful maiden with folded wings, bearing in her left hand an ear of corn."

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Virgo, The Virgin" as an official constellation "recognized in the catalogue of the British Association".

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as "Virgo, the Virgin".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Virgo" in his *Star Atlas* (1893) and describes it as "The Virgin".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Virgo" and describes it as the "Virgin".

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Virgo".

Virgo is depicted on standard IAU charts with a quadrilateral of the stars Alpha (α) Virginis (Spica), Zeta (ζ) Virginis, Delta (δ) Virginis, and Gamma (γ) Virginis as her "body" with lines running out from each corner to form "arms" and "legs".

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Virgo in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik*, in this manner:

- Her "head" is the star Epsilon (ε) Virginis, with a line running through Delta (δ) Virginis to Gamma (γ) Virginis forming the "body",
- Two lines running from Delta (δ) Virginis form "arms":
    - One running to Zeta (ζ) Virginis, and
    - One running to Omicron (ο) Virginis, and
- Two lines running from Gamma (γ) Virginis form "legs":
    - One running through Theta (θ) Virginis to Alpha (α) Virginis (Spica), and
    - One running through Eta (η) Virginis to Beta (β) Virginis (Zavijava).

Sky and Telescope Magazine, founded in 1941, depicts Virgo in their magazine and publications like this:

- Her "head" is the quadrilateral of stars Eta (η) Virginis, Beta (β) Virginis (Zabijava), Nu (ν) Virginis, and Omicron (ο) Virginis,
- A line running from Eta (η) Virginis to Gamma (γ) Virginis is her "neck" and this line continues to Zeta (ζ) Virginis to form her "body",
- Two "arms" run out from Gamma (γ) Virginis:
- One through Theta (θ) Virginis to Alpha (α) Virginis (Spica), and
- One through Delta (δ) Virginis to Epsilon (ε) Virginis,
- Two "legs" run out from Zeta (ζ) Virginis:
- One through Tau (τ) to 109 Virginis, and
- One through Iota (ι) to Mu (μ) Virginis.

The French call this constellation "Vierge". An early influence for this constellation may have been the Egyptian asterism Aludra (see Virgins, above).

Virgo Cluster:

This is a cluster of galaxies in the IAU constellation Virgo. Its center is 53.8 million light years away and it extends out to 8° of the cluster's center. Its brightest member is the elliptical galaxy Messier 49. It is part of the Virgo Supercluster, which is 110,000,000 light years across. *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), refers to this cluster as the Field of the Nebulae.

Virgo Cluster Pinwheel:

This **telescopic** asterism is Messier 99 (NGC 4254), a grand design spiral galaxy in the IAU constellation Coma Berenices. French astronomer Pierre Méchain discovered it in March 1781. It is listed in the General Catalogue of 1864 as GC 2838 and in John Herschel's catalogue as h 1173. Dreyer lists it in the New General Catalogue of 1888 as "3 branched spiral". It is also known as St. Catherine's Wheel (see below), Rosse's of Coma Berenices (see above), and the Coma Pinwheel (see above).

Virgo Trio:

This **telescopic** asterism is the galaxies NGC 4206, 4216, and 4222 in the IAU constellation Virgo. These were discovered by William Herschel in 1784. These are part of O'Meara 60 in astronomer Stephen James O'Meara's *Hidden Treasures Catalogue* (2007), where he lists them as the "Virgo Trio" and as the "Stairway to Heaven".

Virtue:

This Korean asterism "Deog" (덕) is a line of two stars in the IAU constellation Ursa Minor: RR Ursae Minoris and HIP 74605.

Visazhar:

This Belarussian asterism is the Pleiades cluster in the IAU constellation Taurus (Avilin 2009). The etymology of this name is uncertain: It may have come from the archaic Russian word "viss" which was a plant from which a valuable stain for fabrics was obtained. Compare this to Velisazar (below).

Viscera of the Lion:

This Arabic star "Al Aḳtāb al Asad" is Beta (β) Leonis (Denebola) in the IAU constellation Leo as listed by Persian astronomer Zakariya al-Qazwini (1203 – 1283) and in R. H. Allen's *Star Names* in 1899. Compare this to Liver of the Lion (above).

Vishnu:

This Vedic star "Vishnu" is Delta (δ) Orionis (Mintaka) in the IAU constellation Orion (Vahia 2014). Vishnu is part of a Hindu trinity with the Gods Shiva and Brahma. The God Vishnu is the preserver and sustainer of life.

Visožary:

This Belarussian name "Visožary", "Visyžár", "Visažár", "Visažór", "Wosożary", "Wosozhary", "Vysažar", "Vesežar", "Olosozar", and "Vysožar" is used for:

- The Pleiades cluster in the IAU constellation Taurus (Avilin2009, 2018).
- Rarely, the IAU constellation Ursa Major (Avilin 2018).
- Rarely, the name Vyshezar is used for the IAU constellation Ursa Minor (Avilin 2009).

NOTE: This name has many meanings depending on the region, including “tall man”, “high tree”, and even “name of a bird”.

Vizier of the God Baba:

This Babylonian star “Lamassatu” is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra.

Vlahÿtje:

This Chakavian asterism is the Pleiades cluster in the IAU constellation Taurus.

Vlasiežjełišči:

This Slavonic asterism “Vlasiežjełišči”, “Vlasožjelišti”, “Vlasožjelca”, “Vlasožjelci”, “Vlasožjelcъ”, “Vlasožlć”, “Vlasožileščˇ”, “Vlasožilišči”, “Vlasie”, or “Vlasiežjeliščiis” the Pleiades cluster in the IAU constellation Taurus (Avilin 2018). The meaning of this word is uncertain.

Voice of Joy:

This Hawaiian asterism “Me’e” is a “box” of four stars (which is the four stars of the IAU constellation Corvus) in the Hawaiian star line “Ka Iwikuamo’o” (see Bone Back Lizard above): Beta (β) Corvi (Kraz), Delta (δ) Corvi, Gamma (γ) Corvi and Epsilon (ε) Corvi. The name is borrowed from the Marquesas Islands: The Polynesians call this “Mere”, “Meremere”, or “Melemele”.

This Micronesian asterism “Serepwen”, “Soropuel”, or “Sarapori” is identical to the Hawaiian asterism Me’e (above).

This Rapanui asterism “Mere” is possibly the same as the Hawaiian asterism above or possibly the star Alpha (α) Lyrae (Vega) in the IAU constellation Lyra (Edwards and Edwards 2016, Edwards 2018).

This Tahitian asterism “Mere” is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Edwards 2015).

Void:

This Chinese xing guan “xu” (虛） was mentioned in the *Shangshuyaodian* (尚书尧典 *Canon of Yao* of the Book of Documents- 2300 B.C.E.), a collection of political documents from the legendary Emperor Yao. It is the stars Alpha (α) Aquarii (Sadalmelik) and Beta (β) Aquarii (Sadalsuud) in the IAU constellation Aquarius.

Volans:

None of the stars of Volans are brighter than 4th magnitude and its stars only show up in 21 asterisms in this handbook.

This IAU constellation (IAU abbreviation Vol), the flying fish, was one of twelve constellations created by Flemish uranographer Petrus Plancius (1552 – 1627) from the observations of the Dutch navigators Peiter Dirkszoon Keyser (1540 – 1596) and Frederick de Houtman (1571 – 1627). De Houtman called it “de Vlieghende Visch” (“the flying fish”) later Latinized to “Piscis Volans” and appearing in later German texts as “Fliegende Fisch”. A celestial globe (late 1597) of Flemish astronomer Petrus Plancius published by Amsterdam cartographer Jodocus Hondius the Elder depicts Volans.

The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) lists “Vlieghende Visch” for this constellation and depicts it as a fish in flight.

Dutch historian Paulus Merula (1558 – 1607) listed it as “Hirundo Marina” (“sea swallow”) and “Zeezwaluwe” (“swallowtail”).

Flemish cartographer Jodocus Hondius (1563 – 1612) listed it as “Vliegenden Vis” (“flying fish”) and “Vliedenden Visch”.

Petrus Plancius listed “Vliegenden Vis” on his globe in 1597.

Dutch uranographer Willem Blaeu (1571 – 1638) listed it as “Avis Volucris” (“bird of prey”).

German uranographer Johann Bayer (1572 – 1625) in listed this constellation in his *Uranometria* in 1603 as “Piscis Volans” (“flying fish”) and depicts it as a winged fish.

This constellation is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch as “Piscis Volans” and “Passer Marinus” (“sea sparrow”).

The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the names “Piscis Volans” and “Passer” for this constellation.

Robert Hues describes it as the “flying fish” in his *A Learned Treatise of Globes* in 1659.

Edward Sherburne lists it as “Piscis Volans”, “Volucris” or “Volatilis” (“flying”), “Passer Marinus” (“sea sparrow”), and “Hirundo Marina” or “Chelidon Thalassia” (“sea swallow”) in his *Sphere of Marcus Manilius* in 1675.

English astronomer Edmond Halley in his *Catalogus Stellarum Australium* in 1679 lists this constellation as “Piscis Volans” and depicts it as a fish with wings.

The 1688 celestial globe of Italian priest and uranographer Vincenzo Maria Coronelli (1650-1718) includes this constellation (Stevenson 1921).

Polish astronomer Johannes Hevelius (1611 – 1687), in his *Prodromus Astronomiae* (1690) which includes his *Catalogus Stellarum Fixarum*, depicts “Piscis Volans” as a flying fish swimming to our right. Hevelius’ *Firmamentum Sobiescianum sive Uranographia* (1690) depicts “Piscis Volans” as a fish. This consists of two triangles of stars connected at the apex, this being the star Epsilon (ε) Volantis:

- One triangle is formed by the stars Alpha (α) and Beta (β) Volantis, and
- One triangle is formed by the stars Gamma (γ) 2 and Zeta (ζ) Volantis,
- One more star line runs out from Epsilon (ε) Volantis to a “tail” at Delta (δ) Volantis.

The Globe Céleste (1697) of Venetian uranographer Vincenzo Maria Coronelli depicts Volans as a flying fish with its tail towards celestial south.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley’s pirated catalogue of Flamsteed’s observations of 1712, labels this constellation “Piscis Volans” and depicts it as a fish with wings.

“Piscis Volans” is listed in English astronomer John Flamsteed’s *Atlas Coelestis* in 1729.

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts Piscis Volans as a flying fish.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts “Piscis Volans” as a flying fish.

The *Uranographia Britannica* (c1750) of English astronomer John Bevis (1695 – 1771) depicts Volans as a flying fish.

French astronomer Abbé Nicolas Louis de Lacaille's *Planisphère des Étoiles Ausralea* (1756) depicts this constellation as a winged fish in flight but doesn't label it.

French uranographer Gabriel Phillipe de la Hire's *Planisphere Celeste* (1760) depicts "Le Poisson Volant" as a fish with wings.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "le Poisson Volant" as a fish with wings.

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Fliegende Fisch" and depicts it as a flying fish.

American uranographer Elijah Burritt's *Southern Circumpolar Map for each Month in the Year* (1835) lists "Piscis Volans the Flying Fish" as a fish with wings.

This constellation is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) as "Piscis Volans": He indicates the borders of this constellation on the chart but offers no illustration of it.

English astronomer John Herschel (1792 – 1871) suggested shortening the name to Volans in 1844, noting that Lacaille had abbreviated the name previously and in 1845 Francis Baily included it under this shortened name in his *British Association Catalogue*.

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Volans, The Flying Fish" as an official constellation "recognized in the catalogue of the British Association".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Volans" and "Piscis Volans" and describes it as a "Flying fish".

The 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) lists "Volans" and gives the "original form" as "Piscis Volans".

The Facts of File Dictionary of Astronomy, 2nd edition, 1985, by Valerie Illingworth, ed., lists the names "Volans" and "Piscis Volans" for this constellation.

Standard IAU charts depict Volans as two interconnected triangles with a line running out from the central star:

- The central star is Epsilon (ε) Volantis, which has a line running out to Delta (δ) Volantis,
- One triangular "wing" is Epsilon (ε), Gamma (γ) 2 and Zeta (ζ) Volantis, and
- One triangular "wing" is Epsilon (ε), Alpha (α) and Beta (β) Volantis.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Volans in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* as a roughly triangular pattern of the stars Beta (β), Delta (δ), Gamma (γ) 2, Zeta (ζ), and Epsilon (ε) Volantis, with a line running out from Beta (β) Volantis to Alpha (α) Volantis.

Sky and Telescope Magazine, founded in 1941, depicts Volans in their magazine and publications as two interconnecting triangles that connect at the star Epsilon (ε) Volantis:

- One consists of the stars Epsilon (ε), Delta (δ), and Gamma (γ) 2 Volantis, and
- One consists of the stars Epsilon (ε), Alpha (α) and Beta (β) Volantis.

A French name for this constellation is “Poisson Volant”.

Volcanic Rock:

This Hawaiian asterism “Pu-lele-hua-kawaewae” is the Coal Sack nebula in the IAU constellation Crucis (see Coal Sack, above).

Volcanus:

This **telescopic** asterism “Volcánus Úrsae Majóris” is the barred spiral galaxy NGC 3079 in the IAU constellation Ursa Major. This was discovered by English astronomer William Herschel in 1790 who listed it as “V 47” in his catalogue. It is GC 1983 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as “this edge on galaxy looks like a shield volcano”. Volcanus was a fire God who was the son of Jupiter and Juno. It is also known as the “Phantom Frisbee” (see above).

Volosožar:

This Belarussian asterism “Vołosozár”, “Vałasazar”,” Vałasažár”, “Vałasažary”, “Vałasažaryk”, and “Vielisazar” is the Pleiades cluster in the IAU constellation Taurus (Avilin 2018).

Vołosynia:

This Russian name “Vołosynia” is used for:

- The IAU constellation Ursa Minor (Avilin 2018),
- The IAU constellation Ursa Major (Avilin 2018),
- The Pleiades cluster in the IAU constellation Taurus (Avilin 2018).

Voluyara:

This German asterism is the IAU constellation Auriga as described by Grimm, which he describes as “stars that ploughmen know” although the meaning is not known.

Vomiting Fire of Virgo:

This **telescopic** asterism “Ignívoma Vírginis” is the spiral galaxy NGC 4388 in the IAU constellation Virgo. It was discovered in 1784 by William Herschel who listed it as “II 168”. John Herschel listed it as h 1244 and later as GC 2949 and GC 2956 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). It is the “mouth” of the “Great Galactic Face” (see above).

Voodoo Mask Nebula:

This **telescopic** asterism is the planetary nebula NGC 246 (Caldwell 56) in the IAU constellation Cetus. It was discovered by English astronomer William Herschel in 1785. This is listed as GC 131 in the 1846 *General Catalogue*. It is also known as the Skull Nebula and the Soap Bubble Nebula.

Voracious Auspice:

This Arabic asterism from their list of Auspicious Asterisms "sa'd bul'" is called "Voracious Auspice" or "Lucky Stars of the Swallower". It later became the Arabic manzil "Saad Bulaa (see Lucky Stars of the Swallower, above). The Auspicious Asterism version is in the IAU constellation Aquarius and is the stars Mu (μ) Aquarii and Epsilon (ε) Aquarii (Albali). The later manzil adds the star Nu (ν) Aquarii. Dorn (1829) describes this as "Beneficent Star of the Devourer" and describes it as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283).

Vortex Galaxy:

See Whirlpool Galaxy.

Vortex of Hydra:

This **telescopic** asterism "Vórtex Hýdrae" is the barred spiral galaxy NGC 5260 in the IAU constellation Hydra. It was discovered by Lewis Swift in 1885. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Vortex of Ursa Major:

This **telescopic** asterism "Vértex Úrsae Majóris" is the spiral galaxy NGC 2742 in the IAU constellation Ursa Major. William Herschel listed this as "I 249". His son John Herschel listed it as h 550 and later as GC 1750 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Vrsabha:

This Vedic rashi "Vrsabha" or "Vrisab" from the Vedic *Candragarbha-parivarta* (Kotyk 2017, Rath 2022) is the IAU constellation Taurus. W. Brennan lists it in his *Hindu Astronomy* in 1896 as "Vrisha".

Vrscika:

This Vedic rashi "Vrscika" or "Vrischik" as listed in the Vedic *Candragarbha-parivarta* (Kotyk 2017, Rath 2022) is the IAU constellation Scorpius. W. Brennan lists it as "Vrishchica" in his *Hindu Astronomy* in 1896. Bhagwath (2019) lists it as "Vrishchik" and writes that it represents the energy of the God Vishnu.

Vulcan's Star:

This Latin asterism "Vulcani Sidus" is the IAU constellation Libra as listed in R. H. Allen's *Star Names* in 1899.

Vulpecula:

None of Vulpecula's stars are brighter than 4th magnitude and its stars only show up in 55 asterisms in this handbook.

This IAU constellation "little fox" (IAU abbreviation Vul) was created by the Polish astronomer Johannes Hevelius (1611 – 1687). Hevelius originally called it "Vulpecula cum Anser" or "Vulpecula et Anser" ("the little fox with the goose") in his *Firmamentum Sobescianum, sive Uranografia* (1690) and it was illustrated as a goose in the jaws of a fox.

The 1721/22 planispheres of English uranographer John Senex (1678 – 1740), who was using Edmond Halley's pirated catalogue of Flamsteed's observations of 1712, depicts "Vulpecula" as a fox carrying "Anser" the goose in its jaws.

Vulpecula is listed in English astronomer John Flamsteed's *Atlas Coelestis* in 1729: This is depicted as a fox running to our right with a goose in its jaws, this goose representing the asterism Anser (see Goose, above).

A celestial pocket globe by English uranographer Richard Cushee dated 1731 depicts "Vulpecula" as a fox running to our right with a goose in its mouth.

The *Atlas Coelestis* (1742) of German astronomer Johann Gabriel Doppelmayr (1677 - 1750) depicts "Vulpecula" as a fox running to our right with a goose ("Anser") in his mouth.

German engraver and cartographer Tobias Conrad Lotter's *Planisphaerium Coeleste* (1750) depicts Vulpecula as a fox carrying a goose (see Goose, above).

A celestial pocket globe circa 1775 whose creator was unknown, but which was clearly influenced by British uranographer Herman Moll, depicts Vulpecula as a fox with a goose in its jaws running to our left.

The French edition, *Atlas Céleste, Seconde Édition* (1776) of the *Atlas Coelestis* of English astronomer John Flamsteed (1646 – 1719) depicts "Le Rénard" ("the fox") as a fox with a goose in its jaws (this being the asterism Anser, see Goose, above): The goose is not labelled. The 1778 edition is the same.

Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "der Fuchs mit der Gans".

Scottish uranographer Alexander Jamieson (1782 – 1850) lists Vulpecula in his *Celestial Atlas* and his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822): It is depicted as a fox with a goose in its jaws, this goose representing the asterism Anser (see Goose, above).

"Vulpecula" is listed in the *Uranometria Nova* catalogue (1843) of German astronomer Friedrich Wilhelm August Argelander (1799-1875) and is depicted as a fox with a goose representing Anser (see Goose, above) but this goose is not labelled.

Gores for a celestial globe printed by Bale in 1845 currently stored in the Royal Museum at Greenwich depict "Vulpecula" as a fox walking to our left with a goose (Anser) in its mouth.

An Improved Moveable Planisphere (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, depicts "Vulpecula et Anser" as a fox running to our right with a goose in its mouth.

"Vulpecula and Anser" is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as a goose in the jaws of a fox: The author is unknown, but it is based on Jamieson's *Celestial Atlas.*

This constellation is listed in the *Atlas Coelestis Novus* (1872) of German mathematician and astronomer Eduard Heis (1806 – 1877): It is depicted as a fox running with a goose (Anser, see Goose above) in its mouth, but only Vulpecula is labelled.

English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "Vulpecula, The Fox" as an official constellation "recognized in the catalogue of the British Association".

Astronomy With an Opera Glass (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this constellation as "Vulpecula, the Little Fox".

German astronomer Hermann Joseph Klein (1844 – 1914) lists "Vulpecula" in his *Star Atlas* (1893) and describes it as "The Little Fox".

American astronomer Winslow Upton's *Star Atlas* (1896) lists this constellation as "Vulpecula (cum Anser" and describes it as a "Fox with Goose".

1001 Wonders as Observed with Home Built Instruments, 3rd edition (1931), by American astronomer Charles Howard Barns lists "Vulpecula".

The 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) lists "Vulpecula" and gives the "original form" as "Vulpecula cum Anser".

As you can see, the fox and goose were separated into the constellations Vulpecula and Anser (see Goose above), but they were merged again by the time the IAU accepted this constellation. The name of the "goose" is remembered in the name of Alpha (α) Vulpeculae: Anser.

Standard IAU charts depict Vulpecula as a line of the two stars Alpha (α) Vulpeculae (Anser) and 15 Vulpeculae.

Czech astronomers Horovka Hlad and Weiselová Polechová (1988) depict Vulpecula in their *Hvězdná obloha 2000.0. Praha: Geodetický a kartografický podnik* as a line of the three stars Alpha (α) Vulpeculae (Anser), 15, and 31 Vulpeculae.

Sky and Telescope Magazine, founded in 1941, depicts Vulpecula in their magazine and publications as a line between Alpha (α) Vulpeculae and 13 Vulpeculae.

An Italian name for Vulpecula is "Volpetta".

Why create a constellation out of such dim stars at all? Centuries ago, medieval astronomers were interested in the "houses" in which the Sun rose or set as they indicated the month of the year. During the Middle Ages, the Sun rose and set in Vulpecula at the time of the Summer Solstice.

In the 1st century Egyptian Zodiac of Dendera a fox is depicted with the neck of a hawk (wearing the Pschent crown, a Sun symbol) above its head, with a long straight plow beneath: As Vulpecula is next to the straight shaft of the IAU constellation Sagitta, and has the IAU constellation Cygnus, the swan, on the other side.

Vultur Volans:

See Aquila, above.

Vulture:

This Greek lunar mansion is listed in the Magical Papyrus 121, preserved in the British Museum, and dated to the 3rd century C.E. (Mosenkis, date n/k). The stars have not been identified.

This Mayan asterism "Ch'oom" represents a bird, possibly a vulture, and is made up of stars of the IAU constellations Aries and Cetus: Alpha (α) Ceti (Menkar), Gamma (γ) Ceti, Nu (ν) Ceti, Mu (μ) Ceti, Xi (ξ) Ceti, and 31 Arietis.

This Barasana star "Yuka" is Alpha (α) Aquilae (Altair) in the IAU constellation Aquila (Hugh-Jones 2006). This star announced the raiding season.

This Latin asterism "Vultur" is the IAU constellation Aquila as listed in John Hill's *Urania* in 1754.

This Tupi asterism "Urubu" is the IAU constellation Corvus (De Freita Mourão 2009).

This **telescopic** asterism is in the IAU constellation Camelopardalis and was listed in *Pattern Asterisms* by American astronomer John A. Chiravalle. Jeffrey Corder lists it as Corder 609. One "wing" of it is the asterism Kemble's Cascade (see Cascade, above). The other "wing" is the line of stars from HIP 18505 through HIP 17891A, 17587, 17296, and 16789. Size 140' X 20'.

Vulture Head Nebula:

This **telescopic** asterism is the reflection nebula LBN 777 in the IAU constellation Taurus. It is also known as the Baby Eagle Nebula.

Vulture Head of Virgo:

This **telescopic** asterism "Gypódes Vírginis" is the spiral galaxy NGC 5254 in the IAU constellation Virgo. It was discovered in 1836 by John Herschel who listed it as h 3527 and later as GC 3621 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the southeastern arms extends like a hook, making the whole galaxy look like the head of a vulture, the hook being the beak, the nucleus being an eye."

Vultus Irrisorie:

See Smiley Face, above.

W:

The stars of the IAU constellation Cassiopeia form a bent letter "W" in the middle of the stream of the Milky Way which is used by amateur astronomers for star hopping. Left to right, the stars are Epsilon (ε) Cassiopeiae (Segin), Delta (δ) Cassiopeiae (Ruchbah, Ksora or Ruchar), Gamma (γ) Cassiopeiae (Navi or Cih- 89th brightest star), Alpha (α) Cassiopeiae (Shedar or Shedir- 70th brightest star) and Beta (β) Cassiopeiae (Caph or Al Sanam al Nakah- 73rd brightest star). *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) describes this asterism as "an inverted chair". *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., tells us the five brightest stars of Cassiopeia "form a W-shape".

This asterism, "Little Cassiopeia", is Corder 4669 in the IAU constellation Lacerta and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Corder attributes this asterism to John Raymond. Size 300' X 60'. This is the stars Beta (β), Alpha (α), 4, 5, and 2 Lacertae.

There are eleven **telescopic** "W" asterisms:

- One that is a miniature version of the "W" of the IAU constellation Cassiopeia, Kemble 2 in the asterism list of RASC member Father Lucien Kemble (1922 – 1999), is found in the IAU constellation Draco between the stars Mu (υ) and Chi (χ) Draconis. The stars are between magnitude 7 and 8 and the three middle stars are HIP 91121, 91163, and 91039. Size 30' X 30'. This is Harrington 25 on the asterism list of American astronomer Phil Harrington, who calls it "Little Queen". Jeffrey Corder lists it as Corder 3604.
- One "Little Cassiopeia" is between the constellations Vulpecula and Sagitta near the Poodle Cluster (see Poodle above). It is made up of the stars 12, 13, 14, 16, and 17 Vulpeculae.
- One is Sánta 23, listed in 2007 by Hungarian astronomer Sánta Gábor, which is described by Gábor as a "pentagon of 5 stars, like Kemble 2 asterism, 8 – 9 [magnitude]" in the IAU

constellation Camelopardalis. This is Corder 1266 on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 20'. This includes HIP 34605, 34503, and 34472.

- One, "Little W", is Leiter 8 from the list of American astronomer Frank Leiter is in the IAU constellation Cassiopeia and includes HIP 4407, 4305, 4237A, and 4155. Its size is 35' X 15'.
- One is "little Cassiopeia", Alessi J0022.7+5417 in the IAU constellation Cassiopeia. This is listed on Bruno Alessi's BDCC 7.6 list. This is a group of five 8th – 9th magnitude stars. It is listed on the Irish Federation of Astronomical Societies site by Myck (2015), who notes that Finnish amateur astronomer Jaakko Saloranto (2013) believes that Johann Elert Bode listed it as Bode 2 in 1777 in his *Astronomisches Jahrbuch*. René Merting lists it on the *Faint Fuzzies* website as DS ES 42. Merting writes: "visible at 45x, but not distinctive because there are many stars of the same brightness in the vicinity - at 111x the celestial W becomes clearer, and the components of the DS ES 42 are clearly separated from each other."
- One is Corder 4978 in the IAU constellation Andromeda and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 55' X 45'. Includes HIP 117588 and 117582.
- One is the French asterism Ferrero 19 in the IAU constellation Taurus: This is beside 136 Tauri and includes HIP 27686, 27629, 27613, and 27605**.**
- One is in the IAU constellation Draco and is Corder 4046 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is five 11th magnitude stars.
- One is in the IAU constellation Pegasus and is Corder 4738 on the observing list of American astronomer Jeffrey Corder. Size 5'. This is five 8th – 10th magnitude stars.
- One is open cluster NGC 225 in the IAU constellation Cassiopeia, which was discovered by English astronomer Caroline Herschel in 1784. It is GC 120 in John Herschel's 1864 *General Catalogue*. It was English astronomer Thomas William Webb that described it as "somewhat like the letter W" in the 5th edition of his *Webb's Celestial Objects for Common Telescopes* in 1893. American astronomer Tom Lorenzin also describes it as a "W" in his *1000 + The Amateur Astronomer's Field Guide to Deep Sky Observing*. The 14th edition of British schoolmaster Arthur P. Norton's *A Star Atlas* (1959) also describes this as "somewhat W shaped".
- This is also known as the "Broken Heart" (see above), the Igloo (see above), and the "Sailboat" (see below).

Waagan:

This Wiradjuri star is Alpha (α) Carinae (Canopus) in the IAU constellation Carina (Mathews 1904, Grant and Rudder 2000). Variations include "Wakend", "Wagan", and "Wahn".

Waar:

This Mursi star is Beta (β) Centauri (Hadar) in the IAU constellation Centaurus (see Pointers, above). They used it as part of a system to tell when the local Omo River would flood.

Waburri:

This Wardaman star is Mu (μ) 2 Scorpii in the IAU constellation Scorpius (Cairns and Harney 2003).

Wachmann's Flare Star:

This **telescopic** flare star is V371 Orionis in the IAU constellation Orion (magnitude 11.50). It is named after German astronomer Arno Arthur Wachmann (1902 – 1990).

Wagahn:

This Bundjalung star is Alpha (α) Carinae (Canopus) in the IAU constellation Carina (Sharpe 1978).

Waggoner:

This English asterism is the IAU constellation Auriga as listed in Robert Hues' *A Learned Treatise of Globes* in 1659 and in John Hill's *Urania* in 1754. American uranographer William Croswell (1760 – 1834) depicts "Auriga the Waggoner" on his *Mercator Map of the Starry Heavens* in 1810 as a beaded male viewed from behind: He is wearing a turban, has a goat on his left shoulder, and holds reins in his right hand. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "waggoner" as a name for Auriga. Compare this to Carter, above.

This German asterism "Roh" is the IAU constellation Auriga as listed by German astronomer Johann Bayer (1572-1625).

Wagon:

This Babylonian asterism from the MUL.APIN tablets "MAR.GÍD.DA" (Anthony 1996), "Eriqqu" (Anthony 1996), or "Ereqqu" (Hunger and Pingree 1989) is the Big Dipper asterism in the IAU constellation Ursa Major, see Big Dipper, above. It appeared in later Seleucid star lore.

This Chaldean asterism "mul.mar.gid.da" (Koch-Westenholz 1995) from the Great Star List (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above).

This Sumerian asterism "mulmar-gíd-da" from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above).

This Akkadian asterism "e-req-qu" from the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above).

This Assyrian asterism "MAR.GID.DA" is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above). It appears in the from the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period as "mul mar.dig.da". Compare this to the Babylonian asterism "MULMAR.GÍD.DA.AN.NA" (see Wagon of Heaven, below).

This Greek asterism "Amaxa" ("Ἅμαξα" = "ama" = "together with" and "axa" = "axle") is the is the IAU constellation Ursa Major and is found in the 8th century B.C.E. poet Homer's *Iliad and Odyssey* (Guglielmino, Cipolla, and Giudice 2017). Homer writes of how Odysseus must sail "keeping the Bear on his left hand" to sail east, indicating that it was in use for navigation in his time:

- Aratus (315 – 240 B.C.E) called Ursa Major the "wain like bear".
- Robert Hues lists "Amaxa" as "wagon or chariot" in his *A Learned Treatise of Globes* in 1659.
- Edward Sherburne also lists "Aganna" for Ursa Major in his *Sphere of Marcus Manilius* in 1675, citing the French scholar Joseph Justus Scaliger (1540 – 1609), who was citing Hesychius of Alexandria (5th or 6th century).

- This constellation appears in John Hill's *Urania* in 1754 as "Amaxas", "Amaxa", and "Aganna" and Hill associates these names with Ursa Minor as well, describing these as "Arabic" names for this constellation. However, the source is actually Greek: 5th century grammarian Hesychius of Alexandria who called it "Ἄγαννα" ("Áganna"), an archaic form of "ἄγειν" ("ágein" or "to carry"), which is a reference to its being seen as a wagon or cart.
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists "the Waggon (sic)" as an alternate name for the Big Dipper asterism and describes the three stars of the handle of the Dipper as "three horses".
- R. H. Allen lists it in his *Star Names* in 1899 and while he mentions Hesychius' use of "Aganna", Allen also suggests that it is an Akkadian name for this asterism, which seems to be a reference to the Babylonian asterism "MULMAR.GÍD.DA.AN.NA" (see Wagon of Heaven, below).

This Hindu asterism is the Hyades cluster in the IAU constellation Taurus as listed by R. H. Allen in his *Star Names* in 1899.

This Hebrew asterism "Ajala" is the Big Dipper Asterism in the IAU constellation Ursa Major as described by Jewish scholar Abraham ibn Ezra (1089 – 1167) and as listed in R. H. Allen's *Star Names* in 1899.

This Italian asterism "Carro" is the Big Dipper Asterism in the IAU constellation Ursa Major as listed in R. H. Allen's *Star Names* in 1899.

This German asterism "Wagen" is the Big Dipper Asterism in the IAU constellation Ursa Major as listed in R. H. Allen's *Star Names* in 1899.

Wagon of Heaven:

This asterism from the Babylonian MUL.APIN tablets "Margiddaanna" or "MULMAR.GÍD.DA.AN.NA" is the head of the IAU constellation Draco: Xi (ξ) Draconis, Gamma (γ) Draconis, Beta (β) Draconis (Rastaban), and 24 Draconis (Hunger and Pingree 1989). The "wagon yoke" is a line out to Delta (δ) Draconis. This appears in later Seleucid sky lore. Compare this to the Assyrian asterism "MAR.GID.DA" (see Wagon, above).

This Babylonian asterism "MAR.GÍD.DA.AN.NA" as listed in Anthony Hope's *A Guide to Ancient Near Eastern Astronomy* in 1996 is the IAU constellation Ursa Minor.

According to Diogenes Laërtius (180 240), citing Callimachus (3rd century B.C.E.), and Thales of Miletus (620 – 545 B.C.E.), this Phoenician asterism "Phoinikē" was the Little Dipper asterism in the IAU constellation Ursa Minor (Belmonte Esteve 2018). R.H. Allen lists this in his *Star Names* in 1899. As a result, the Greeks later named it the Phoenician Bear (see above).

Wagon of Parrhasis:

This Latin asterism is " is the Big Dipper Asterism in the IAU constellation Ursa Major as listed by the 5th century Gaulish poet and diplomat Sidonius Apollinaris and is a reference to a region in southern Arcadia. It is listed in R. H. Allen's *Star Names* in 1899.

Wagon Pole:

This Saxon asterism "Wænes Thīsl" is the Big Dipper Asterism in the IAU constellation Ursa Major as listed in R. H. Allen's *Star Names* in 1899.

Wagon Star:

This Norse star “vagnstjarna” is Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor.

Wagulin:

This Yaegl star is Epsilon (ε) Orionis (Alnilam) in the IAU constellation Orion (Morelli 2012).

Waimariwi:

This Yolgnu star “Waimariwi” is a star in the Pleiades cluster in the IAU constellation Taurus (Fuller & Bursill 2021). Garangal is the older of a mythical pair of Wagalag or Wauwalak sisters, daughters of the Djanggawul (important ancestors) who got pregnant by the “wrong men” and were tracked down and punished by the serpent Julunggul by being placed in the sky. The other sister is Boaliri (see above).

Wain:

This Hobbit asterism is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above) and appears in *The Hobbit* and *The Fellowship of the Ring* by J. R. R. Tolkien (1892 – 1973).

Wainman:

This English asterism is the IAU constellation Auriga.

Waist Cloth:

There are two Arabic stars with the name “loin cloth” or “waist cloth”:

- One, “’al-Marāqq” (المراقّ), is the star Epsilon (ε) Boötis in the IAU constellation Boötes:
    - This was later latinized to “Mirak”, “Micar”, “Mirar”, “Merer”, “Meirer”, “Mezen”, “Mezer”, and “Merak”.
    - English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Mirár, Merer, and Meirer of the Alphonsine [sic] Tables, subsequently changed to Mirac and Micar”.
    - *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star as “Mirach”.
    - The 1st edition of British schoolmaster Arthur P. Norton’s *A Star Atlas and Telescopic Handbook* (1910) lists “Mirac” and “Mirach” for this star.
- One, “’al-Marāqq” (المراقّ), is the star Beta (β) Andromedae in the IAU constellation Andromeda, later latinized to “Mirach”:
    - The Sloane astrolabe BM SL 54 in the British Museum (1290 – 1300) lists “Miracandro” which suggests this star, but the location given is for Alpha (α) Cassiopeiae (Schedar) in the IAU constellation Cassiopeia (Dekker 2000).
    - The celestial globe (1493) of German astronomer Johann Stöffler (1452 – 1531) lists “Mirach”.
    - Johann Bayer’s *Uranometria* (1603) lists “Mirach” and “Mizar” for this star.
    - “Mirach” is listed for this star in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661.
    - A wooden precession globe (1730) by German uranographer Johann Georg Puschner (Dekker 2003) simply labels this star “Andromeda”.
    - The *Atlas Coelestis* of German astronomer Johann Gabriel Doppelmayr (1742) labels this star “Mirach”.

- John Hill gives it the names “Mizach”, “Mizaz”, and “Mizath” in his *Urania* in 1754.
- Variations include “Mirac, “Merach”, “Mirar”, “Mirath”, “Mirax”, and “mirat”, the latter coming from the *Alfonsine Tables* of 1521 which listed the name “super Mirat” which is from “super mizar” found in some translations of the *Almagest*.
- Johann Elert Bode‘s *Vorstellung Der Gestirne* (1782) lists this star as “Mirach“.
- English astronomer William Henry Smyth (1788 - 1865) listed the name “Mirae”, which R. H. Allen describes as “a typographical error” in Allen’s *Star Names* in 1899.
- Allen points out that the name “Mirae” for Beta (β) Ursae Majoris is used by John Chilmead in his *A Learned Treatise on Globes*, 1889, which was a translation of the Latin work by English geographer and mathematician Robert Hues (1553 – 1632): Actually, the name listed by Hues is “Mirach”.
- Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists this star as ”Mirach”.
- American uranographer William Croswell (1760 – 1834) lists “Mirach” on his *Mercator Map of the Starry Heavens* in 1810.
- American uranographer William Croswell (1760 – 1834) lists this star as “Mirach” on his *Mercator Map of the Starry Heavens* in 1810.
- Scottish uranographer Alexander Jamieson (1782 – 1850) lists this star as “Mirach” in his *Celestial Atlas* and his *Stereographic Projection of the Northern Celestial Planisphere of the Plane of the Equinoctial* (1822).
- *An Improved Moveable Planisphere* (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, lists this star as “Al Mirach”.
- “Mirach” is listed in *Urania’s Mirror* in 1852.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Mirach, from the mantle or apron around her” and lists “Mirae” as a variation found in the *Alfonsine Tables*. Smyth also lists “Mizár, girdle” as a name given to this star by French scholar Joseph Justus Scaliger (1540 - 1609).
- *An Improved Moveable Planisphere* (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, lists this star as “Mirach”.
- This star is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852 as “Mirac”: The author is unknown, but it is based on Jamieson’s *Celestial Atlas*. German astronomer
- Johann Elert Bode’s *Nachtrag zu Seiner Unleitung zur Renntnik des Gestrirnten Himmel* (1818 – 1820) lists this star as “Mirach”.
- English astronomer Richard A. Proctor’s *A New Star Atlas* (1887) lists this star as “Mirach” and “Mizar”. Elsewhere in this atlas Proctor gives the name “Mizar” as a name for Zeta (ζ) Ursae Majoris.
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as “Mirach”.
- American astronomer Winslow Upton’s *Star Atlas* (1896) lists this star as “Mirach” and translates it as “Loins”.
- The 1st edition of British schoolmaster Arthur P. Norton’s *A Star Atlas and Telescopic Handbook* (1910) lists “Mirac”, “Mirach”, and “Izar” for this star, but his 14th edition (1959) lists this star as “Mirach” and “Mizar”.
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists “Mirach”.
- The IAU approved the name Mirach for Beta (β) Andromedae in 2016.

- NOTE: In his *Urania* in 1754, John Hill gives the name “Mara” and “Al Mara” as an “Arabian name” of the IAU constellation Andromeda, which is clearly a reference to Mirach. Hill does not provide a translation.

This Greek star “ζώνη” or “Zóni” (“waistband”) is Beta (β) Andromedae (Mirach) in the IAU constellation Andromeda as described by Hipparchus (190 – 120 B.C.E.) and by R. H. Allen in *Star Names* in 1899.

Waitā:

This Māori star, “Waitā”, is in their asterism “Matariki” (See Chief’s Eyes, above) which is the Pleiades cluster in the IAU constellation Taurus (Harris et al 2013).

Waiti:

This Māori star, “Waiti”, is in their asterism “Matariki” (See Chief’s Eyes, above) which is the Pleiades cluster in the IAU constellation Taurus (Harris et al 2013).

Waiyungari:

This Ngarrindjeri asterism is made up of the stars of the IAU constellation Scorpius: Alpha (α) Scorpii (Antares), Tau (τ) Scorpii, and Sigma (σ) Scorpii. Waiyungari and his two wives escaped his brother Nepeli by climbing his spear into the sky (Hamacher 2017). Compare this to the Boorong asterism “Djuit” (see Red-Rumped Parrot, above). One version of the story (Clarke 2009) has Waiyungari and his brother throwing spears into the sky. Compare this to Two Ancestors, above.

Wake of the Fine Pickaxe:

This Rapanui asterism “Ko Toe Ko Peu Renga” is the stars Alpha (α) Aurigae (Capella) and Beta (β) Aurigae (Menkalinan) in the IAU constellation Auriga (Edwards and Edwards 2010, Edwards and Edwards 2016, Edwards et al 2018). The Edwards note that Renga is also translated as “energy” or “to paint something yellow or red (sacredness)”.

Walborn's Star:

This **telescopic** Wolf–Rayet star BAT99-6 in the Large Magellanic Cloud in the IAU constellation Dorado. It was named after Nolan R. Walborn. This binary system is a slash star and an O-type main sequence star.

Waling:

This Wardaman star is Upsilon (υ) Scorpii in the IAU constellation Scorpius (Cairns and Harney 2003).

Wall:

This Chinese xiù (lunar mansion) “Bìxiù” (壁宿) is a line of two stars in the IAU constellation Andromeda: Alpha (α) Andromedae (Alpheratz) and Gamma (γ) Andromedae (the determinative star). In the *Han shu*, a history of the early Han dynasty that was finished in 111 C.E. this xiù “Dong Bi” was associated to matters concerning the Bingzhou territory. This appears in the Tang Dynasty (618 – 907 C.E.) as “Bì” (壁) and is compared to the Vedic nakshatra Uttara Bhadrapada (Kotyk 2017, see Second of the Blessed Feet, above). This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Japanese sei shuku or lunar station “Naname Boshi” is a line of two stars forming one side of the Great Square of Pegasus in the IAU constellation Pegasus (see Great Square, above): Delta (δ) and Gamma (γ) Pegasi.

Wanderer of Leo Minor:

This **telescopic** asterism “Vágus Leónis Minóris” is the edge-on spiral galaxy NGC 3432 (Arp 206) in the IAU constellation Leo Minor. This was discovered by English astronomer William Herschel in 1787 who listed it as “I 172” in his catalogue. It is GC 2238 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to its “rather irregular and loose shape”. It is also known as the “Knitting Needle” (see above).

Wandering Alone of Draco:

This **telescopic** asterism “Obvolúta Dracónis” is the field dwarf spiral galaxy NGC 6503 in the IAU constellation Draco. It was discovered by Arthur von Auwers in 1854. It is GC 4351 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because O’Meara had named it the Lost in Space Galaxy (see above).

Wang Liang:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty “Wangiang” is in the IAU constellation Cassiopeia. It is a fan of four star lines radiating out of the determinative star, Beta (β) Cassiopeiae (Caph), representing a charioteer, with the star at the end of each representing a “Tiansi” (“Celestial Horse”): Zeta (ζ) Cassiopeiae, 18 Cassiopeiae, Eta (η) Cassiopeiae, and Gamma (γ) Cassiopeiae. Nearby is their asterism “Ce” (see Whip, below).

This Chinese xing guan “Wángliáng” (王良) is a quadrilateral of stars in the IAU constellation Cassiopeia: Beta (β) Cassiopeiae (Caph), Kappa (κ) Cassiopeiae, Eta (η) Cassiopeiae, Alpha (α) Cassiopeiae (Shedar), and Lambda (λ) Cassiopeiae.

This Chinese Chenzhuo xing guan “Wángliáng” is made up of stars of the IAU constellation Cassiopeia: From a central star Beta (β) Cassiopeiae (Caph) four lines run out:

- One line runs to Gamma (γ) Cassiopeiae,
- One line runs to Eta (η) Cassiopeiae,
- One line runs to Alpha (α) Cassiopeiae (Shedar), and
- One line runs to Zeta (ζ) Cassiopeiae.

Wanggii:

This Euahlayi asterism is the stars Eta (η) and Sigma (σ) Ursae Majoris in the IAU constellation Ursa Major (Fuller et al 2014).

War and Peace Nebula:

See Lobster Nebula, above.

War Dance of Ursa Major:

This **telescopic** asterism "Pýrrhiche Úrsae Majóris" is the interacting spiral galaxies UGC 8335 (Arp 238) in the IAU constellation Ursa Major. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the spectacular scene of these two wildly interacting galaxies with their long tidal arms".

Waratwi Palms:

This Palikur asterism is the stars Alpha (α) Canis Majoris (Sirius) and Alpha (α) Carinae (Canopus) and represent the Waratwi (Tucumã) Palms.

Warbuck:

This Hungarian asterism "Hadabuka" is depicted as a buck deer walking on the celestial map of Hungarian uranographer Sandor Nagy (1915). NOTE: Nagy's 1915 chart is beautifully illustrated, but some of the labels are hard to make out and I find it difficult to match the hand drawn stars on his chart with actual star patterns in the sky. The stars are currently unidentified.

Wardens:

This asterism is the stars Beta (β) Ursae Minoris (Kochab) and Gamma (γ) 1 and 2 Ursae Minoris in the IAU constellation Ursa Minor as listed by R. H. Allen in his *Star Names* in 1899. Allen does not identify the culture involved.

Warehouse of Sky:

This Korean lunar mansion "Wii" is a triangle of stars in the IAU constellations Aquarius and Pegasus: Theta (θ) and Epsilon (ε) Pegasi and 34 Aquarii.

Warinehn:

This Bundjalung asterism "Warinehn" or "Warinihygan" is the Pleiades cluster in the IAU constellation Taurus (Sharpe 1978).

Warrdirrg:

This Wardaman star is 27 Tauri in the Pleiades cluster in the IAU constellation Taurus (Cairns and Harney 2003).

Warrior:

This Chinese asterism "Shen" (参) appeared in the *Xia Xiao Zheng* (夏小正 *Small Calendar of the Xia Dynasty*) which dates to the 21st to 17th century B.C.E. and appears in the turtle plastrons and ox scapulae from the reigns of the last few kings of the Shang Dynasty (1250 – 1450 B.C.E.) and is the IAU constellation Orion. It appears in the Tang Dynasty (618 – 907 C.E.) and is compared to the Vedic nakshatra Ardra (Kotyk 2017, see Moist One, above). Shen is a great hunter or warrior.

This Northern Andean asterism "Ana Jaramillo de Velasteguí" ("the warrior" or "the man with a spear" or "the dancer") is roughly a triangular shape made up of stars of the IAU constellations Cassiopeia and Cepheus (Quinatoa 2018): The corners are the stars Delta (δ) Cassiopeiae (Ruchbah), Iota (ι) Cephei, and Iota (ι) Cassiopeiae. He is holding the "arrow" Jorge Trujillo (see Arrow, above).

Warrior of the Sky:

This Elvish (Qenya) asterism “Telumehtar” is the IAU constellation Orion. Telumehtar is the “heavenly swordsman” from the works of J. R.R. Tolkien (1892 – 1973).

Wasat:

See Middle, above.

Wasp:

This asterism “Vespa” was created by German astronomer Jakob Bartsch (1600 – 1633) using the stars of the IAU constellation Aries: 33, 35, 39, and 41 Arietis: it appears in his *Planisphaerium Stellatum* (1613). It is also known as the Northern Fly (see above), or Apis (see Bee, above). Bartsch labelled it “Apes” and “Vespa Beelzebub, deum muscarum” (“Beelzebul, the god of flies”). Edward Sherburne lists this as “Vespa” or “Apes” in his *Sphere of Marcus Manilius* in 1675.

Wasp Nest:

This Tupi Guarani asterism “Vespeiro” is the Pleiades cluster in the IAU constellation Taurus. Compare this to their asterism Eixu (see Seven Bees, above).

Wasp Waist Cluster:

This **telescopic** asterism is the open cluster NGC 6633, discovered by Swiss astronomer Jean-Philippe Loys de Chéseaux in 1745-6 in the IAU constellation Ophiuchus. English astronomer Caroline Herschel rediscovered it in 1783 and her brother William Herschel listed it as VIII 72. It is GC 4410 in the *General Catalogue* of 1864. It is also known as the Captain Hook Cluster (see Captain Hook, above), the Otter and Ball (see above), the Tweedledum Cluster (see Tweedledum and Tweedledee, above), and “Kermit the Tadpole” (see above).

Wasteland:

See Empty Place, above.

Watcher:

This Arabic star “al-raqib” is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes. Compare this to Spear of the Spear Bearer (above). This appears in the calendar of Qushayr as it is positioned above the Unarmed High One (see below).

This Bedouin (Hayel region) star “al-Reqīb” (الرقيب) is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes.

Watching Over Dorado:

This **telescopic** asterism “Ephorásis Dorádus” is the galaxy ESO 119-027 (PGC 16130) in the IAU constellation Dorado. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because this galaxy “this system consists of a foreground spiral galaxy and an earlier type background galaxy [which give] the impression that the former is being watched over by the latter”.

Watchtower:

This Korean lunar mansion “Ru” is a line of three stars in the IAU constellation Aries: Alpha (α) Arietis (Hamal), Beta (β) Arietis (Sheratan), and Gamma (γ) 1 Arietis.

Water:

This Aztec asterism is made up of the stars of the IAU constellations Canis Minor, Orion, and Gemini.

This Greek star "Υδωρ" or "Hydor" is Lambda (λ) Aquarii in the IAU constellation Aquarius. In his *Star Names* in 1899 R. H. Allen claims that it received this name from Aratus (315 – 240 B.C.E) and the 5th century Greek philosopher Proclus.

This asterism is the part of the sky which includes Aquarius, Capricornus, Cetus, Delphinus, Eridanus, Hydra, Pisces, and Piscis Austrinus. In his *Star Names* in 1899 R. H. Allen wrote that "Euphratian astronomy" in this region referred to this part of the sky as "the Sea".

This asterism "Muau" or "Mũ", latinized to "Monius", is the IAU constellation Aquarius as described by Jewish scholar Abraham ibn Ezra (1089 – 1167) and listed in R. H. Allen's *Star Names* in 1899.

This Greek asterism "Aqua" is made up of stars in the IAU constellation Aquarius and was described by Aratus (315 – 240 B.C.E). In his *Star Names* in 1899 R. H. Allen reports that Aratus called this "the Water": It starts at Gamma (γ) Aquarii and runs through Zeta (ζ), Eta (η), Lambda (λ), Psi (ψ), and 94 Aquarii to 98 Aquarii and includes Alpha (α) Piscis Austrini (Fomalhaut) in the IAU constellation Piscis Austrinus and Beta (β) Ceti (Diphda) in the IAU constellation Cetus. This constellation is mentioned in the Leiden *Aratea* (816). "Aqua" is depicted on gores of the globe of Petrus Plancius published in 1598 by Jodocus Hondius. Compare this to Pouring Forth of Water, above.

This Persian asterism "Vaht" is the stars Alpha (α) Andromedae (Alpheratz) and Gamma (γ) Pegasi (Algenib) as listed by R. H. Allen in his *Star Names* in 1899. Allen vaguely translates this as "something pertaining to water".

This Sogdian asterism "Bath" is the stars Alpha (α) Andromedae (Alpheratz) and Gamma (γ) Pegasi (Algenib) as listed by R. H. Allen in his *Star Names* in 1899. Allen vaguely translates this as "something pertaining to water".

This Khorasmian asterism "Farshat Bath" is the stars Alpha (α) Andromedae (Alpheratz) and Gamma (γ) Pegasi (Algenib) as listed by R. H. Allen in his *Star Names* in 1899. Allen vaguely translates this as "something pertaining to water".

Water Animal:

This **telescopic** Nahuatl star "Axólotl" is HIP 118319 (HD 224693) in the IAU constellation Cetus (magnitude 8.22). It was given this name in the IAU NameExoWorlds Campaign. It has an exoplanet named Xólotl ("animal") and Aztec deity associated with the evening star.

Water Bearer:

This asterism is the IAU constellation Aquarius as listed in *De Revolutionibus Orbium Cœlestium*, Libri VI (1543) of Nicholaus Copernicus and in John Hill's *Urania* in 1754. Compare this to Water Carrier, below.

Water Boa:

There are three Carib "Suluiuyuman" or "Suluiu" (Water Boa) asterisms:

- One is made up of stars of the IAU constellations Ophiuchus and Scorpius (Magaña, and Jara, 1982). As its head rises in the east, Siritjo (the Pleiades) sets in the west.
- One is made up of stars of the IAU constellations Orion and Taurus. The Hyades cluster forms the "head". The "body" runs down through Pi (π) 1, 2, 3, 4, 5, and 6 Orionis. As its head rises in the east, Siritjo (in this case stars surrounding Alpha (α) Persei (Mirfak)) set in the west.
- One is made up of stars of the IAU constellations Andromeda, Auriga, Camelopardalis, Cassiopeia, Lacerta, Perseus, and Taurus: The "head" is the Hyades cluster in Taurus. The "body" runs through Auriga, Camelopardalis, and Cassiopeia, with the "tail" being Lacerta.

This Arawak asterism "Camudi" is made up of stars of the IAU constellations Ophiuchus and Scorpius (Magaña, and Jara, 1982).

Water Bringer:

This Greek star "Ὑδραγωγόν" or "Ydragogón" is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major as listed by the Greek philosopher Plutarch (c.46 – 119).

Water Bucket:

This Greek asterism "Ὑδρεῖον" ("Ydreíon") or "Ἀργεῖον" ("Argeíon") is the IAU constellation Crater.

This Turkish asterism "Kugha" is the IAU constellation Aquarius as listed in R. H. Allen's *Star Names* in 1899.

Water Carrier:

This Greek asterism "῾Υδροχόος" ("῾Ydrochóos") is the IAU constellation Aquarius as mentioned in Aratus' poem *Phaenomena* (270 B.C.E.) and as originally described in Ptolemy's *Almagest* (2nd century). It appears on the Daressy Zodiac of the Roman Imperial Period as a water carrier next to an ibis.

This Hebrew asterism "D'li" or "Delī" is the IAU constellation Aquarius as listed in their list of constellations of the zodiac (mazzaroth) in their Talmud. John Hill lists this as "Deli" in his *Urania* in 1754, as does Edward Sherburne in his *Sphere of Marcus Manilius* in 1675 and R. H. Allen in his *Star Names* in 1899. Italian astronomer Giovanni Battista Riccioli (1598 – 1671) listed it as "Delle".

This Syrian asterism "Daulo" is the IAU constellation Aquarius as listed in John Hill's *Urania* in 1754 and Edward Sherburne's *Sphere of Marcus Manilius* in 1675.

This Persian asterism "Dol", "Dūl", or "Dul" is the IAU constellation Aquarius as listed in John Hill's *Urania* in 1754 and R. H. Allen's *Star Names* in 1899.

This Saxon and German asterism "der Wassermann" is the IAU constellation Aquarius as listed in Johann Elert Bode's *Vorstellung Der Gestirne* (1782). "Der Wassermann" is also found in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch and as depicted in the *Nördliche Sternhimmel* sky map of O. S. Reuters based on the work of German astronomer Johann Elert Bode (1747 – 1826). Johann Elert Bode's *Vorstellung Der Gestirne* (1782) lists this constellation as "Wassermann". See Aquarius, above.

This Italian asterism "Il Aquario" is the IAU constellation Aquarius.

This French asterism "le Verseau" is the IAU constellation Aquarius.

Water Deity:

The Chinese translation of the Sūryagarbha-parivarta from 585 describes the IAU constellation Aquarius as “Shuǐ qì zhī shén” (水器之神) or “water deity” (Kotyk 2017).

Water Droplet:

There are two **telescopic** “water droplet” asterisms:

- One is the open cluster Kronberger 36 in the IAU constellation Cygnus. Size 6’ X 6’. René Merting describes it on the *Faint Fuzzies* website: “At 72X stars are visible against a slightly milky background- at 160X there are a good 8 stars that seem to make up the cluster, with two brighter ones to the north and east- the cluster appears like a water droplet, tip to the east”.
- One is Ennis 16 in the IAU constellation Gemini listed by Canadian astronomer Charles Ennis. Size 25’. This starts at the star HIP 30723 and runs around through Gaia DR3 3376148829316130048, Gaia DR3 3376633655367374976, HIP 30723, HD 45209, HD 45323, HD 257564, Gaia DR3 3376433156151688704, Gaia DR3 3376150650382256896, and Gaia DR3 3376148279561590016. Part of the loop is Corder 1096 (see “U” below).

Water Drawer:

This Arabic asterism “Sakib al Ma” is the IAU constellation Aquarius:

- “Sākib al-Mā’” is listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 as a name for Aquarius (Hafez 2010).
- “Sakib al Ma” is listed in John Hill’s *Urania* in 1754.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Sákib el má, the water drawer”.

Water Drawer of Virgo:

This **telescopic** asterism “Haústor Vírginis” is the spiral galaxy NGC 5426 (Arp 271) in the IAU constellation Virgo. It was discovered in 1785 by William Herschel who listed it as “II 309”. It became GC 3750 in the General Catalogue of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because “this galaxy and its neighbour NGC 5427 are connected with a bridge of material.” A Haustor is someone who draws water from a well.

Water Eyes:

This This Mapuche asterism “Menoko” is the Magellanic Clouds (Menares 2008, Catricheo 2022). It is also known as Water Wells (see below).

Water Flea of Crater:

This **telescopic** asterism “Longiróstris Cratéris” is the spiral galaxy IC 2627 in the IAU constellation Crater. It was discovered by Lewis Swift in 1898. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of “the long spiral arms at the western side of the galaxy”. They note that “the galaxy shows some apparent resemblance with the water flea Bosmina Longirostris”.

Water Goanna:

This Wardaman star “Gudja” is Kappa (K) Serpentis in the IAU constellation Serpens. This is a type of lizard. The IAU approved the name Gudja for Kappa (K) Serpentis.

Water Jar:

This German Y-shaped asterism “Uma”, “Urna”, or “Urn” in the IAU constellation Aquarius was created in 1596 by the German uranographer Zacharias Bornmann. It is made up of four stars, with Zeta (ζ) Aquarii (Sadaltager) at the center, the faintest, Pi (π) Aquarii (Seat) at the upper right of the "Y", Eta (η) Aquarii at the lower left and Gamma (γ) Aquarii (Sadachbia) is at the lower right. Urna is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch. Urna is listed in the *Harmonia Macroscosmica* of Dutch uranographer Andreas Cellarius in 1661. John Hill lists this asterism as “Urn” in his *Urania* in 1754 and R. H. Allen mentions it in his *Star Names*. English poet John Keats (1795 – 1821) mentions it in his *Endymion*. Jeffrey Corder lists it as Corder 4679. This name was listed in August 2021 in *Constellation Guide* (https://www.constellation-guide.com/category/asterism/). NOTE: “Urna” also appears as a name for the constellation Crater.

Water Jug:

This Norwegian asterism “Vannkannen” is in the IAU constellation Aquarius. It is the stars Lambda (λ), Eta (η), Kappa (κ), and Zeta (ζ) Aquarii.

Water Level:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a line of five stars in the IAU constellation Gemini: 68 Geminorum (the determinative star), 74 Geminorum, 81 Geminorum, HIP 38394 and 85 Geminorum.

This Chinese xing guan “Shuǐwèi” (水位) is a quadrilateral of stars in the IAU constellation Cancer: Zeta (ζ), 6, 8, and 11 Cancri.

This Chinese Chenzhuo xing guan “Shuǐwèi” is a line of five stars in the IAU constellations Cancer and Gemini: Mu (μ) Cancri, 85 Geminorum, HIP 38394, 81 Geminorum, and 74 Geminorum.

Water Lily Nebula:

This **telescopic** asterism is protoplanetary nebula IRAS 16594-4656 (PN G340.3-03.2) is in the IAU constellation Ara.

Water Pitcher:

This Vedic rashi “Kumbha” as listed in the Vedic *Candragarbha-parivarta* (Kotyk 2017, Bhagwath 2019) is the IAU constellation Aquarius. The Chinese phonetically translated “Kumbha” from the Vedic *Candragarbha-parivarta* in 566 as “Jiupan” (Kotyk 2017). W. Brennan lists it as “Cumbha” in his *Hindu Astronomy* in 1896. Bhagwath writes that it represents the energy of the God Pushya.

This Tibetan khyim “Bumba” is the IAU constellation Aquarius (Johnson-Groh 2013).

Water Pot:

This Suku Bali asterism “Kumba” is the IAU constellation Aquarius.

Water Pourer:

This Persian asterism “Al Sākib al Mā” is the IAU constellation Aquarius as listed by Zakariya al-Qazwini (1203 – 1283) and listed in R. H. Allen’s *Star Names* in 1899.

This Saxon asterism “se Waeter-gyt” is the IAU constellation Aquarius as described by English translator John of Trevisa in 1398 and listed in R. H. Allen’s *Star Names* in 1899. John wrote: “The Sygne Aquarius is the butlere of the goddes and yevyth them a water-potte.”

Water Serpent:

This asterism is the IAU constellation Hydra as listed in John Hill’s *Urania* in 1754. Compare this to Water Snake, below.

Water Slide:

This large Western asterism is a “river” of stars between magnitude 3 and 4 that runs roughly between the star Delta (δ) Aquilae (Almizan) in the IAU constellation Aquila to the area around the star Beta (β) Ophiuchus (Cebalrai) in the IAU constellation Ophiuchus.

Water Snake:

This German asterism “Wasserschlange” is the IAU constellation Hydra as depicted in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch. Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists this constellation as ”Wasserschlange” and depicts it as a snake with a forked tongue. “Wasserschlange” appears in the the *Nördliche Sternhimmel* sky map of O. S. Reuters based on the work of German astronomer Johann Elert Bode (1747 – 1826). The *Hemelglobe* (1600) of Dutch uranographer Jodocus Hondius (Joost de Hondt 1563 – 1612) lists this as “Wasserschlange” and “Hydrus”.

Compare this to Water Serpent, above.

Water Star:

This !Xõ star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Alcock 2014).

Water Truck:

This American asterism is the IAU constellation Ursa Major and was created by Brad and Kathryn Templeton for *The Vault of Heaven* star map for the 2004 Burning Man event held in Black Rock Desert in Nevada (Kuperjanov 2006). The “handle” of the Big Dipper asterism is the water coming off of the back of the truck and the “bowl” of the dipper plus the stars which make up the front of the “bear” have become the truck.

Water Wells:

This Mapuche asterism “Rüŋaŋko” or “Rügagko” is the Magellanic Clouds (Menares 2008, Catricheo 2022). This is also known as Water Eyes (see above).

Water Wheel Star:

This Yucatec asterism “Noria Ek” is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above).

Waterbug:

This **telescopic** asterism is NGC 5033, a spiral galaxy in the IAU constellation Canes Venatici. This was discovered by English astronomer William Herschel in 1785 who listed it as "I 97". It is GC 3459 in the *General Catalogue* of 1864.

Waterfall:

This **telescopic** asterism Sánta 119, listed in 2009 by Hungarian astronomer Sánta Gábor, is a 1.5-degree long cascade of stars in the IAU constellation Crater. It starts at HIP 55081 (HD 98046) near Phi (ϕ) Leonis and runs through a series of 9 – 10th magnitude stars. Gábor describes it as "HD 98046 cascade = waterfall/magic fountain, ast. Of 1.5 deg NE-SW, equal 10m, started from Phi (ϕ) Leo."

Waterfall Nebula:

This **telescopic** asterism is nebula is Herbig-Haro 222 (HH-222) in the Orion Molecular Cloud in the IAU constellation Orion. It is located within the Thirteenth Pearl Nebula (see above). This name is posted in the Deep Sky Forum by American astronomer Howard Banich in February 2022: Banich refers to an earlier post in 2013.

Waterholes:

This Mocoví asterism "Temal" or "Los Pozos" is the Magellanic Clouds (Lopez 2021).

Waters:

This Seleucid asterism "NAGAR" (see Crab, above) or "A.MES" ("waters"). in tablet SBTU II No 43 (W 22646) from the Seleucid (Hellenistic) period (275 B.C.E. – 116 C.E.) is the IAU constellation Cancer (Foxvog 1993).

This Hindu star "Āpa", or "Āpas" is Delta (δ) Virginis in the IAU constellation Virgo as listed in R. H. Allen's *Star Names* in 1899.

Watery:

This Greek asterism "Hydrochoüs" or "Hydrochous" is the IAU constellation Aquarius as listed by 1st century B.C.E. Roman consul Quintus Lutatius Catulus and appears in John Hill's *Urania* in 1754. The Roman general Germanicus (15 B.C.E. – 19 C.E.) named it "Hydrochoös". English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Hydrochoos".

Watery Fish:

This Latin asterism "Piscis Aquosus" is the IAU constellation Piscis Austrinus as listed by the Roman poet Publius Ovidius Naso (Ovid, b. 43 B.C.E.).

Watery Trigon:

This astronomical asterism is the IAU constellations Cancer, Pisces, and Scorpius.

Wattle:

This Australian star "Wattle" is the G8V star WASP-19 in the IAU constellation Vela. It received this name in the IAU's NameExoWorlds competition in 2022. Wattle is a genus of approximately 1000 shrubs and trees in Australia. It has an exoplanet WASP-19b, "Banksia", which is a genus of Australian wildflower.

Waty Bekety:

This ancient Egyptian asterism is the IAU constellation Crux.

Waved Flag:

This **telescopic** asterism is Hahn 1 in the IAU constellation Canis Major. Christoph Hahn discovered this between Alpha (α) Canis Majoris (Sirius) and Messier 41. in February 2023 while searching for galaxy NGC 2283: It reminded him of a waved flag. Robert Zebahl describes it on his *Faint Fuzzies* website as "a short cascade of stars of 7th to 8th magnitude, complemented by a star of 9th magnitude, and to the west of it two more stars of 7th and 8th magnitude.

Waves of Heaven:

This French asterism is the Big Dipper Asterism in the IAU constellation Ursa Major as listed in R. H. Allen's *Star Names* in 1899. Allen attributes it to "Carmarden, in his Rouen edition of 1515" and writes that he derived it from Anglican theological writer Edmund Becke's "Vaynes" ("heaven's wagon" c. 1550): This would likely be Richard Carmarden (d. 1603), a Surveyor of Customs for London, although Carmarden paid for a printing of the Bible in English in Rouen in 1566 and wrote *Caveat for the Quene* in 1570, which is much later than the date given by Allen.

Waving Gingerbread Man:

This Canadian **telescopic** asterism is made up of stars of the IAU constellation Boötes. Canadian astronomer Tommy Stam in Laval, Quebec recorded this asterism in the process of searching for carbon star TYC 3483-1327-1 on 15 June 2025. Here is his description:

- Head: HD 138302
- Neck: SAO 45564
- Chest: HD 138438
- Stomach: SAO 45577
- Carbon Star "belly button: TYC 3483-1327-1
- Left Side facing us:
    - Shoulder: HD 138213
    - Elbow: HD 137629
    - Hand: HD 137257
    - Upper leg: SAO 45582
    - Knee: SAO 45574
    - Foot: HD 138421
- Right side facing us:
    - Shoulder: HD 138556
    - Elbow: HD 138802
    - Wrist: GAIA DR3 1401787375916193792
    - Hand: GAIA DR3 1401037818223420160
    - Upper Leg: SAO 45587
    - Knee: HIP 76045
    - Foot: HD 138819

Wawaiya:

This Carib asterism is the Pleiades cluster in the IAU constellation Taurus (Magaña, and Jara, 1982). Wawaiya is the wife of Serikoai. Wawaiya ran off with a tapir. Serikoia chased them caught the tapir and ate all of it except its head. Wawaiya and the tapir's head (the Hyades) ran up into the sky where Serikoai chases them.

Way:

This stars of this Toba asterism "Tojo" are unidentified at present (Gómez 2011).

Wayakka:

This unidentified Kaurna asterism was listed by Hamacher in 2015.

Wazn:

See Weight, below.

We:

This **telescopic** Pitkern star "Uklun" ("we" or "us") is HIP 57291 (HD 102117) in the IAU constellation Centaurus (magnitude 7.45). This name was given to this star in the IAU NameExoWorlds campaign. It has an exoplanet named Lelsullun: Lekl Sullun means "child" in this language.

Weak:

This Rapanui asterism is the Hyades cluster in the IAU constellation Taurus (Edwards 2016). It is also known as "the Sprout from Hiva" (Hiva being the Rapanui homeland) or "the Twins".

Weakest:

This asterism "Debilissima" is described by R. H. Allen in his *Star Names* in 1899 as "three very much fainter [stars], two of which, of the 13th magnitude" between the stars known as the Double Double (see below), first listed by English astronomer John Herschel in 1823.

Wealth Restorer:

This Vedic moon station in the IAU constellation Gemini consists of the stars Alpha (α) Geminorum (Castor, who they call "Aditi") and Beta (β) Geminorum (Pollux- who they call "Diti").

Wealthiest:

This Vedic asterism is a circle of stars of the IAU constellation Delphinus: Beta (β) Delphini (Rotanev), Delta (δ) Delphini, Zeta (ζ) Delphini, 9 Delphini and 12 Delphini.

This Tibetan gyukar (lunar house) "Mon Gre" or "Möndre" (Johnson-Groh 2013) is in the IAU constellation Delphinus and is the star Beta (β) Delphini (Rotanev).

Wealthy:

This Vedic nakshatra (lunar mansion) "Revatī", "Revati", or "Rewati" is the star Zeta (ζ) Piscium in the IAU constellation Pisces. This has also been translated as "cause to thrive", "transcendent", or "wealthy" (Dillon 2018) and even "preposterous". Compare this to the Vedic asterisms Wealth Restorer (see below), and the Vedic and Myanmar asterisms Wealthiest (see below). Ivanković (2021) lists this as "Revatī" and relates it to the Vedic solar God Pusan or Pushan, who is the God of meeting, marriages, journeys, roads, and the feeding of cattle and was a psychopomp conducting souls to the

afterlife. Ivanković notes that some texts list the stars Alpha (α) Piscium (Alrescha) and Eta (η) Piscium for this asterism. In 2019 Leitz lists "Revati" as appearing in the *Atharveda* and on the nakshatra list of the scholar Varahamihir but identifies this as "the star Piscium": Of course, Piscium is a suffix which could apply to any star in Pisces. Later Leitz has the maharshi Parasara listing Alpha (α) Piscium (Alrescha) or Zeta (ζ) Piscium and the *Brhat Samita* listing 32 stars, while other texts only one. W. Brennand lists this as "Revati" in his *Hindu Astronomy* in 1896 and translates this as "a smaller sort of tabor". Bhagwath (2019) lists its symbols as either a pair of fish or a drum. In 2017 the IAU approved the name Revati for the star Zeta (ζ) Piscium A.

This Myanmar nekkhat (lunar mansion) "Yewati" (ဧရာဝတီ) is the star Zeta (ζ) Piscium in the IAU constellation Pisces.

This Tibetan gyukar (lunar house) "Nam Gru", "Namdru", or "Shesa" is the star Zeta (ζ) Piscium in the IAU constellation Pisces (Johnson-Groh 2013).

Weapon:

There are two Latin asterisms with the name "Telum":

- One is the IAU constellation Sagitta:
    - The *imagines coeli septentrionales cum duodecint imaginibus zodiaci* ("images of the northern sky with twelve images of the zodiac"), commonly known as the *Northern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius (Dekker & Lippincott, 1999) lists "Telum" for this constellation and depicts it as an arrow with a double barbed head.
    - The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) depicts "Telum" as an arrow in flight overlapping Aquila's right wing.
    - Jesuit German mathematician Christopher Clavius (1538 – 1612) lists "Sagitta sive Telum" in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).
    - In his *Theatrum Mundi, et Temporis* (1588) Giovanni Paolo Gallucci (1538 – 1621) depicted "Sagitta seu Telum" ("Sagitta or Telum") as a fletched arrow.
    - Danish astronomer Tycho Brahe's *Astronomiae Instauratae Progymnasmata* (1602) lists "Sagitta sive Telum" ("an arrow or a weapon") for this constellation. "Telum" is listed as an alternate name for Sagitta in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Telum" as a name for this constellation.
    - The *Tabulae Rudolphinae* (1627) of Johannes Kepler (1571 – 1630) lists the name "Sagitta sive Telum" for this constellation.
- One is the IAU constellation Sagittarius:
- 5th century polymath and writer Martianus Minneus Felix Capella lists "Telum" as a name for Sagittarius.
- Johann Bayer's *Uranometria* (1603) lists "Telum" as a name for Sagittarius and attributes it to Capella.

Wearing a Thin Belt of Cetus:

This **telescopic** asterism "Angusticlávia Céti" is the spiral galaxy NGC 1032 in the IAU constellation Cetus. It was discovered in 1783 by English astronomer William Herschel who listed it as "II 5". It became GC

581 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). They gave it this name as due to its thin dust lane.

Weasel:

The stars of this Kogi asterism "Hibixa" are currently unidentified (Kelley & Milone 2011).

Weather Change:

This Arabic manzil "Al-Ṣarfah" (الصرفة), "Al-Surfah", "ʾAṣ-Ṣarfah" (ٱلصَّرْفَة) or "As-Sarfa", translated as "change to colder weather", "weather change", or "star of weather change" is the star Beta (β) Leonis (Denebola) in the IAU constellation Leo:

- This asterism was listed by Iranian astronomer Abu Rayhan Muhammad ibn Ahmad al-Biruni (973 – c. 1050).
- "al-Sarfa" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- The star list of Abraham Bar Hiyya in 1104 (Goldstein 1985) lists the Arabic name "dhanab al-asad al sarfā" and the Hebrew name "zenav ha-ari" for this star.
- The star list of Abraham Ibn Ezra in the 12th century (Goldstein 1985) lists the Arabic name "al-sarfa" (see Weather Change, below) and the Hebrew name "zenav ha-aryeh".
- This asterism was listed by Persian astronomer Ulugh Beg Mirza (1394 – 1449)
- An anonymous Hebrew star list from 1392 (Goldstein 1985) lists the Arabic name "al-sarfa" (see Weather Change, below) and the Hebrew name "zenav ha-aryeh".
- This asterism was listed in the calendars of Qushayr and Qays, the morning setting of Weather Change marks the end of rainy spring weather and the beginning of summer.
- It is listed as "Sarfah" on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992).
- Dorn (1829) lists this as "the change" and describes it as appearing on a globe made by Mohammed ben Helal in 1275 in Mosul, based on the work of Persian cosmographer Zakariyya' al-Qazwini (1203 – 1283).
- W. Brennand lists it as "Al-Serpha" in his *Hindu Astronomy* in 1896 and translates this as "the lion's tail".

This Yemeni manzil "Şarfa" is Beta (β) Leonis (Denebola) in the IAU constellation Leo (Varisco 1995). This appears in the *Kitāb al-Tabşira Fī'ilm al-Nujūm* of 13th century Rasulid ruler al-Malik al-Ashraf 'Umar ibn Yūsuf (d 1296).

Weaver:

This Korean asterism "Jiggong" (직공) is a triangle of stars in the IAU constellation Lyra: Alpha (α) Lyrae (Vega), Zeta (ζ) 1 Lyrae, and Epsilon (ε) 1 Lyrae. Compare this to the Chinese xing guan "Weaving Girl" (below).

Weaver's Shuttle:

This **telescopic** asterism is NGC 4216, an edge-on intermediate spiral galaxy in the IAU constellation Virgo. It was discovered by English astronomer William Herschel in 1784 who listed it as "I 35". It is GC

2806 in the *General Catalogue* of 1864. Admiral William Henry Smyth (1788 – 1865) described it as "a very curious object, in shape resembling a weaver's shuttle". It is also known as the "Spindle of Virgo" (see above), and the "Silver Streak" (see above). This is part of O'Meara 60 in astronomer Stephen James O'Meara's *Hidden Treasures Catalogue* (2007), where he lists it as the "Weavers Shuttle" and as part of the "Stairway to Heaven".

Weaving Girl:

This Chinese xing guan "Zhinǚ" (织女) first appeared in the *Xia Xiao Zheng* (夏小正 *Small Calendar of the Xia Dynasty*) which dates to the 21st to 17th century B.C.E.

In the *Yixiangkaocheng* it is a triangle of stars in the IAU constellation Lyra: Alpha (α) Lyrae (Vega), Epsilon (ε) 1 Lyrae, and Zeta (ζ) 1 Lyrae. Compare this to the Korean asterism "Weaver" (above). This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan is a triangle of stars in the IAU constellation Lyra: Alpha (α) Lyrae (Vega), Zeta (ζ) 1 & 2 Lyrae, and Epsilon (ε) 1 & 2 Lyrae.

Weaving Princess Star:

This Japanese star "Orihime Boshi" is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra (Renshaw and Ihara 2001).

Weaving Prongs Stars:

This Japanese asterism "Kase Boshi" is the belt of Orion in the IAU constellation Orion.

Webb's Cross:

This **telescopic** asterism is the open cluster Messier 21 (NGC 6531) in the IAU constellation Sagittarius. This was discovered by Charles Messier in 1764. This was listed in *Celestial Objects for Common Telescopes* by English astronomer and vicar Rev. Thomas William Webb in 1859. John Herschel's *General Catalogue* of 1864 lists it as GC 4367.

Webb's Wreath:

This **telescopic** asterism Webb 2 in the IAU constellation Hercules, also known as Ruby Ring, has golden 7th magnitude star HIP 88348 as the "ruby" on the east side, with a ring of 11th and 12th magnitude stars forming the wreath. This asterism is 2.7 degrees southwest of the star Xi (ξ) Herculis. Size 5' X 5'. This was originally catalogued by English astronomer and Vicar Rev. Thomas William Webb in 1881 in his *Celestial Objects for Common Telescopes*.

Wedded Wife:

There are two stars called "Shi" in the Chinese xiù (lunar mansion) "Dīxiù" (see Root, above) which is made up of stars of the IAU constellation Libra:

- One is the star Alpha (α) 2 Librae (Zubenelgenubi), and
- One is the star Beta (β) Librae (Zubeneschamali).

Wedge Tailed Eagle:

This Boorong asterism “Warepil” is the male wedge-tailed eagle or eaglehawk (Aquila audax) as listed by Stanbridge (1857), Morieson (1999), and Hamacher, Frew (2010), and Fuller et al (2014). It is made up of the stars of the IAU constellations Canis Major and Crux:

- The center star is Alpha (α) Canis Majoris (Sirius), with the “wingtips” being the stars Beta (β) Canis Majoris (Mirzam) and Gamma (γ) Canis Majoris,
- Its “footprint” is the Southern Cross (see Southern Cross, above), and
- Its “nest” is the Coal Sack Nebula (see Coal Sack, above).

This Wotjobaluk star “Warepil” is Alpha (α) Canis Majoris in the IAU constellation Canis Major (Hamacher 2011).

Warepil is the chief of the Nurrumbunguittias and brother to War (see Crow, above). For the female wedge-tailed eagle “Collowgulloric Warepil”, see Female Wedge-Tailed Eagle, above.

This Wardaman asterism “Bullian” is made up of the stars of the IAU constellations Canis Major and Crux (Cairns 1999).

This Wotjobaluk (Wergaia) and Gunditjmara (Marra) star “Warepil” is the star Alpha (α) Piscis Austrini (Fomalhaut) in the IAU constellation Piscis Austrinus. Hamacher (2011) lists the Wotjobaluk star as Beta (β) Orionis (Rigel) in the IAU constellation Orion.

This Kamilaroi, Euahlayi, Wiradjuri, and Murrawarri asterism “Maliyan” or “Mulliyan-ga” is in the IAU constellations Scorpius and Crux (Fuller et al 2014):

- The end of Scorpius where the star Alpha (α) Scorpii (Antares) is located is the “head”,
- The outstretched “legs” is the stars Upsilon (υ), Lambda (λ), Kappa (κ), Iota (ι) 1, Theta (θ), Eta (η), Zeta (ζ) 1, Mu (μ) 1, and Epsilon (ε) Scorpii.
- The IAU constellation Crux is the wings and tail.

NOTE: Ridley listed this as “Mullion” in 1875 and assigned it to Alpha (α) Lyrae (Vega) in the IAU constellation Lyra.

This Pirt-Kopan-noot and Kulin star “Gneeanggar" is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major. Her attendants were the Pleiades cluster (see Six Attendants, above).

This Koori star “Bunjil” is Alpha (α) Aquilae (Altair) in the IAU constellation Aquila. His wives are the stars Beta (β) Aquilae (Alshain) and Gamma (γ) Aquilae (see Black Swans, above).

This Awabakal star “Bibiga” is Alpha (α) Aquilae (Altair) in the IAU constellation Aquila and represents the wedge tailed eagle or eaglehawk (Needham 1981).

This Darkingjung star “Bibiga” is Alpha (α) Aquilae (Altair) in the IAU constellation Aquila and represents the wedge tailed eagle or eaglehawk (Needham 1981).

This Kaurna asterism “Wilto” is the IAU constellation Crux (Hamacher 2015).

This Mara and Mopor asterism “Gneeanggar" is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Dawson 1881).

This Kokatha asterism “Waljajinna” is the IAU constellation Crux (Leaman, Hamacher, and Carter 2016).

Weekurrk:

This Boorong star is Eta (η) Boötis (Murphrid) in the IAU constellation Bootes (Hamacher 2011). This is one of the children of Marpeankurrk (see Meat Ant, above), the other being Djuit (Alpha (α) Scorpii (Antares), see Red-Rumped Parrot, below).

Weep:

This Korean asterism "Ulda" (울다) is a line of two stars in the IAU constellations Aquarius and Capricornus: Xi (ξ) Aquarii and 46 Capricorni. Their asterism "Sob" is nearby (see above).

Weeping:

This Chinese xing guan "Qì" (泣) is a line of two stars in the IAU constellation Aquarius: Theta (θ) and Rho (ρ) Aquarii (the determinative star). This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan "Qì" is a line of two stars in the IAU constellation Aquarius: Iota (ι) and 38 Aquarii.

Weeping Children:

This Taíno asterism is the Pleaides cluster in the IAU constellation Taurus. These children, abandoned by their mothers, became frogs in the sky. The setting of the Pleiades marked the start of planting of cassava.

Wèi:

This Chinese star "Wèi" from the 3 Kingdoms and Ming Dynasty Period is the star Delta (δ) Herculis in the IAU constellation Hercules and is and is part of their xing guan Heavenly Market East Wall (see above).

Weight:

There are three Arabic stars with this name:

- One, "al-Wazn". (الوزن) is the star Delta (δ) Canis Majoris in the IAU constellation Canis Major:
    - This was later latinized to "Wezen", "Alwazn", "Al Wazor", or "Wezea".
    - English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "Wezen, al-wezn, weight".
    - *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this star as "Wezen".
    - The IAU approved the name Wezen for Delta (δ) Canis Majoris Aa.
- One "al-Wazn" (الوزن) is the star Beta (β) Columbae in the IAU constellation Columba, later latinized to "Wezn" or "Wazn". The IAU has approved the name Wazn for Beta (β) Columbae.
- One, "al-Wazn" is listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010): He indicates that this is either Alpha (α) Centauri (Rigil Kentaurus) or Beta (β) Centauri (Hadar) in what is now the IAU constellation Centaurus but is not sure which.

This asterism with the Greek name "Στάτηρ" ("Státir") is the IAU constellation Libra as listed by German astronomer Johann Bayer (1572-1625). German astronomer Wilhelm Schickard (1592 – 1635) listed the Arabic name "Wazn" as a name for the IAU constellation Libra.

Weird Globular Cluster:

This **telescopic** asterism is NGC 6712 in the IAU constellation Scutum. It was discovered by English astronomer William Herschel in 1784 and designated H I-47. This name is listed in the *Deep Sky Forum* by American astronomer Mark Friedman in June 2015.

Welcome Mat:

This telescopic asterism is open cluster NGC 2451 in the IAU constellation Puppis. It was discovered by Italian astronomer Giovanni Battista Hodierna before 1654 and recorded by English astronomer John Herschel in 1835 who listed it as h 3099. It is GC 1573 in the *General Catalogue* of 1864. American astronomer Phil Harrington describes this on the DOCdb database as forming "a colorful welcome mat to the southern sky". It is also known as the Stinging Scorpion Cluster.

Well:

This Chinese xiù (lunar mansion) "Jǐngxiù" (井宿) is made up of stars of the IAU constellation Gemini. The center is a quadrilateral of stars: Gamma (γ), Zeta (ζ), Nu (ν), and 36 Geminorum. A line runs off each corner to the stars Xi (ξ), Lambda (λ), Epsilon (ε), and Mu (μ) Geminorum (this being the determinative star). In the *Han shu*, a history of the early Han dynasty that was finished in 111 C.E. this xiù "Dong Jing" was associated to matters concerning the Yongzhou territory. This xing guan appears as Jing (井) in the Tang Dynasty (618 – 907 C.E.) and was compared to the Vedic nakshatra Punarvasu (Kotyk 2017, see Two Restorers of Goods, above) and was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Japanese sei shuku or lunar station "Chichiri Boshi" is made up of the lower half of the IAU constellation Gemini. This has a quadrilateral of stars in the center, with the corner stars being Gamma (γ), 18, 36 and Zeta (ζ) Geminorum. From each corner a line protrudes, with the stars Mu (μ), Epsilon (ε), Lambda (λ), and Xi (ξ) Geminorum at the ends.

This Latin asterism "Puteus" ("well" or "pit") is the IAU constellation Ara:

- "Puteus" is listed in the 15th century *Alfonsine Tables*
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Puteus".
- "Puteus" is listed in John Hill's *Urania* in 1754.

This Ukrainian asterism "Krynytsya" (криниця) is the IAU constellation Lyra.

Well-Balanced of Fornax:

This **telescopic** asterism "Isórrhopus Fornácis" is the barred spiral galaxy NGC 986 in the IAU constellation Fornax. It was discovered by James Dunlop in 1826. It became GC 567 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). They gave it this name as it is "well formed".

Well Branched:

This Vedic asterism is a larger version of their nakshatra "Vishākhā" (see Forked, above) made up of stars of the IAU constellation Libra. The center is an irregular diamond of stars: Beta (β) Librae (Zubeneschamali), Alpha (α) Librae (Zubenelgenubi), Sigma (σ) Librae and Iota (ι) 1 Librae. Attached at

Beta (β) Librae is a quadrilateral of the stars Gamma (γ), Theta (θ), and 48 Librae. Attached at Sigma (σ) Librae is two stars which form a triangle: Upsilon (υ) and Tau (τ) Librae.

Well Bucket:

There are two Arabic asterisms with this name:

- One, "ad-dalw" (الدلو) or "Dilu Albir" (دلو البئر). is a quadrilateral of stars (see Great Square of Pegasus above) in the IAU constellations Andromeda and Pegasus and first appeared in the 6th century in the poems of 'Adi b. Zayd. These were leather buckets with crossbars that made their top opening square: "First Spout" or "Front Bucket Mouth": Beta (β) Pegasi (Scheat) and Alpha (α) Pegasi (Markab) and the "Second Spout" or "Rear Bucket Mouth": Alpha (α) Andromedae (Alpheratz) and Gamma (γ) Pegasi.
    - A 14th century Christian Spanish astrolabe #4560 lists "al dalw" (King 2002). Robert Hues (1659) and John Chilmead (1899) list it as "Eldelis": Hues translates this as "bucket to draw water".
    - This is later latinized to "Edeleu" by German astronomer Johann Bayer (1572-1625).
    - R. H. Allen's *Star Names* in 1899 attributes the asterism Well Bucket to the Persian astronomer Ulugh Beg Mirza (1394 – 1449) and gives the name "Al Dalw":
- One, "al-Dalw" is the IAU constellation Aquarius:
    - "al-Dalw", was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 as a name for Aquarius (Hafez 2010).
    - Johann Bayer's *Uranometria* (1603) lists "Edeleu" as a name for Aquarius.
    - The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists "Edeleu" as an alternate name for Aquarius.

Well Bucket Rope:

There are five Arabic asterisms with the name "ar-Rishā'" (الرشاء), "Al-Rša" (الرشا), or "'Ar-Rashā'" (بَطْنُ):

- One is the star Alpha (α) Piscium in the IAU constellation Pisces and later latinized to "Alrescha", "Al Rescha", "Alrisha", "Alrisha", "Al Rischa", or "Risha":
    - English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists this as "Al Rishà, the cord".
    - This star is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "er risha": The author is unknown, but it is based on the Celestial Atlas of Alexander Jamieson, published in 1822.
    - *An Improved Moveable Planisphere* (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, lists "Alrescha".
    - *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this star on its chart as "Elrisha".
    - R. H. Allen lists "Al Rescha" in his *Star Names* in 1963.
    - Robert Burnham lists "Al Risha" and translates this as "the cord" in his *Burnham's Celestial Handbook* in 1978 and suggests that this was derived from the "Babylonian Riksu, which also means a cord".
    - The IAU approved the name Alrescha for Alpha (α) Piscium A.
- One is the Arabic or Bedouin manzil "Al-Risha" or "Buṭnu ʾl-Ḥūt" which is the star Beta (β) Andromedae (Mirach) in the IAU constellation Andromeda. It is also known as Belly of the Fish

(see above) and Heart of the Fish (see above). W. Brennand lists this as “Al-Risha” in his *Hindu Astronomy* in 1896.

- Three are differing versions of the “rope” attached to the asterism “Well Bucket” involving a line of stars in the IAU constellations Andromeda and Pegasus running from their asterism Well Bucket (see above) to their asterism “Great Fish” (see above): Two of them run out to Beta (β) Andromedae (Mirach), which is known as the “Belly of the Whale” (see Belly of the Sea Monster, above):
    - One starts with a pair of stars called the “Bucket Rope Knot”: Upsilon (υ) Pegasi and Tau (τ) Pegasi. The line runs from Upsilon (υ) Pegasi through Delta (δ) Andromedae and HIP 4552 ending at” (Khalid Al Ajaji).
    - One includes Alpha (α) Andromedae (Alpheratz), Delta (δ) Andromedae, and Gamma (γ) Andromedae (Adams 2015).
    - Another possible second rope runs from Alpha (α) Andromedae through Pi (π), Mu (μ) and 51 Andromedae (Adams 2015).

Well Bucket Rope Knot:

This Arabic asterism “Saʿd al Naʿamah” is the stars Upsilon (υ) and Tau (τ) Pegasi in the IAU constellation Pegasus as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986):

- “Sa’d al Na’amah” is listed in R. H. Allen in *Star Names* in 1899. Allen writes that English astronomer Edward Ball Knobel believed this should be “Al Naʿāim, the Cross-bars over a well” but Allen points out that they were part of the Arabic asterism Well Bucket Rope (see above).

Well for Military:

This Korean asterism “Gundaee Jal” (군대에 잘) in the IAU constellation Lepus is a quadrilateral of stars: Iota (ι), Kappa (κ), Lambda (λ), and Nu (ν) Leporis.

Well Formed Bar of Virgo:

This **telescopic** asterism “Eúdocus Vírginis” is the barred spiral galaxy NGC 5850 in the IAU constellation Virgo. It was discovered in 1786 by William Herschel who listed it as “II 543”. It became GC 4047 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Well Formed of Lynx:

This **telescopic** asterism “Formósus Lýncis” is the barred spiral galaxy NGC 2326 in the IAU constellation Lynx. This was discovered in 1788 by William Herschel who listed it as “II 734”. It became GC 1486 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Well Formed of Ursa Major:

This **telescopic** asterism “Callimórphus Úrsae Majóris” is the barred spiral galaxy NGC 3992 (Messier 109) in the IAU constellation Ursa Major. It was discovered by French astronomer Pierre Méchain in 1781. English astronomer William Herschel listed it as “IV 61”. It is GC 2635 in the *General Catalogue* of

1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). It is also known as the "Vacuum Cleaner" (see above).

Well of Virgo:

This **telescopic** asterism "Púteus Vírginis" is the spiral galaxy NGC 5427 (Arp 271) in the IAU constellation Virgo. It was discovered in 1785 by William Herschel who listed it as GC II 310". It became GC 3751 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "this galaxy and its neighbour NGC 5426 are connected with a bridge of material."

Well Walled of Centaurus:

This **telescopic** asterism "Euteiches Centaúri" is the barred spiral galaxy IC 4214 in the IAU constellation Centaurus. This was first recorded by American astronomer Lewis Swift (1820 – 1913). This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name because "with an inner ring and an outer pseudo-ring this galaxy can be said to be shielded well".

Well With a Drain:

This Romanian asterism "Perete cu Scurgere", or "Puţul cu Jgheab" is made up of stars of the IAU constellations Andromeda and Pegasus (Lite, Lodina, and Ignat 2018). The "drain" is the Great Square of Pegasus (see Great Square, above). The "stream of water" running into it is the line of stars Gamma (γ) Andromedae (Almaak), Beta (β) Andromedae (Mirach), Delta (δ) Andromedae, and Alpha (α) Andromedae (Alpheratz). Compare to Drain of the Well (see above).

Weluwitraw:

This Mapuche asterism "Weluwitraw", "Welu Wixaw", or "Welu Wixan" is the belt and sword of Orion in the IAU constellation Orion (Menares 2008, Catricheo 2022). Weluwitraw is a traditional Mapuche tug of war sport involving two men with a rope tied to their necks pulling in opposite directions.

West Road:

This Korean asterism "Seojjog Dolo" (서쪽 도로) is a line of four stars in the IAU constellations Libra and Scorpius: Theta (θ) and 48 Librae and Xi (ξ) and Psi (ψ) Scorpii. This shares some stars with the Chinese xing guan "Western Door" (see below).

West Veil Nebula:

This **telescopic** asterism is the planetary nebula NGC 6960 (C 34, LBN 191, PGC 3517;684, Ced 128a) in the IAU constellation Cygnus. It was discovered by English astronomer William Herschel in 1784 who listed it as "V 15". It is GC 4600 in the *General Catalogue* of 1864. This is also known as the Filamentary Nebula, Cirrus Nebula, the Orc, or Witch's Broom Nebula.

Westbrook Nebula:

This **telescopic** asterism is protoplanetary nebula CRL 618 in the IAU constellation Auriga. It is named for American astronomer William E. Westbrook (d. 1975).

Western Cross:

This is an alternate Quechua (Misminay) name for their asterism “Calvario Cruz” (see Calvary Cross, above (Urton 1980)).

Western:

This Belarussian asterism “Zahodnia” is one of the stars in the belt of Orion asterism in the IAU constellation Orion (Avilin 2009). The other two stars are known as “Svetovaia” (see World, below) and “Poznia” (see Late, above). I believe that this is Delta (δ) Orionis, which is the westernmost of the three stars.

Western Door:

This Chinese xing guan “Xīxián” (西咸) is a bent line of three stars in the IAU constellations Libra and Scorpius: Xi (ξ) Scorpii, Theta (θ) Librae, and Eta (η) Librae. This shares some stars with the Korean asterism “West Door” (see above). This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Xīxián” is a bending line of four stars in the IAU constellations Libra and Scorpius: Xi (ξ) Scorpii, 48 Librae, Theta (θ) Librae, and Kappa (κ) Librae.

Western of Sculptor:

This **telescopic** asterism “Occiduális Sculptóris” is the barred spiral galaxy NGC 7513 in the IAU constellation Sculptor. This was discovered by Albert Marth in 1864. This became GC 6131 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it looks “as if this galaxy were deformed by a westward wind, both spiral arms point westward, the northern arm because it extends directly to the west, the other one because it bends westward after an initial eastern orientation.”

Western One in the Tail of the Goat:

This Babylonian “ecliptic asterism” “Mahar sha hi-na Shahū” is the star Gamma (γ) Capricorni in the IAU constellation Capricornus as listed by R. H. Allen in his *Star Names* in 1899.

Westernmost of the Triad of Leo:

This **telescopic** asterism “Triadozephýrius Leónis” is the intermediate spiral galaxy NGC 3623 (Messier 65) in the IAU constellation Leo. It was discovered by Charles Messier in 1780. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). It is part of the Leo Triad (see above).

Wet Season:

The Quechua and Guaraní both view the rising and setting of the IAU constellation Scorpius as indicators of their wet season.

Wether:

This Latin asterism “Vervex” (“wether” (a castrated ram) or “mutton-head”) is the IAU constellation Aries.

Weyuyuman:

This Carib asterism “Weyyuyuman” or “Wayamaka” is the Southern Cross asterism in the IAU constellation Crux (Magaña, and Jara, 1982).

Wezen:

See Weight, above.

Whadik:

This Wardaman star is one of the stars of the Pleiades cluster in the IAU constellation Taurus (Cairns 1999) representing a 12-year-old child and is part of their asterism “Murabibi” (see Teenagers and Little Ones, above).

Whakaahu:

This Māori asterism is the stars Alpha (α) Geminorum (Castor) and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini.

Whakaruru-hau:

This Māori asterism “Whakaruru-hau” is the Magellanic Clouds (Orchiston 2017).

Whale:

This Arabic asterism “Alhwat” (الحوت) is the IAU constellation Pisces.

This Latin asterism “Balaena” is the IAU constellation Cetus as listed in the 1515 edition of the *Almagest* as well as the 15th century *Alfonsine Tables* and as listed in Edward Sherburne’s *Sphere of Marcus Manilius* in 1675. Robert Hues lists it as “whale” in his *A Learned Treatise of Globes* in 1659. 4th century Roman astrologer Julius Firmicus Maternus named it “Belua”.

This Dutch asterism “Walvis” is the IAU constellation Cetus and was depicted this way by uranographers Willem Blaeu (1570 – 1630) and Andreas Cellarius (1596 — 1665).

Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists the IAU constellation Cetus as “Der Wallfisch“.

This German asterism “Wallfisch” is the IAU constellation Cetus as depicted in the *Nördliche Sternhimmel* sky map of O. S. Reuters based on the work of German astronomer Johann Elert Bode (1747 – 1826).

This Romanian asterism “Balenă” or “Chitul” is the IAU constellation Cetus (Ottescu 2009, Lite, Lodina, and Ignat 2018).

This Hawaiian asterism “Kohola” is the IAU constellation Cetus.

This French asterism Baleine is the IAU constellation Cetus.

This Italian asterism “Balena” is the IAU constellation Cetus.

This Kiribati asterism “Kua” or “Buki ni kua” is made up of stars of the IAU constellations Andromeda, Perseus, and Cassiopeia (Trussel and Groves 1978).

This Estonian asterism “Vaal” is the IAU constellation Cetus and appears in the *Sky of Ests (Chudes)* by Aleksander Heintalu (Sass of Vigala) (Kuperjanov 2006).

This **telescopic** asterism NGC 4631 (Caldwell 32, Arp 281) is an edge-on barred spiral galaxy in the IAU constellation Canes Venatici. This was discovered by English astronomer William Herschel in 1786 who listed it as "V 42". It is GC 3165 in the *General Catalogue* of 1864. It is also known as the Herring (see above). This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010) as "Cétus Cánum Venaticórum" ("Whale of Canes Venatici").

Whale's Teeth:

The stars of this Kiribati asterism "Wi n ikura" are currently unidentified (Trussel and Groves 1978).

Whānui:

This Māori star is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra.

Wheat Field:

This Phoenician asterism is the stars surrounding the Andromeda Galaxy, Messier 31, in the IAU constellation Andromeda, which is their asterism Threshing Floor (see below).

Wheat Sheaf:

This asterism is the IAU constellation Virgo and is listed in John Hill's *Urania* in 1754. Hill describes the Arabs as turning the constellation Virgo into this because "they were forbidden to draw human figures". Compare this to the "ear of grain" which is part of the Greek and Seleucid asterism Maiden (see above).

This asterism is the IAU constellation Coma Berenices as illustrated in the 1488 edition of *De Astronomica* by 1st century Latin author Gaius Julius Hyginus. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists the stars around open cluster Melotte 111 in this constellation as "al huzmeh… a bundle of wood, or corn". Smyth attributes this to "Niebuhr" who "heard it" in Cairo: This is probably Danish German historian Barthold Georg Niebuhr (1776 – 1831).

Wheel:

There are two Egyptian asterisms that are paranatellonta with the name "Trokhos" as listed in *the Sphaera Barbarica* described by Teucros (Mosenkis, date n/k): One is of the decans of Capricornus and the other of the decans of Gemini and both are Corona Australis.

This French asterism "la Roue" is the Big Dipper Asterism in the IAU constellation Ursa Major as listed by French astronomer Joseph Jérôme Lefrançois de Lalande (1732 –1807) and as listed in R. H. Allen's *Star Names* in 1899.

Jesuit German mathematician Christopher Clavius (1538 – 1612) lists the IAU constellation Corona Australis as "Corona Austrina quae et Rota" ("the Eastern Crown or the Wheel")in his *In Sphaeram Ioannis de Sacro Bosco Commentarius* (1572).

This Belarussian asterism "Matawila" or "Matawilo" ("wheel" or "reel") is either the constellation Perseus or the constellation Orion (Avilin 2009). It is also known as "Traiko" (see Three Times, above), "Karomyselko" (see Small Yoke, above), "Grabli" (see Rake, above), "Kastsy" (see Mowers, above), "Try Karali" (see Three Kings, above), "Kasar" (see Mower, above), "Kreselca Pana Jezusa" (see Lord Jesus' Chair, above), "Tri Siostry" (see Three Sisters, above), "Prahi" or "Prapradki" (see Yarn Spinners, below), "Asilki" (see above), "Kosy" (see Scythes, above), "Kigachi ragachy" (see Shaft of a Plough,

above), “Kryzhe” (see Cross, above), “Lisa” (see Fox, above), and “Trohkutnaia” (see With Three Corners, below).

Wheel of Canis Major:

This **telescopic** asterism “Róta Cánis Majóris” is the barred spiral galaxy NGC 2217 in the IAU constellation Canis Major. John Herschel listed this as 3041 and later as GC 1401 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as it is colliding with the smaller IC 2163.

Wheels:

This Belarussian asterism “Kaliosy” is the IAU constellation Ursa Major (Avilin 2009).

This Estonian asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Kuperjanov 2006). It is from the island of Saaremaa.

Wheels of Perkūnas:

This Lithuanian asterism “Perkūno Ratai” is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above). Perkūnas is a Lithuanian God of Thunder.

Whelps of the Hyenas:

This Arabic asterism “awlād al-ḍibā” (أولاد الضّباع) or “Aulād al Dhi’bah” is a triangle of stars in the IAU constellation Boötes: Theta (θ) Boötis, Iota (ι) Boötis, Kappa (κ) 2 Boötis. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists this as “Aulád al-dhibá, the young of the hyena”.

Compare this to the asterism Hyenas and Their Youngsters, above.

NOTE: In his *Star Names* in 1899 R. H. Allen lists the stars as Kappa (κ), Lambda (λ), Beta (β), Gamma (γ), Delta (δ), and Mu (μ) Boötis, indicating that he is confusing this with the Arabic asterism Hyenas and Their Youngsters, above.

Where there is Truth:

This Latin star “Veritate” is 14 Andromedae A in the IAU constellation Andromeda and was assigned to this star by the IAU in 2015. It has an exoplanet with the Latin name “Spe” (“hope”)

Where Twins:

This Greek star “Πούς δίδυμων” (“Poús dídymo”) is Beta (β) Orionis (Rigel) in the IAU constellation Orion as listed by 14th century Greek geographer and astronomer Georgius Chrysococcas.

Whetstone:

This Chinese xing guan “Lìshí” (砺石) is a quadrilateral of stars in the IAU constellation Taurus: Phi (φ), Chi (χ), 44, and Psi (ψ) Tauri. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Korean asterism “Susdol” (숫돌) is a line of four stars in the IAU constellations Auriga and Perseus: 53 and 58 Persei and 1 and 2 Aurigae.

This Chinese Chenzhuo xing guan “Lìshí” (砺石) is a bent line of four stars in the IAU constellations Auriga and Perseus: Epsilon (ε) Aurigae, Eta (η) Aurigae, Zeta (ζ) Aurigae, and 58 Persei. The Whetstone was initially placed near the Five Chariots to assist it, aiming to make weapons sharp and achieve victory. After the Song dynasty, the Whetstone moved near the Rolled Tongue, diverging from its original intent.

Which Has Seven Signs:

This Zoroastrian asterism “Haptōiriŋga” is the Big Dipper asterism in the IAU constellation Ursa Major (Panaino 1999). R. H. Allen listed this as “Hapto-iringas” in his Star Names in 1899 and attributed it to English essayist J. F. Hewitt (1835 – 1908). Compare this to Greater Seven Bulls, above.

Whip:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty “Ce” is the star Kappa (κ) Cassiopeiae in the IAU constellation Cassiopeia.

This Chinese xing guan “Cè” (策) or “Cih” is the star Gamma (γ) Cassiopeiae in the IAU constellation Cassiopeia. *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists the name “Cih” for this star.

This Chinese Chenzhuo xing guan “Cè” is the star Kappa (κ) Cassiopeiae in the IAU constellation Cassiopeia.

This Estonian asterijsm “Piits” is the IAU constellation Eridanus and appears in the *Sky of Ests (Chudes)* by Aleksander Heintalu (Sass of Vigala) (Kuperjanov 2006).

Whip Bearer of Camelopardalis:

This **telescopic** asterism “Flagéllifer Camelopardális” is the barred spiral galaxy NGC 1530 in the IAU constellation Camelopardalis. It was discovered by German astronomer W. Tempel in 1876. It later became GC 5334 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): The name is a reference to its northern arms resembling a whip.

Whirligig:

This **telescopic** asterism is NGC 488, a face-on spiral galaxy in the IAU constellation Pisces. It was discovered by English astronomer William Herschel in December 1784, who listed it in his catalogue as “III 252”. It is GC 276 in the General Catalogue of 1864. It is also known as the “Golden Wings”.

Whirling Dervish Nebula:

This **telescopic** asterism is NGC 3247 in the IAU constellation Carina. John Herschel listed this as h 3250 and later as GC 2106 in his *General Catalogue* of 1864.

Whirling of Cetus:

This **telescopic** asterism “Vertigo Céti” is the spiral galaxy NGC 201 in the IAU constellation Cetus. It was discovered in 1790 by English astronomer William Herschel who listed it as III 873. It is GC 102 in the

General Catalogue of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010).

Whirlpool:

This **telescopic** asterism is Messier 51 (NGC 5194), a pair of interacting galaxies in the IAU constellation Canes Venatici. It was discovered by French astronomer Charles Messier in October 1773. Irish astronomer William Parsons, the 3rd Lord Rosse, first recorded its spiral structure in 1845.

- Dreyer describes it in the 1888 New General Catalogue as the "Great Spiral Nebula". It is listed in the 1864 General Catalogue as GC 3572 and in John Herschel's catalogue as h 1623.
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this as the "Spiral or Whirlpool Nebula".
- William Denning's *Telescopic Work for Starlight Evenings* (1891) refers to this asterism as the "Whirlpool" and as the "Spiral Nebula".
- *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns describes it as the "Whirlpool Nebula of Lord Rosse" but also as a "question mark".
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this as the "Whirlpool galaxy".
- It is also known as the Question Mark Galaxy (see above) and Rosse's Galaxy (due to the aforementioned observations). It is also known as the Vortex Galaxy (see above) and Typhon (see above).

Whirlpool of Aquarius:

This **telescopic** asterism "Díne Aquárii" is the spiral galaxy NGC 6962 in the IAU constellation Aquarius. It was discovered in 1785 by William Herschel who listed it as "II 426". It became GC 4601 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the whirling spiral structure of this galaxy contrasts conspicuously with its elliptical neighbour NGC 6964".

Whirlpool of Lynx:

This **telescopic** asterism "Strómbus Lýncis" is the intermediate spiral galaxy NGC 2776 in the IAU constellation Lynx. It was discovered in 1828 by John Herschel who listed it as h 563 and later as GC 1772 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this as to them it resembled a whirlpool.

Whirlwind:

This **telescopic** Luo star "Kalausi" is HIP 47202 (HD 83443) in the IAU constellation Vela (magnitude 8.24). It was given this name in the IAU NameExoWorlds campaign. It has an exoplanet named Buru ("dust").

Whirlwind Spirit:

To the Kamilaroi “Warrawilbaarru”, “Wurrawiburu”, or “Wurrawiberoo” is the whirlwind spirits who live in the IAU constellation Scorpius (Fuller et al 2014). Their hero Byaame or Baayami normally keeps him from coming to Earth, but in September he comes out of one of three holes (dark nebulae) in Scorpius during September and doesn't go back until around March. Two of these “dark spots” in the sky are identified by the Kamilaroi as being either side of the star Alpha (α) Scorpii (Antares) and one inside of the loop of the “fishhook” of Scorpius next to the star Zeta (ζ) Scorpii. Barnard 41, 43, 44, and 45 are on one side of Antares but on the other side there are no dark nebulae, though the stars are sparser in this area. There are several small dark nebulae inside the “fishhook”, including Barnard 48, 58, and 263 and SL (Sandqvist and Lindroos) 26 and 28. During this time, Warrawilbaarru is on earth as the "willy willy" (whirlwinds or dust devils) and can be dangerous to children and uninitiated men.

This Euahlayi asterism “Wirrawilburro”, “Wirrawillburroo”, or “Wilbaarr” is identical to the Kamilaroi asterism above.

Whirly Arms of Cetus:

This **telescopic** asterism “Helicobrachiátus Céti” is the spiral galaxy NGC 895 in the IAU constellation Cetus. This was listed as “II 438” by William Herschel and became GC 518 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name due to its appearance.

Whisper:

This Chinese Chenzhuo xing guan “Fù'ěr” is the star Sigma (σ) 2 Tauri in the IAU constellation Taurus. It is part of their xing guan “Net”.

Whisper (Vassal of Net):

This Chinese xing guan “Fù'ěr” (附耳(附毕宿)) is the double star Sigma (σ) 1 and 2 Tauri in the IAU constellation Taurus, attached to the end of the Chinese xiù (lunar mansion) Net (see above). This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

Whistle Nebula:

This **telescopic** asterism is HII region NGC 2359 (SH 2-298. RCW 5, LBN 1041, Ced 94b) in the IAU constellation Canis Major surrounding the Wolf Rayet star WR7. Size 10’ X 15’. It was discovered by English astronomer William Herschel in 1785 who listed it as “V 21” in his catalogue. It is GC 1511 in the *General Catalogue* of 1864. American astronomer Mark Birkmann writes in the DOCdb database that “without a filter it was obvious how this object got the name the whistle. With the OIII filter the body of the whistle became the helmet”. It is also known as the “Duck Nebula”, the “Duck Head Nebula”, the “Flying Eye Nebula”, the “Bust Silhouette”, “M”, the “Fan”, or “Thor’s Helmet”.

White Armed of Antlia:

This **telescopic** asterism “Leucólena Ántliae” is the spiral galaxy NGC 3269 in the IAU constellation Antlia. It was discovered in 1835 by John Herschel who listed it as h 3264 and later as GC 2128 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

White Bone Snake:

See Skeletal Snake, above.

White Bull:

This English asterism is the IAU constellation Taurus as listed by Geoffrey Chaucer (c.1340s – 1400) in *Troilus and Criseyde*. It is derived from the Latin name "Candidus Taurus" (see Taurus, above).

White Cockatoo:

This Wardaman star "Menggen" or "Menngen" is Alpha (α) Piscis Austrini (Fomalhaut) in the IAU constellation Piscis Austrinus (Cairns and Harney 2003). The stars surrounding Fomalhaut are "Mulyan", the feathers of the bird and "Kalioba", the kapok tree in which the bird is sitting (Cairns 1999). Compare this to the Boorong asterism "Gellarlec" (see Rose Cockatoo, above).

White Cockatoos:

The Euahlayi asterism "Mouyi" or "Mooyi" is Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus (Clarke 2014). They are following the Minggah (see Spirit Tree, above) across the sky.

This Kamilaroi asterism "Mouyi" is the stars Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus. An alternate name is "Murai" (see Sulfur-Crested Cockatoos, above).

This Wiradjuri asterism "Mouyi" is the stars Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus (McKeown 1938).

White Crane:

The stars of this Tupi Guarani asterism "Jaburú" are unidentified at this time (Lima and De M. Figueirôa, 2007).

White Emperor:

This Chinese star "Baidi" from the Three Kingdoms to Ming Dynasty is HIP 57320 in the IAU constellation Leo and is part of their xing guan Seats of the Five Emperors (see above).

White Eyed Pea Nebula:

This **telescopic** asterism is the planetary nebula IC 4593 in the IAU constellation Hercules. It got this name as it appears as a green disk with a white central star. This name was posted on the *Deep Sky Forum* in August 2018 by American astronomer Paul Aisling.

White Face of Lepus:

This **telescopic** asterism "Álbifrons Léporis" is the barred spiral galaxy NGC 1832 in the IAU constellation Lepus. It was discovered in 1785 by British astronomer William Herschel who listed it as "II 292". It became GC 1043 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name because of its "disordered shape".

White Fork:

This Welsh asterism listed by Victorian folklorist Marie Trevelyan (1852 – 1922) in her *Folk-lore and Folk-stories of Wales* (1909) is currently unidentified.

White-Grey Horse:

This Kazakh asterism “Aqbozat” is the star Beta (β) Ursae Minoris (Kochab) in the IAU constellation Ursa Minor. Aqbozat and Kökbozat (Kochab and Gamma (γ) Ursae Minoris) represent two horses constantly circling “Timir Qazyq” (“Iron Pole”) which is Polaris.

White Hawk:

This Shaawanwaki star is Alpha (α) Boötis in the IAU constellation Boötes and is the husband of the star Alpha (α) Coronae Borealis (Alphecca) which is one of their Celestial Sisters (see above).

White of the Eye:

- This Arabic star “Al Hawar” is Epsilon (ε) Ursae Majoris in the IAU constellation Ursa Major: “Al Hawar” was listed by 16th century Arab astronomer Al Tizini.
- English orientalist Thomas Hyde (1636 – 1703) latinized this to “Al Haur”.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “al hawar, intensely bright”.
- “Al Hawar” was listed in R. H. Allen’s *Star Names* in 1899. Allen writes that Persian astronomer Ulugh Beg Mirza (1394 – 1449) listed it as “Al Haun”.

White One:

This Arabic star is Alpha (α) Cephei (Alderamin) in the IAU constellation Cepheus.

White One of Heaven:

This Egyptian star is Alpha (α) Carinae (Canopus) in the IAU constellation Carina as listed in the 19th dynasty *Cairo Calendar* (Hardy 2003). Compare to Neith (above).

White Owls:

This Kamilaroi asterism “Nungu” is the stars Eta (η) and Zeta (ζ) Ursae Majoris in the IAU constellation Ursa Major as listed by William Ridley in 1875.

05 23 -69 45

White Ox:

This is the Large Magellanic Cloud in the IAU constellation Dorado as listed by Persian astronomer Abd al Rahman al Sufi in 964.

White Patched Nearby:

This Chinese xing guan “Fùbái” (附白) is a line of two stars in the IAU constellation Hydrus: Gamma (γ) and Nu (ν) Hydri. Nearby is the xing guan “White Patches Attached” (see below).

White Patches Attached:

This Chinese xing guan “Jiābái” (夹白) is a line of three stars in the IAU constellation Reticulum: Alpha (α), Eta (η), and Theta (θ) Reticuli. Nearby is the xing guan “White Patched Nearby” (see above).

White Rose:

There are two **telescopic** "white rose" asterisms:

- One is PGC 6240, a galaxy in the IAU constellation Hydrus.
- One is open cluster NGC 7789, a **telescopic** asterism in the IAU constellation Cassiopeia. This is also known as Caroline's Rose for English astronomer Caroline Herschel, who discovered it in 1783 (see above). John Herschel listed it as ""VI 30". John Herschel listed it as h 2284 and later as GC 5031 in his *General Catalogue* of 1864. It's loops of stars and dark lanes look like rose petals. Size 16' X 16'. It is also known as the Ghost Cluster, Star Mist Cluster, Herschel's Spiral Cluster, the Crab Cluster, and the Screaming Skull Cluster. This is listed on Robert Zebahl's *Faint Fuzzies* website as the "White Rose".

White Sea Swallow:

This Hawaiian star "Pira'etea" is Alpha (α) Cygni (Deneb) in the IAU constellation Cygnus. This is a new name as the original was lost and was influenced by the Polynesian star Pira'etea (see below). This is one of the three stars of the Navigator's Triangle (see above).

This Polynesian (Society Islands) star "Pira'etea" is Alpha (α) Cygni (Deneb) in the IAU constellation Cygnus. They also call it "Ta'aurua-i-te-ha'apara'a-manu" ("festivity of the ascending bird"). In Polynesian mythology Pira'e was the pet bird of Ra'i-tupua, the Sky Builder.

White Star:

This Chaldean star "ul-babbar" is listed in the *Great Star List* (Koch-Westenholz 1995) but the stars have not been identified.

This Skidi star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Krupp 1983). They considered it to be one of the four pillars of heaven.

White Tailed Bird:

This Kiribati star "Ngutu" or "Nei te Ngutu" is currently unidentified (Trussel and Groves 1978). It is related to their asterism Bonobonon Ne Ngutu (see above). This bird is Phaethon lepturus dorotheae.

White Throne:

This Welsh asterism is made up of the stars of the IAU constellation Hercules (Freer 2004).

White Winged Man:

The stars of this Ahtna asterism are unidentified at present (Cannon 2021).

Whiti-kaupeka:

This Māori star is Alpha (α) Virginis (Spica) in the IAU constellation Virgo.

Who Can Be United of Eridanus:

This **telescopic** asterism "Sociábilis Erídani" is the spiral galaxy NGC 1241 (Arp 304) in the IAU constellation Eridanus. It was discovered in 1785 by English astronomer William Herschel who listed it as "II 286". It became GC 654 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name due to it having a companion, NGC 1242. NGC 1242 was listed by William Herschel as "III 591" and became GC 655 in the *General Catalogue* of 1864

Who Has a Hundred Servants:

This Zoroastrian star “Satauuaēsa” is probably Alpha (α) Cygni (Deneb) in the IAU constellation Cygnus (Panaino 1999). Panaino notes that formerly this was often identified as Alpha (α) Piscis Austrini (Fomalhaut) in the IAU constellation Piscis Austrinus.

Who Has Seven Horns:

This Zoroastrian asterism “Hapta.srū” is the Little Dipper asterism in the IAU constellation Ursa Minor (Panaino 1999).

Who Holds the Urn:

This Latin asterism “Urnam qui tenet” is the IAU constellation Aquarius and is listed in R. H. Allen’s *Star Names.* Allen attributes it to the Roman poet Decimus Magnus Ausonius (310 – 395).

Who Plays:

The stars of this Kiribati asterism “Na Karanga” (“who plays” or “who dances”) are unidentified at present (Trussel and Groves 1978).

Who Scribbled on my Galaxy?

This **telescopic** asterism is NGC 4753, a lenticular galaxy in the IAU constellation Virgo. It was discovered by English astronomer William Herschel in February 1784 who listed it as “I 16”. It is GC 3273 in the *General Catalogue* of 1864. It is noted for the distinct dust lanes around its nucleus. Astronomer Rick Johnson was processing an image of this galaxy and exclaimed “Who Scribbled on my Galaxy?” The name stuck. It is also known as the Dust Devil.

Wichakihuyapa:

This Lakota asterism is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above).

Wicker Basket:

This Lithuanian asterism “Kašikutis” is the Pleiades open cluster in the IAU constellation Taurus.

Wide Lodging Area:

This Korean asterism “Neolb-eun Sugbag Myeonjeog” (넓은 숙박 면적) is a shallow curve of stars in the IAU constellations Cassiopeia and Cepheus: Eta (η) Cephei, Alpha (α) Cephei (Alderamin), Xi (ξ) Cephei, and Iota (ι) Cephei, HIP 113864, Omicron (ο) Cephei, and 50 Cassiopeiae.

Wide One of Dorado:

This **telescopic** asterism “Láta Dorádus” is the lenticular galaxy NGC 1553 in the IAU constellation Dorado. It was discovered in 1834 by John Herschel who listed it as 2630 and later as GC 838 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Widow:

This asterism is the IAU constellation Andromeda. She appears as “Andromada” in the works of Iranian astronomer Abu Rayhan Al Bīrūnī (973 – c.1050), described as “mulier qui non vidit maritum” (“woman who did not see her husband”). German astronomer Johann Bayer (1572 – 1625) lists this in his Uranometria (1603) as “Carens Omnino viro” (the modern translation of this being “completely unemployed man”). In his *Star Names* in 1899 R. H. Allen lists “Carens Omnino Viro” and attributes it to Bayer. She appears as “Asnade” in 10th century Arab astrologer Abū l-Ḥasan 'Alī ibn Abī l-Rijāl al-Shaybani (also known as Haly) commentaries on the *Tetrabilbos*. This appears in the *Berlin Codex* as “Ansnade et est mulier quae non habet vivum maritum” (“Ansnade is a woman who has no living husband”). This is later corrupted to “Alarmalah” (“the Widow”).

Widow Before Marriage:

This Bugis asterism “Bintoéng balu Mandara” (“Mandar widow-before marriage”) is the stars Alpha (α) Ursae Majoris (Dubhe) and Beta (β) Ursae Majoris (Merak) in the IAU constellation Ursa Major.

Widowed Before Marriage:

This Bugis asterism “Bintoéng Balué” (“the widowed-before-marriage”) is the stars Alpha (α) Centauri (Rigil Kentaurus) and Beta (β) Centauri (Hadar) in the IAU constellation Centaurus.

Widow’s Oven:

This Babylonian asterism “IM.SHU.RIN.NA” or “tinuru” is listed in Anthony Hope’s *A Guide to Ancient Near Eastern Astronomy* in 1996 but the stars have not been identified.

This Chaldean asterism “mul im.su.rin.na.al.ma.nu.u” is listed in the *Great Star List* (Koch-Westenholz 1995) but the stars have not been identified.

Widow’s Web Cluster:

This asterism is the open cluster NGC 7790 in the IAU constellation Cassiopeia. This was discovered by English astronomer William Herschel in 1788 who listed it as “VII 56”. It is GC 5032 in the *General Catalogue* of 1864.

Wife of Bel:

This Babylonian star is Alpha (α) Virginis (Spica) in the IAU constellation Virgo as listed by R. H. Allen in his *Star Names* in 1899.

Wife of Centaurus:

This **telescopic** asterism “Gýne Centaúri” is the lenticular galaxy NGC 4373 in the IAU constellation Centaurus. It was discovered in 1834 by John Herschel who listed it as h 3391 and later as GC 2928 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name because “this galaxy is the female partner (according to our gender rules) of the pair with IC 3290. They named IC 3290 “Small Husband of Centaurus” (see above).

Wife of Makali’i:

This Hawaiian asterism “Na Wahine-o-Makali’i”, also known simply as “Makali’i’” (“chief’s eyes” or “little eyes” or “little stars”) is the Pleiades cluster in the IAU constellation Taurus.

Wife of the Hunter:

This Chukchi asterism is made up of stars of the IAU constellation Leo (Berezkin 2005). It is related to their asterism Hunter (see above).

Wife of White Hawk:

This Shaawanwaki star is Alpha (α) Coronae Borealis (Alphecca) and is the wife of their hunter White Hawk (see below).

Wild:

This asterism "Fera" is the IAU constellation Lupus. the Roman general Germanicus (15 B.C.E. – 19 C.E.) called it "Fera" ("wild").

- The *Astronomicum Caesarium* (1540) of Petrus Apianus (1495 – 1552) lists this constellation as "Fera" and depicts it as a wolf being speared by Centaurus.
- "Lupus" is depicted on gores of the globe of Petrus Plancius published in 1598 by Jodocus Hondius as a wolf being speared by Centaurus with the subtitle "Fera".
- This constellation appears on the *Imagines constellationum Australium* chart of Romanian theologian Johannes Honter (1498 – 1549) as "Fera" and is depicted as a wolf being speared by Centaurus.
- The *Southern Celestial Hemisphere* chart of 1515 by Albrecht Dūrer, Conrad Heinfogel, and Johann Stabius depicts Fera as a beast speared in the mouth by Centaurus.
- The *Kölner Almagest-Teilusgabe* of Johannes Noviomagus (1537) was derived from the charts of Dürer et al and depicts Fera in the same manner as Dürer et al.
- Johann Bayer's *Uranometria* (1603) lists "Fera" for this constellation.
- Lupus is listed in the *Planisphaerium Stellatum* (1613) of German astronomer Jacob Bartsch with the alternate names "Fera" and "Bestia".
- John Hill lists Fera" as a name for Lupus in his *Urania* in 1754 and translates it as "wild animal".
- The *Door dit hemels pleyn wert vertoondt den gehelen loop del helmels der vaste sterren met haer beeltenisse* (1792) by Dutch publisher Jan Barent Elwe and associate Remmet Teunisse Backer lists this constellation as "Fera Lupus".

Wild Asses:

This Arabic asterism is an oval of stars in the IAU constellations Aquarius, Cetus, and Pisces: Delta (δ) Aquarii, Omega (ω) 2 Aquarii, Iota (ι) Ceti, 27 Piscium, 20 Piscium, Lambda (λ) Aquarii, and Tau (τ) Aquarii.

Wild Beast:

This Arabic asterism "al-Sab" (السبع) is the IAU constellation Lupus:

- "al-Sab'" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- John Hill lists this as "Sebu" in *Urania* in 1754.
- John Chilmead lists this as "Al Subahh" in his *A Learned Treatise on Globes* in 1889
- Compare to Wolf, below and Beast, above.

Wild Boar:

This Gaulish asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Ottescu 2009).

Wild Boar's Jaw:

This Suku Bali asterism is the Hyades cluster in the IAU constellation Taurus. The Suku Bali call Alpha (α) Tauri (Aldebaran) "Suda Malung" (See Eye of the Pig, above).

This Meratus Dayak asterism "Ra'ang Bayi", also known as "Baka" (Maguindanao, Tiruray, Teduray), "Jekat" (Semelai) is the Hyades cluster in the IAU constellation Taurus (Jaafar and Khairuddin 2019).

This Palawan asterism "Sangat at Bjak" is the Hyades cluster in the IAU constellation Taurus (Jaafar and Khairuddin 2019, Santos et al 2019).

Wild Cockerel:

This Chinese star from the Three Kingdoms to the Ming Dynasty "Yeji" is the star Beta (β) Canis Majoris (Mirzam) in the IAU constellation Canis Major. It is in the middle of their xing guan Market for Soldiers (see above).

This Chinese xing guan "Yějī" (野鸡) is the star Nu (ν) 2 Canis Majoris in the IAU constellation Canis Major. In an earlier version of this xing guan, this star was a perimeter star of their xing guan Market for Soldiers.

This Chinese Chenzhuo xing guan "Yějī" is the star Beta (β) Canis Majoris (Mirzam) in the IAU constellation Canis Major.

Wild Duck:

This **telescopic** asterism is the open cluster Messier 11 (NGC 6705) in the IAU constellation Scutum. It was discovered by German astronomer Gottfried Kirch in 1681. It is listed in John Herschel's General Catalogue of 1864 as GC 4437. The name Wild Duck Cluster" came from retired British admiral and amateur astronomer William Henry Smyth (1788 – 1865), who wrote that this cluster "somewhat resembles a flight of wild ducks" as its brighter stars form a triangle which resemble a flight of birds in his *Bedford Catalogue* in 1844. R. H. Allen lists it under this name in his *Star Names* in 1899. *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this cluster as the "Wild Duck". It is also known as the July Salt and Pepper Cluster, the Scutum Salt and Pepper Cluster (see Salt and Pepper, above), and the "Amas de l'Ecu Sobieski" ("Cluster of the Shield of Sobieski", above), Arrowhead (see above), and "V".

This Tongan asterism **"**Toloa" is the belt of Orion in the IAU constellation Orion.

This Polynesian (Pukapuka Islands) asterism "Te Toloa" is the IAU constellation Delphinus.

This Samoan asterism "Toloa" is the stars of the "head" of the IAU constellation Scorpius (Fitisemanu 2022):

- The central star of this "T" shaped asterism is Delta (δ) Scorpii. From this two lines run out to form "wings":
    - One to Beta (β) 1 Scorpii (Acrab) and
    - One through Pi (π) Scorpii to Rho (ρ) Scorpii.
- A line from Delta (δ) Scorpii to the "head" at Alpha (α) Scorpii (Antares) forms the body.

This "Wild Duck" is being hunted by Pae and Suga (see above). The wild duck's "head" (Antares) was used to sail from Pukapuka to 'Upolu when the star was low in the sky to the west.

Wild Goat:

This Belarussian asterism "Kaziarog" is the IAU constellation Capricornus (Avilin 2009).

Wild Turkey:

This Kaurna star "Wolta" is a star whose rising marks the beginning of the hot season, "Woltatti". Hamacher listed this in 2015 and is uncertain as to whether this is Antares, Arcturus, or Betelgeuse, which are all visibly red stars, which may be related to fire and the hot, dry season. Since the Ngiyampaa (Ngemba) see the IAU constellation Scorpius as the Bush Turkey (see above) and since Arcturus is the brightest of these stars at magnitude -0.05, I'm listing that as the star on the asterism table.

Wild of Virgo:

There are two telescopic "Wild of Virgo" asterisms:

- One, "Férus Vírginis" is the galaxy MCG 01-30-032 (Arp 248) in the IAU constellation Virgo. This is the most western galaxy in Wild's Triplet (see below).
- One, "Ágrius Vírginis" is the galaxy MCG 01-30-033 (Arp 248) in the IAU constellation Virgo. This is the middle galaxy in Wild's Triplet (see below).

These names appear in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Wildebeest Star:

This Zulu star "iNqonqoli" is Alpha (α) Virginis (Spica) in the IAU constellation Virgo (Slotegraaf 2013).

Wildly:

This Chakavian asterism "Divÿce" is the IAU constellation Virgo.

Wild's Triplet:

This **telescopic** asterism is the trio of interacting galaxies PGC 36723, PGC 36733, and PGC 36742 (Arp 248) in the IAU constellation Virgo. It is named after British-Australian astronomer John Paul Wild (1923 – 2008), who studied it in the 1950s. *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this as "Wild's Trio". This is listed as "Wild's Triplet" on the Deep Sky Forum by American astronomer Steve Gottlieb.

Wilk's Cluster:

This asterism is the open cluster Melotte 71/Collinder 155 in the IAU constellation Puppis. It was named for Polish astronomer and comet hunter Antoni Wilk (1876 – 1940), who died during imprisonment during the German occupation of Poland in 1940. Size 40'.

Willo:

This unidentified Kaurna star was listed by Hamacher in 2015.Willo is one whose older brother Yunga has died.

Willow:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a hook shaped line of stars in the IAU constellation Hydra: Starting at Theta (θ) Hydrae it runs through Omega (ω) Hydrae, Zeta (ζ) Hydrae, Rho (ρ) Hydrae, Epsilon (ε) Hydrae, Delta (δ) Hydrae (the determinative star), Sigma (σ) Hydrae and Eta (η) Hydrae. In the *Han shu*, a history of the early Han dynasty that was finished in 111 C.E. this xiù "Liu" was associated to matters concerning the San He territory.

This Chinese xiù (lunar mansion) "Liǔxiù" (柳宿) is made up of stars in the IAU constellation Hydra. It resembles a two-pronged fork, with a "handle" starting at Theta (θ) Hydrae running up to Rho (ρ) Hydrae. At Rho (ρ) Hydrae two lines of stars form the "prongs": One running through Epsilon (ε) Hydrae to Delta (δ) Hydrae and the other running through Eta (η) Hydrae to Sigma (σ) Hydrae.

This Chinese Chenzhuo xing guan is a winding line of eight stars in the IAU constellation Hydra: Theta (θ) Hydrae, Omega (θ) Hydrae, Zeta (ζ) Hydrae, Rho (ρ) Hydrae, Epsilon (ε) Hydrae, Delta (δ) Hydrae, Sigma (σ) Hydrae, and Eta (η) Hydrae.

This Japanese sei shuku or lunar station "Nuriko Boshi" is made up of stars of the IAU constellation Hydra. It has a curve of stars starting at Theta (θ) Hydrae and running through Omega (ω), Zeta (ζ), and Epsilon (ε) Hydrae, ending with Delta (δ) Hydrae. The end of the line is a quadrilateral formed by the stars Delta (δ), Epsilon (ε), Sigma (σ), and Eta (η) Hydrae.

Willow Leaf of Tucana:

This **telescopic** asterism "Iteophýllus Túcanae" is the spiral galaxy NGC 360 in the IAU constellation Tucana. It was discovered in 1834 by English astronomer John Herschel in 1834 who listed it as 2372 on his list. It became GC 191 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010): They called it this due to its resemblance to a Willow Leaf.

Wilson's Object:

This **telescopic** asterism is the galaxies MAC 0148+2733 (MGC 6632, CGCG482-17) in the IAU constellation Triangulum. When astronomer Larry Mitchell was cataloguing his MAC catalogue he came across a small pair of edge on galaxies that were not previously charted. He decided to name this pair after his long-time friend and observing partner Barbara Wilson, who was one of the winners of the Texas Star Party Lone Star Gazer award.

Wind Chime:

This asterism is the IAU constellation Libra as renamed by the Unitarian Universalist Hysterical Society in 2024 on their Facebook page.

Wind Spinner:

This **telescopic** asterism is the globular cluster Messier 13 in the IAU constellation Hercules. This was discovered by English astronomer Edmund Halley in 1714. South African astronomer Carol Botha (2010) describes it as a "strings of stars that look like a wind toy".

Winding of Grus:

This **telescopic** asterism "Convólvens Grúis" is the intermediate spiral galaxy NGC 7418 in the IAU constellation Grus. This was discovered in 1834 by John Herschel who listed it as h 3963 and later as GC 4863 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010)."

Winding of Hydra:

This **telescopic** asterism "Fléxus Hýdrae" is the barred spiral galaxy NGC 5135 in the IAU constellation Hydra. It was discovered by in 1834 John Herschel who listed it as h 3502 and later as GC 3528 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Windmill:

This **telescopic** asterism is the globular cluster NGC 6752 (Caldwell 93) in the IAU constellation Pavo. This was discovered by Scottish astronomer James Dunlop in 1827. John Herschel listed it as h 3778 and later as GC 4467 in the *General Catalogue* of 1864. The "base" of the windmill is the double star HIP 94198 on one side of the cluster. It is also known as the Starfish (see above) and the Cartwheel (see above).

Wind's Wing:

This Welsh asterism listed by Victorian folklorist Marie Trevelyan (1852 – 1922) in her *Folk-lore and Folk-stories of Wales* (1909) is currently unidentified.

Windswept of Columba:

This **telescopic** asterism "Ventilátus Colúmbae" is the spiral galaxy NGC 2090 in the IAU constellation Columba. It was discovered by Scottish astronomer James Dunlop in 1826. John Herschel listed it as 2944 and later as GC 1288 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Windswept of Virgo:

This **telescopic** asterism "Diénemus Vírginis" is the spiral galaxy NGC 5221 (Arp 288) in the IAU constellation Virgo. It was discovered in 1784 by William Herschel who listed it as "III 86". It became GC 3595 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "The strange appearance of this galaxy with arms extending in different directions".

Windy of Cetus:

This **telescopic** asterism "Anemódes Céti" is the intermediate spiral galaxy NGC 864 in the IAU constellation Cetus. This was discovered in 1785 by William Herschel who listed it as "III 457". It became GC 510 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name as it has "the characteristics of a windswept cloud".

Wine Glass of Sky:

This Korean asterism “Haneul-ui Wain Jan” (하늘의 와인 잔) is a triangle of stars in the IAU constellation Gemini: Delta (δ), 68, and 81 Geminorum.

Wine Jug:

This Hungarian asterism “Borcuna” is the IAU constellation Cassiopeia. The celestial map of Hungarian uranographer Sandor Nagy (1915) depicts this asterism as a group of people in Hungarian costume seated at a table. The person at the right end of the table is drinking from a glass or beaker. There is a server standing behind them and behind that what appears to be some sort of inn or restaurant with the name “Borcuna” on it.

Wine Skin:

This Greek asterism is the IAU constellation Lupus as described by Eratosthenes (d.194 B.C.E.), who saw it as a wine skin that the centaur (the IAU constellation Centaurus next to Lupus) was pouring. Some later cartographers displayed both the wolf and the wine skin.

Wine Vessel:

This Arabic asterism “Al Bāṭiyah” or “Al Batinah” (as listed by Al Achsasi al Mouuaket) is the IAU constellation Crater:

- “al-Bātiya” was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- Robert Hues lists it as “Albatina” in his *A Learned Treatise of Globes* in 1659.
- Edward Sherburne in his *Sphere of Marcus Manilius* in 1675 also gives the “Arabic” name “Batiya”.
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Bátiyah” as an Arabic name and translates it as “a large cup”.

This Persian asterism “Badiya” or “Badiye” is the IAU constellation Crater and is listed under this name and identified as Persian by Edward Sherburne in his *Sphere of Marcus Manilius* in 1675. John Hill also lists this as the Persian name in his *Urania* in 1745.

Wineskin:

This Greek asterism is the IAU constellation Lupus, identified by Eratosthenes (d.194 B.C.E.) as a wineskin held by Centaurus.

Wing:

There are two Arabic stars with the name “al-Janāḥ” (الجناح) (“the wing”, later latinized to “Gienah” or “al Janah”):

- One is the star Gamma (γ) Corvi in the IAU constellation Corvus:
    - This was latinized as “Gienah”, “Gienah Corvi” or “Gienah Ghrurab”.
    - Persian astronomer Ulugh Beg Mirza (1394 – 1449) listed it as “Al Janāḥ al Ghurāb al Ayman” (see Right Wing of the Raven, above).
    - The rete of the 14th century Spanish astrolabe NMM AST0570 in the National Maritime Museum lists the name of this star as “Alglari” (Dekker 2000).

    - The IAU approved the name Gienah for the star Gamma (γ) Corvi A.
- One is the star Epsilon (ε) Cygni in the IAU constellation Cygnus, also known as "Gienah Cygni", "Gienah" or "Aljanah". The IAU approved the name Aljanah for the star Epsilon (ε) Cygni Aa.

Wing Footed:

This Latin asterism "Pinnipes" is the IAU constellation Perseus as listed in R. H. Allen's *Star Names* in 1899. This is a reference to the "talaria" ("winged feet") which Perseus was often depicted as having.

Wing of Red Bird:

This large Korean lunar mansion "Ik" is made up of stars in the IAU constellations Antlia, Crater, and Hydra:

The central portion is a quadrilateral of the stars Alpha (α) Crateris (Alkes), Beta (β), Gamma (γ), and Delta (δ) Crateris. From each of the four corners lines of stars run out:

- From Alpha (α) Crateris a line runs out to Nu (ν) Crateris,
- From Gamma (γ) Crateris a line runs out to Zeta (ζ) Crateris,
- From Delta (δ) Crateris a line runs out to Epsilon (ε) Crateris, where it forks and goes in one direction to Iota (ι) Crateris and in the other direction through Theta (θ) Crateris to HIP 58576, and
- From Beta (β) Crateris a line runs out to Chi (χ) 1 Hydrae, where it splits into two lines:
    - One line goes through 10 Crateris to 17 Crateris, and
    - One line runs through Alpha (α) and Iota (ι) Antliae, HIP 55588, 55756, and Omicron (o) Hydrae to Beta (β) Hydrae.

Wing of Tafahi:

This Tongan asterism, "Kapakau'o'tafahi", is the "W" asterism of the IAU constellation Cassiopeia (see W of Cassiopeia, above).

Wing of the Horse:

The Arabic star "Janāh al-Faras" is the star 2 Pegasi in the IAU constellation Pegasus:

- "Janāh al-Faras" is listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists "janāh al-faras".
- NOTE: R. H. Allen writes in his *Star Names* in 1899 that some have incorrectly assumed that the name for Gamma (γ) Pegasi, "Algenib", originated in the Arabic "Al Janāḥ" ("the wing") as does Robert Burnham in his *Burnham's Celestial Handbook* in 1978. English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 makes this error, claiming that "Algenib" is derived from "Jenáh-al-faras" which he translates as "the horse's wing".

Wing of the Raven:

This Persian star "Al Janāḥ al Ghurāb al Aiman" is Gamma (γ) Corvi in the IAU constellation Corvus:

- The star list of the *Zrj al-Musaffarī* of 13th century Yemeni astronomer Muhammad ibn Abī Bakr al-Fārisī (Kunitzsch & Langermann 2003) lists "janāh al-ghurāb".
- "Al Janāḥ al Ghurāb al Aiman" is listed by Persian astronomer Ulugh Beg Mirza (1394 – 1449).

- It is listed as “Janāh al-ghurāb” on the astrolabe of Diyā al-Dīn Muhamman, which was in use between 1060 and 1650 (Savage-Smith 1992).
- Compare this to the asterism al-Janāḥ (see Wing, above).

Winged Female:

A winged female appears as a constellation on Babylonian stones, cylinder seals and gems preserved at the British Museum (Massoume 2001). The precise stars involved are not described.

Winged Horse:

This **telescopic** asterism is the open cluster NGC 663 (Caldwell 10), located in the IAU constellation Cassiopeia. This was discovered by English astronomer William Herschel in 1787 who listed it as “VI 31”. It is GC 392 in the *General Catalogue* of 1864. This is the name given to it by American astronomer Wayne Schmidt, who describes it as a winged horse flying to the left.

Winged Owl of Draco:

This **telescopic** asterism “Pteróstrix Dracónis” is the interacting galaxy NGC 6090 in the IAU constellation Draco. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010).

Wings:

This large and complex Chinese xing guan from the Three Kingdoms to the Ming Dynasty is made up of stars of the IAU constellations Crater, Hydra, and Sextans:

- A diamond of stars forms the “body”: Alpha (α) Crateris (the determinative star), Lambda (λ) Crateris, Zeta (ζ) Crateris, and Gamma (γ) Crateris,
- From Alpha (α) Crateris a line runs to Nu (ν) Crateris at one end, and from Zeta (ζ) Crateris to Eta (η) Crateris at the other,
- From Lambda (λ) Crateris a jagged line runs through Beta (β) Crateris, HIP 56078A, and Chi (χ) 1 and 2 Hydrae to 10 Crateris, from which two lines run out:
    - One through HIP 51979 to HIP 50066,
    - One through 17 Crateris to 29 Crateris.
- From Epsilon (ε) Crateris to lines run out:
    - One through Theta (θ) Crateris to HIP 57587, and
    - One through HIP 54029 to 41 Sextantis.

In the *Han shu*, a history of the early Han dynasty that was finished in 111 C.E. this xiù “Yi” was associated to matters concerning the Jingzhou territory.

This large and complex Chinese xiù (lunar mansion) “Yìxiù” (翼宿) is made up of stars in the IAU constellation Crater:

- A shallow diamond shape at the center is the “body”: Zeta (ζ), Gamma (γ), Alpha (α), and Lambda (λ) Crateris,
- A line extends from Alpha (α) Crateris to 4 Crateris at one end and from Zeta (ζ) to Eta (η) Crateris at the other end,
- A triangle of Lambda (λ), Beta (β), and 9 Crateris, and HIP 56830 and 56245 forms one “wing”, and
- A triangle of Gamma (γ), Delta (δ), Epsilon (ε), Theta (θ), and Iota (ι) Crateris and HIP 54214 and 57587 forms the other “wing”.

This Chinese Chenzhuo xing guan “Yìxiù” is made up of stars in the IAU constellations Crater, Hydra, and Virgo:

- The central body is made up of a “box” of four stars: Delta (δ) Crateris, Alpha (α) Crateris (Alkes), Beta (β) Crateris, and Gamma (γ) Crateris.
- From Alpha (α) Crateris a line runs out to Nu (ν) Hydrae.
- From Gamma (γ) Crateris a line runs out to Zeta (ζ) Crateris.
- Delta (δ) Crateris one “wing” is formed by a line runs which out to HIP 54029, where it splits:
    - One line runs through HIP 52948 to 51933, and
    - One line runs to Epsilon (ε) Crateris where the line splits again:
        - One line runs to Iota (ι) Crateris.
        - One line runs through Theta (θ) Crateris to HIP 58576
- From Beta (β) Crateris a “wing” is formed by a line which runs to HIP 54703, where it splits:
    - One line runs through HIP 56293 to HIP 56830, and
    - One line runs to Chi (χ) 1 & 2 Hydrae, where it splits again:
        - One line runs to HIP 51979, and
        - One line runs through HIP 54477, 17 Crateris, and HIP 57001 to 29 Crateris.

This Japanese sei shuku or lunar station “Tasuki Boshi” is a pair of “wings” made up of stars in the IAU constellations Hydra and Crater:

- One “wing” starts at Nu (ν) Hydrae and runs through Alpha (α) Crateris (Alkes), Delta (δ) Crateris, Theta (θ) Crateris, and Epsilon (ε) Crateris, ending with the star HIP 54029, and
- The other “wing” starts at the star Gamma (γ) Crateris and runs through the stars Zeta (ζ) Crateris and Beta (β) Crateris, ending at the star 9 Crateris.

Wings of a Butterfly Nebula:

See Minkowski’s Butterfly Nebula, above.

Wings of Pegasus:

This **telescopic** asterism “Ptéra Pégasi” is the elliptical galaxy NGC 7720 in the IAU constellation Pegasus. This was discovered in 1784 by William Herschel who listed it as “III 146”. It became GC 4995 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of “Radio observations of this galaxy show two giant jets, both bending in one direction like wings in the wind”.

Wings of Phoebus:

This asterism “Ales Phoebi” is the IAU constellation Corvus. This name is listed in Johann Bayer’s *Uranometria* (1603).

Winnow:

This Korean lunar mansion “Ki” is identical to the Chinese lunar mansion “Winnowing Basket” (see below).

Winnowing Basket:

This Chinese xiù (lunar mansion) “Jīxiù” (箕宿) is a quadrilateral of stars in the IAU constellation Sagittarius: Delta (δ) Sagittarii (the determinative star), Gamma (γ) Sagittarii, Eta (η) Sagittarii, and Epsilon (ε) Sagittarii. In the *Han shu*, a history of the early Han dynasty that was finished in 111 C.E. this xiù was associated to matters concerning the Youzhou territory. It appears in the Tang Dynasty (618 – 907 C.E.) as “Jī” (箕): Kotyk (2017) lists it as “Qi” although he uses the same Chinese character for it (箕) and writes that they compared it to the Vedic nakshatra Purva Ashadha (see First of the Asadha, above). This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Jīxiù” is a bent line of three stars in the IAU constellation Sagittarius: Delta (δ), Epsilon (ε), and Eta (η) Sagittarii.

Winter:

This Sesotho asterism “Mariha” is the Small Magellanic Cloud. They called it this as food was scarce when it was in the sky in winter.

This Venda asterism “tšefefo” is the Large Magellanic Cloud. Compare this to the Venda asterism “ndala” (see Famine, above).

This Māori star “Takarua” is Alpha (α) Canis Majoris in the IAU constellation Canis Major (Holberg 2007). Its appearance in the morning sky indicated the beginning of winter.

Winter Albireo:

This star is 145 Canis Majoris in the IAU constellation Canis Major. It is called this as it resembles the double star Albireo (see above).

Winter Circle:

This asterism consists of the Winter Triangle (see below) plus the stars Alpha (α) Aurigae (Capella) in the IAU constellation Auriga, Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus, Beta (β) Orionis (Rigel) in the IAU constellation Orion, and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini, with Alpha (α) Geminorum (Castor) on the periphery. It is also known as the Heavenly G. This name was listed in March 2024 in *EarthSky* (https://earthsky.org/astronomy-essentials/definition-what-is-a-constellation-asterism/). In the Southern Hemisphere, it is called the Summer Hexagon. It is also known as the “Winter Hexagon”.

Winter Hexagon:

This asterism consists of the Winter Triangle (see below) plus the stars Alpha (α) Aurigae (Capella) in the IAU constellation Auriga, Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus, Beta (β) Orionis (Rigel) in the IAU constellation Orion, and Beta (β) Geminorum (Pollux) in the IAU constellation Gemini, with Alpha (α) Geminorum (Castor) on the periphery. *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), describes this as an “hexagon” under its chapter “The Stars of Winter”. It is also known as the Heavenly G. This name was listed in March 2016 in *Constellation Guide* (https://www.constellation-guide.com/category/asterism/). In the Southern Hemisphere, it is called the Summer Hexagon. It is also known as the “Winter Circle”.

Winter Sign:

This Latin asterism “Signum Hiemale” is the IAU constellation Capricornus.

Winter Star:

This Kaurna star “Kudlilla” is Beta (β) Orionis (Rigel) in the IAU constellation Orion. The rising of this star marks the winter season.

Winter Month Guiding Star:

The Celtic PRIN or guiding star in the Sequani Calendar in the fifth month, Ogronios, is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra. When Vega is rising, Coma Berenices is at the zenith, and Capella is setting (Benigni). Compare to their asterism Fishes (see above).

Winter Thunderbird:

This Ininew (Cree) asterism, “Pipon Pinisew” is made up of stars in the IAU constellations Libra, Ophiuchus, Serpens, Scorpius, and Scutum (Buck 2016):

- The right “wingtip” is defined by Beta (β) Librae (Zubeneschamali), the double star Alpha (α) Librae (Zubenelgenubi) and Sigma (σ) Librae,
- The left “wingtip” is defined by Beta (β) Scuti,
- The “neck” and “head” of the bird is the constellation Serpens, and
- The spread of the “tail feathers” is defined by the stars Alpha (α) Scorpii (Antares) and Eta (η) Ophiuchi.

Winter Triangle:

The Winter Triangle is formed by the first three stars to appear in the winter sky at sunset in the Northern Hemisphere and consists of the stars Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor, Alpha (α) Orionis (Betelgeuse) in the IAU constellation Orion, and Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major. These three stars also form part of what is known as the Winter Hexagon (see above). Some describe the Winter Triangle as the stars Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor, Beta (α) Orionis (Rigel) in the IAU constellation Orion, and Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major.

Wintermaker:

This Ojibwe asterism “Biboonkeonini” is based on the IAU constellation Orion but includes stars from the IAU constellations Taurus and Canis Minor (Lee et al 2014). The commonly known asterism of the seven bright stars of Orion is the body, but one long “arm” runs from Gamma (γ) Orionis (Bellatrix) to Alpha (α) Tauri (Aldebaran). The other long “arm” runs from Alpha (α) Orionis (Betelgeuse) to Alpha (α) Canis Minoris (Procyon).

Wise:

This Sogdian star “Wadha” is Delta (δ) Leonis in the IAU constellation Leo as listed by R. H. Allen in his *Star Names* in 1899.

Wise Man:

This Kamilaroi star “Werrinah”, “Wurunna” or “Wurrunnah” is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus (Fuller et al 2014). Wurunna made off with one of the Mayi Mayi (see Seven Young Sisters, below). Compare with their asterism Old Wiringin (above). His “gunya” (“hut”) is the Hyades cluster (see Hut, above).

Wise Men:

This Chumash asterism is the Pleiades cluster in the IAU constellation Taurus.

Wise One:

This Kokatha and Ngalea star “Kuruka’di” is Beta (β) Geminorum (Pollux) in the IAU constellation Gemini (Leaman and Hamacher 2014). It is part of their asterism “Wati Kutjera”, the other part being “Mumba” (see Lazy One, above).

Wish:

This Arabic star “Shi'at” (شئت) is the Delta (δ) Aquarii in the IAU constellation Aquarius and appears on some Arabic globes according to R. H. Allen in his *Star Names* in 1899. It was later latinized to “Skat”. NOTE: An alternate derivation of “Skat” is “Leg” (see above).

Wishbone:

This asterism from the asterisms list of American astronomer John Davis is made up of stars in the IAU constellation Orion. Omega (ω) Orionis is the base of the “wishbone” with two prongs of stars going out:

- One goes through Eta (η) 2 and 1 Orionis, Psi (ψ) Orionis, to 23 Orionis, and
- One goes through 32 Orionis to Gamma (γ) Orionis (Bellatrix).

This **telescopic** asterism is in the IAU constellation Lupus and is Corder 2969 on the observing list of American astronomer Jeffrey Corder. Size 40’. This is nine 7^{th} – 8^{th} magnitude stars including HIP 78711, 78641, and the double star HIP 78555.

Wishing Well:

This **telescopic** asterism is the open cluster NGC 3532 (Caldwell 91) in the IAU constellation Carina. It was discovered by French astronomer Abbé Nicolas Louis de Lacaille in 1751 and was listed as II 10. It is GC 2308 in the General Catalogue of 1864. English astronomer William Herschel (1738 – 1822) thought it to be one of the finest star clusters he’d seen. It is also known as the Football Cluster, the Black Arrow Cluster, the Fish Cluster, the Firefly Party, and the Pincushion. It is located between the constellation Crux and the False Cross asterism (see False Cross, above).

Witch Head Nebula:

This **telescopic** asterism is reflection nebula NGC 1909 (IC 2118, vdB 36, LBN 959) in the IAU constellation Eridanus. This was discovered by English astronomer William Herschel in 1786 who listed it as “V 38” in his catalogue. It is GC 1116 in the *General Catalogue* of 1864. Swedish astronomer Sven Cederblad (1946) noted that Wolf listed it as “the Witch Head Nebula” in 1905.

Witch’s Broom Nebula:

This **telescopic** asterism is the planetary nebula NGC 6960 (C 34, LBN 191, PGC 3517;684, Ced 128a) in the IAU constellation Cygnus. It was discovered by English astronomer William Herschel in 1786 who listed it as “V 15”. It is GC 4600 in the *General Catalogue* of 1864. This is also known as the West Veil Nebula, Filamentary Nebula, or Cirrus Nebula.

Witch’s Hat:

See Magician’s Hat, above.

With a Greedy Hand:

This Latin asterism “Manu Codiata” is the IAU constellation Apus as listed by Edward Sherburne in his *Sphere of Marcus Manilius* in 1675

With a Quasar of Taurus:

This **telescopic** asterism “Quasarátus Taúri” is the interacting galaxies PGC 14064 in the IAU constellation Taurus. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it contains the quasar QSO 0351+026.

With a Star of Centaurus:

This **telescopic** asterism “Stellátus Centaúri” is the intermediate spiral galaxy NGC 5488 in the IAU constellation Centaurus. It was discovered by John Herschel in 1837 who listed it as h 3558 and later as GC 3796 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of “the 8th magnitude star at the south end of the galaxy”.

With Horses:

This Vedic moon station is in the IAU constellation Aries: This is the star Alpha (α) Arietis (Hamal).

With Many Grains:

This **telescopic** asterism “Granósus Sculptóris” is the spiral galaxy NGC 300 (Caldwell 70) in the IAU constellation Sculptor. Scottish astronomer James Dunlop discovered this in 1827. It is GC 169 in the 1864 *General Catalogue*. John Dreyer described it in the New General Catalogue of 1888 as “a complex object with several nuclei”. This name appears in *The Catalogue of One Thousand Named Galaxies* by Belgian astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name because of the “granular nature of this galaxy”. It is also known as the Southern Pinwheel and the Sculptor Pinwheel.

With One Limb of Virgo:

This **telescopic** asterism “Monómeles Vírginis” is the asymmetric spiral galaxy NGC 5713 in the IAU constellation Virgo. William Herschel listed this as “I 182”. John Herschel listed it as h 1857 and later as GC 3964 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it has “one smooth spiral arm”.

With Three Corners:

This Belarussian asterism “Trohkutnaia” is the constellation Orion (Avilin 2009). It is also known as “Lisa” (see Fox, above), “Kryzhe” (see Cross, above), “Kosy” (see Scythes, above), “Matawila” (see Wheel, above), “Traiko” (see Three Times, above), “Karomyselko” (see Small Yoke, above), “Grabli” (see Rake, above), “Kastsy” (see Mowers, above), “Try Karali” (see Three Kings, above), “Kasar” (see Mower, above), “Kreselca Pana Jezusa” (see Lord Jesus’ Chair, above), “Tri Siostry” (see Three Sisters, bove), “Prahi” or “Prapradki” (see Yarn Spinners, below), “Asilki” (see above), and “Kigachi ragachy” (see Shaft of a Plough, above).

With Two Stars of Canes Venatici:

This **telescopic** asterism “Bistellátus Cánum Venaticórum” is the spiral galaxy NGC 5371 in the IAU constellation Canes Venatici. It was discovered in 1788 by William Herschel who listed it as “II 716”. It

became GC 3710 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the two stars of magnitude approximately 9 and 10 in the neighbourhood of this galaxy".

Withaka:

This Myanmar nekkhat (lunar mansion) "Withaka" (ဝိသာခါ) is the star Alpha (α) Librae

(Zubenelgenubi) in the IAU constellation Libra.

Withers of the Horse:

This Arabic star "Matn al-Faras" is 4 Pegasi in the IAU constellation Pegasus:

- "Matn al-Faras" was listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- NOTE: R. H. Allen lists Alpha (α) Pegasi (Markab) as "Matn al Faras" and "Mankib al Faras" in his *Star Names* in 1899.
- American astronomer Robert Burnham lists "Matn al Faras" in his *Burnham's Celestial Handbook* in 1978.

Without Neighbours of Aquarius:

This **telescopic** asterism "Agiton Aquárii" is the spiral galaxy NGC 7721 in the IAU constellation Aquarius. This was discovered in 1785 by William Herschel who listed it as "II 432". It became GC 4997 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it "is located in a rather empty region of Aquarius".

Wives:

This //Gana asterism is made up of stars in the IAU constellations Canis Major, Carina, Eridanus, and Taurus (Alcock 2014). It has the Pleiades cluster married to the stars Alpha (α) Carinae (Canopus) and Alpha (α) Canis Majoris (Sirius), whose brother is Alpha (α) Eridani (Achernar).

Wives of Butt Kuee Tuukuung:

This Mara and Moporr asterism is the stars Sigma (σ) and Tau (τ) Scorpii in the IAU constellation Scorpius (Dawson 1881, Clarke 2009, Hamacher 2011). Butt Kuee Tuukuung (see above) was a famous ancestor of these people and is represented by the star Alpha (α) Scorpii (Antares).

Wives of Gachari:

This Tangut asterism is the Pleiades cluster in the IAU constellation Taurus (Berezkin 2005). See Gachari, below.

Wives of Djuit:

Two Boorong stars are listed as the wives of the Red Rumped Parrot "Djuit" (see Red Rumped Parrot, above) by Stanbridge (1857), Morieson (1999), and Hamacher and Frew (2010):

- Tau (τ) Scorpii in the IAU constellation Scorpius, and
- Sigma (σ) Scorpii in the IAU constellation Scorpius

Wives of Totyarguil:

Two Boorong stars are listed as the wives of Totyarguil (see Purple Crowned Lorikeet, above) by Stanbridge (1857), Morieson (1999), and Hamacher and Frew (2010):

- Beta (β) Aquilae (Alshain) in the IAU constellation Aquila, and
- Gamma (γ) Aquilae in the IAU constellation Aquila.

Two Kulin stars are listed as the wives of Totyarguil (see Purple Crowned Lorikeet, above) by Hamacher (2011), both under the name Kunnawarra:

- Beta (β) Aquilae (Alshain) in the IAU constellation Aquila, and
- Gamma (γ) Aquilae in the IAU constellation Aquila.

Wives of Unurgunite:

Two Boorong stars in the IAU constellation Canis Major are listed as the wives of Unurgunite (see Jacky Lizard, above) by Stanbridge (1857), Morieson (1999), and Hamacher and Frew (2010):

- Epsilon (ε) Canis Majoris, and
- Delta (δ) Canis Majoris.

Wizard Nebula:

This **asterism** is the open cluster NGC 7380 (SH 2-142, LBN 511, Cr 452, Ced 206) in the IAU constellation Cepheus. It was discovered by English astronomer Caroline Herschel in 1787 and listed by her brother William Herschel as "VIII 77". It is GC 4842 in the *General Catalogue* of 1864. It is also known as Harry Potter and the Golden Snitch (see above).

Wodan's Wagon:

This Old High German, Anglo Saxon, and Old Norse asterism "Wodenswagen" or "Woutanswaggen" is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above). Compare this to the Dutch asterism Wotan's Wagon (see below).

Wolf:

This Babylonian star "MUL.UR.BAR.RA" (Hunger 1992, Sanders 2023) listed in the MUL.APIN and in the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) is Gamma (γ) Cassiopeiae (Navi) in the IAU constellation Cassiopeia. They also call it the "plough's seeder" as this star is part of their asterism Plough (see above). It appears in the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period as "mul.ur.bar.ra" (Koch-Westenholz 1995).

NOTE: R. H. Allen lists "Lik-bar-ra" or "Ur-bar-ra" as an "Euphratian" asterism, defines it as "hyena" and lists the stars Alpha (α) Pegasi (Markab), Gamma (γ) Pegasi, and Zeta (ζ) Pegasi in the IAU constellation Pegasus in his *Star Names* in 1899. Allen lists his source as English orientalist Robert Brown, Jr.

This Babylonian star "UR.BAR.RA" or "barbaru" as listed in Anthony Hope's *A Guide to Ancient Near Eastern Astronomy* in 1996 is Alpha (α) Trianguli (Mothallah) in the IAU constellation Triangulum.

This Akkadian star "Barbaru" (Hunger 1992) from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) is Gamma (γ) Cassiopeiae (Navi) in the IAU constellation Cassiopeia.

There are three Arabic stars bearing this name:

- One is the star "adh-Dhi'b" (الذئب), which is the star Alpha (α) Draconis (Thuban) in the IAU constellation Draco, later latinized to "Adib", "Addib", "Eddib", "Adive", and "el Dsib".
- One is the star "al-dhi'b" (الذئب), which is the star Zeta (ζ) Draconis in the IAU constellation Draco. This is the feminine form of this word, later latinized as "Al Dhi'bah" or "Aldibah":
    - English Admiral Henry William Smyth's *Bedford Catalogue* in 1844 lists "al dhikh, the wolf or hyaena" as Iota (ι) Draconis.
    - R.H. Allen mistranslates it as the plural form of "hyenas" in his *Star Names* in 1899 (which would be "al-ḍibāʿ" (الضباع)).
    - The IAU Working Group on Star Names approved Aldibah as the name of Zeta (ζ) Draconis A in 2017.
- One, "al-dhi'b" (الذئب), later latinized to "Aldhiba" or "Aldhibah", is the star Phi (ϕ) Draconis in the IAU constellation Draco. The IAU approved the name Aldhibah for Phi (ϕ) Draconis A.

This Chinese Chenzhuo xing guan "Lang" is the star Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major.

This Latin star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major. As early as the 8th century C.E. Sirius was often depicted as a wolf with bared fangs. It is depicted this way in the 9th century Codex Vossianus Latinus manuscript now in Leiden (Holberg 2007). This is probably related to a myth told by the Greek poet Oppian in the 2nd century C.E. of a fierce golden wolf who retreated to his lair when the star Sirius rose in the sky.

This Greek lunar mansion is listed in the *Magical Papyrus 121*, preserved in the British Museum, and dated to the 3rd century C.E. (Mosenkis, date n/k). The stars have not been identified.

This Anishinaabe asterism "Myeengun Anugn" is the IAU constellation Canis Major (Lee et al 2014).

This is an alternate name "Lang" for the Chinese xing guan "Tiānláng" (天狼) -see Celestial Wolf, above.

This early Celtic (Gaulish) asterism is the IAU constellation Aquarius as represented on the Gundestrup Cauldron (Boutet 2017).

This Skidi star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major.

This Japanese star "Rō" is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major (Miyajima 2014) as listed by Japanese astronomer Shibukawa Harumi (1639 – 1716).

In his *A Learned Treatise of Globes* in 1659, Robert Hues gives the "Arabic" name "Alsubahh" for the IAU constellation Lupus, which he translates as "Wolf". Compare to Wild Beast (above).

This Lithuanian asterism is the IAU constellation Leo (Vairkünas 1999).

This Romanian star "Lupul" is Eta (η) Ursae Majoris in the IAU constellation Ursa Major (Ottescu 2009). The next two stars in the handle of the Big Dipper are the oxen pulling the Great Chariot (see below) and are frightened by the Wolf. Compare to Bear (above).

This Norse asterism is the IAU constellation Lupus and was created by Canadian Bjorn Jónsson (1920 – 1995) who was trying to reconstruct traditional Scandinavian skies (Kuperjanov 2006).

This Ainu Nociw (“asterism”) “Horkew Kamuy no Nociw” [ホロケウノ チゥ] is made up of stars of the IAU constellation Virgo. Alpha (α) Virginis (Spica) is the wolf’s eye, his back is a line running from Spica through Gamma (γ) Virginis, Eta (η) Virginis, and 7 Virginis to the tip of his tail at Nu (ν) Virginis. His “feet” are Zeta (ζ) Virginis and Delta (δ) Virginis.

Wolf Beside the Ox:

This Estonian star is 80 Ursae Majoris (Alcor) in the IAU constellation Ursa Major as recorded by Salomo Heinrich Westring in the 18th century (Kuperjanov 2006). It is part of their asterism Ox Wain (see above).

Wolf Brothers:

This Chinookan (Wasco) asterism is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above). They also call it “Coyote, Wolves, and Bears”. The three stars of the handle of the dipper (Eta (η) Ursae Majoris (Alkaid), the double star Zeta (ζ) Ursae Majoris (Mizar) and 80 Ursae Majoris (Alcor), and Epsilon (ε) Ursae Majoris (Alioth)) and the two stars of the dipper near the handle (Delta (δ) Ursae Majoris (Megrez) and Gamma (γ) Ursae Majoris (Phecda)) are the wolves hunting the bears, which are the two stars on the front of the dipper (Alpha (α) Ursae Majoris (Dubhe) and Beta (β) Ursae Majoris (Merak)). Coyote allowed the wolves to reach the sky by shooting arrows to create a bridge.

Wolf Claws:

This Arabic asterism is the stars Omega (ω) and 27 Draconis in the IAU constellation Draco.

Wolf Lundmark Melotte Object:

This **telescopic** asterism is the dwarf irregular galaxy WLM (UCGA 444) in the IAU constellation Cetus. It was discovered by Max Wolf in 1909. It is also known as the “Roll of Cetus” (see above).

Wolf Pack:

This Romanian asterism “Lupăria” or “Haita de Lupi” is the IAU constellation Leo Minor (Ottescu 2009).

Wolf Star:

This Ininew star “Mahkan Atchakos” is Alpha (α) Ursae Minoris in the IAU constellation Ursa Minor (Buck 2016).

This Pawnee (Skidi) star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major.

Wolf’s Cave Nebula:

This **telescopic** asterism is planetary nebula Ced 201 (vdB 152, Ced 201, LBN 531, Barnard 175, LDN 1217) in the IAU constellation Cepheus. It is also known as the Cave Nebula.

Wolf’s Nails:

This Arabic asterism “’Aẓfaāru ’dh-Dhi’b”, “Azw·faru ’dh-Dhi’b”, “’Aẓfaāru ’dh-Dhi’b”, or “Azz·faru ’dh-Dhi’b” (أظفار الذئب), translated as “wolf’s nails” or “fingerprints” and later latinized to “Azfar Adib”, is the stars 27 Draconis and Omega (ω) Draconis and is part of their asterism Mother Camels.

Wolves:

This Macedonian asterism “Volci” or “Voltsi” is the stars Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major and Alpha (α) Canis Minoris (Procyon) in the IAU constellation Canis Minor (Cenev 2004 & 2014). They prowl the edge of the field where “Orach” (see Ploughman, above) and his oxen “Ralo so Volovi” (see Oxen above) are working.

There are two Arabic asterisms with the name “al-dhiʾbān”:

- One is three stars in the IAU constellation Boötes: Gamma (γ), Delta (δ), and Mu (μ) Boötis.
- One, latinized to “Thiba”, is the star Delta (δ) Boötis.

Woman:

This Japanese sei shuku or lunar station “Uruki Boshi” (“woman” or “waiting maid”) is a quadrilateral of stars in the IAU constellation Aquarius: Epsilon (ε), Kappa (κ), Mu (μ), and 5 Aquarii.

This Quechua asterism “Mamalita” (Ciancia 2018)) is dark nebulosity in the Milky Way stretching between the IAU constellations Centaurus and Scorpius. It is also known as “Llamita” (see Baby Llama, above).

Woman Cutting Off Leg:

This Kalinago asterism is made up of stars of the IAU constellations Taurus and Orion. The Kalinago see the Pleiades cluster as a woman who cuts off her husband’s leg, which is the belt and sword of Orion and runs away with a tapir, which is the Hyades cluster.

Woman in a Ship:

This Sinhalese asterism is the IAU constellation Virgo as listed in R. H. Allen’s *Star Names* in 1899.

Woman of the Throne:

This Latin asterism “Mulier Sedis” is the IAU constellation Cassiopeia:

- Johann Bayer’s *Uranometria* (1603) lists “Mulier Sedis” as an alternate name for Cassiopeia.
- The *Hemelglobe* (1603) of Dutch uranographer Willem Janszoon Blaeu (1571 – 1638) lists “Mulier Sedis” as an alternate name for Cassiopeia.
- “Mulier Sedis” is listed in in John Hill’s *Urania* in 1754.
- “Mulier Sedis” is listed in R. H. Allen’s *Star Names* in 1899.

Woman Shaman:

This Barasana asterism “Romi Kumu” is the Pleiades cluster in the IAU constellation Taurus (Hugh-Jones 2006). Romi Kumu is the sky, the creatress, and first shaman. An alternate Barasana name is “Nyokoaro Bukura” (see Star Thing, above).

Woman with a Staff:

This Egyptian Dendera asterism is two crossing lines of stars in the IAU constellations Andromeda, Cepheus, and Cygnus (Hoffman 2017). It is depicted on the ceiling as a woman with a walking stick in one hand and a staff or wand in the other. One line runs from Zeta (ζ) Cephei through Alpha (α) Cygni (Deneb) to Gamma (γ) Cygni. The other runs from Alpha (μ) Cephei (Alderamin) to Omicron (ο) Andromedae.

Woman’s Bed:

This Chinese xing guan “Nǚchuáng” (女床) is a bent line of three stars in the IAU constellation Hercules: 67 Herculis (the determinative star), 69, and Rho (ρ) Herculis. This xing guan was used in the Three Kingdoms to Ming Dynasty period and remained unchanged in later Chinese sky lore.

This Chinese Chenzhuo xing guan “Nǚchuáng” is a bent line of three stars in the IAU constellation Hercules: Pi (π) Herculis, 69 Herculis, and 75 Herculis.

Woman’s Spinning Wheel:

This Finnish asterism “Ämmänrukki” is the IAU constellation Orion.

Woman’s Wagon:

This Norse asterism **“**Kvennavagn” (“woman’s chariot” or “woman’s cart”) is the Little Dipper asterism in the IAU constellation Ursa Minor (see Little Dipper, above). Compare this to the Old Icelandic asterism “Lady’s Wain” (see above).

Womb of Cetus:

This **telescopic** asterism “Mátrix Céti” is the barred spiral galaxy NGC 1022 in the IAU constellation Cetus. It was discovered in 1785 by William Herschel who listed it as (I 202”. It became GC 574 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). They gave it this name as it resembles ”a womb… the place of coming into being”.

Women:

This Polish asterism “Baby” is the Pleiades cluster in the IAU constellation Taurus (Avilin 2009, 2018).

This Belarussian and Polish asterism “Babki” (“women” or “old women”) is the Pleiades cluster in the IAU constellation Taurus (Avilin 2009, 2018). This relates to women who carry meals out to the mowers (see Mowers, above).

This Chukchi asterism is the Pleiades cluster in the IAU constellation Taurus (Berezkin 2005). It is related to their asterism Hunter (see above).

Wonder Star:

This star is Omicron (ο) Ceti in the IAU constellation Cetus as listed in *1001 Wonders as Observed with Home Built Instruments*, 3rd edition (1931), by American astronomer Charles Howard Barns. Compare this to Wonderful, below.

Wonderful:

This Polish star “Mira” (Latin for “wonderful” or “astonishing”), “Mira Stella”, or “Mira Ceti” is Omicron (ο) Ceti in the IAU constellation Cetus. The variability of Mira was first recorded by German pastor David Fabricius in 1596.Polish astronomer Johannes Hevelius gave it this name in his *Historiola Mirae Stellae* in 1662. Compare this to Wonder Star, above:

- American uranographer William Croswell (1760 – 1834) lists this star as “Mira” on his *Mercator Map of the Starry Heavens* in 1810.
- Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists this star as ”Mira”.

- Scottish uranographer Alexander Jamieson (1782 – 1850) lists this star as "Mini" in his *Celestial Atlas* in 1822.
- *An Improved Moveable Planisphere* (c. 1850) by Jehoshaphat, Aspin and Griffith and James Grant Wyld, lists "Mira".
- This is listed in a boxed set of 32 constellation cards called *Urania's Mirror* in 1852 as "Mira": The author is unknown, but it is based on Jamieson's *Celestial Atlas*.
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists "Mira" for this star.
- English astronomer Richard A. Proctor's *A New Star Atlas* (1887) lists this star as "Mira".
- *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), lists this star as "Mira, the wonderful variable star".
- German astronomer Hermann Joseph Klein (1844 – 1914) lists "Mira" in his *Star Atlas* (1893).
- American astronomer Winslow Upton's *Star Atlas* (1896) lists this star as "Mira" and translates it as "wonderful".
- The 1st edition of British schoolmaster Arthur P. Norton's *A Star Atlas and Telescopic Handbook* (1910) and his 14th edition (1959) list this star as "Mira".
- *The Facts of File Dictionary of Astronomy, 2nd edition*, 1985, by Valerie Illingworth, ed., lists this star as "Mira".
- The IAU approved the name Mira for the star Omicron (o) Ceti Aa.

Wonderful of Ursa Major:

This **telescopic** asterism "Mirífica Úrsae Majóris" is the lenticular or spiral galaxy NGC 3718 (Arp 214) in the IAU constellation Ursa Major. William Herschel listed this as "I 221" and his son John Herschel listed it as h 908 and later as GC 2443 in his *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They call it this "because of its beauty and strange structure".

Wood Falcon:

This Latin asterism "Falco Sylvestris" is the IAU constellation Lyra.

Wood Pigeon:

This Māori asterism "Kererū" is made up of stars of the IAU constellation Orion (Ridpath 1988). The three stars of the belt of Orion form a perch on which the wood pigeon, represented by the sword of Orion and the star Kappa (κ) Orionis (Saiph). The fruit that the wood pigeon is feeding on is the star "Puanga" or "Puanga-rua" is Beta (β) Orionis (Rigel) in the IAU constellation Orion.

Wooden Blocks:

This Japanese asterism "Hyoushigi", also known as "Kanatsuki no Ryowaki Boshi" ("Striking Both Sides Stars") or "Waki Boshi" ("Two Wooden Blocks"), is the IAU constellation Orion:

- The stars Alpha (α) Orionis (Betelgeuse), Zeta (ζ) Orionis (Alnitak) and Kappa (κ) Orionis (Saiph) form one block, and
- The stars Gamma (γ) Orionis (Bellatrix), Delta (δ) Orionis (Mintaka), and Beta (β) Orionis (Rigel) form the other.

Wooden Cross:

This Quechua asterism “Linun Cruz” is described by Urton (1980 & 1981) as “the five stars in the head of Scorpio”: Alpha (α) Scorpii (Antares), Beta (β) Scorpii (Acrab), Delta (δ) Scorpii, Pi (π) Scorpii, and Sigma (σ) Scorpii. Compare to Calvary Cross (above).

Wooden Stirring Rod:

This Arabic star is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus. The Hyades cluster of which this star is a corner is the “Young She Camels” (see below). It is also known as The Camel Herder (see above).

Wool Spindle:

This Bedouin asterism “al-Miġzal” (المغزل) from the town of Zulfi in Saudi Arabia is the Northern Cross (see Northern Cross, above) in the IAU constellation Cygnus: Alpha (α) Cygni (Deneb), Epsilon (ε) Cygni (Gienah), Gamma (γ) Cygni (Sadr), Delta (δ) Cygni, and Beta (β) 1 Cygni (Albireo).

Woolly:

This Latin asterism “Laniger” is the IAU constellation Aries.

Woolly of Virgo:

This **telescopic** asterism “Lániger Vírginis” is the intermediate barred spiral galaxy NGC 4579 (Messier 58) in the IAU constellation Virgo. It was discovered by Charles Messier in 1779. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of “the woolly aspect of the thick spiral arms”.

World is Divided into Three Parts:

This German asterism “Orbis Terrarum Tripertitus” is the IAU constellation Triangulum. German astronomer Johann Bayer (1572-1625) gave it this name, meaning for this to represent Europe, Africa, and Asia.

World:

This Belarussian asterism “Svetovaia” is one of the three stars of the belt of Orion asterism in the IAU constellation Orion (Avilin 2009). The other two stars are known as “Zahodnia” (see Western, above) and “Poznia” (see Late, above). I believe this to be Epsilon (ε) Orionis, the middle star.

World Nail:

This Old Icelandic star is currently Alpha (α) Ursae Minoris (Polaris) in the IAU constellation Ursa Minor. Around 800 C.E. it would have been 32 Camelopardalis. Compare this to the Estonian “North Nail” (see above), the Belarussian “Nail” (see above), and the Chukchi “Nail Star” (see above).

Worm:

This Babylonian star “MUL.tul-tum” as listed in the *Astrological Reports to the Assyrian Kings* (Hunger 1992) and is unidentified.

This Assyrian star “Tultu” listed in the *Astrological Reports to the Assyrian Kings* (Hunger 1992) and as listed in Anthony Hope’s *A Guide to Ancient Near Eastern Astronomy* in 1996 is unidentified.

This **telescopic** asterism Sánta 62, listed in 2007 by Hungarian astronomer Sánta Gábor, is a line of six 10th – 12th magnitude stars in the IAU constellation Canis Major. Gábor describes it as "very tiny worm-like asterism".

Worms:

This Belarussian asterism "Charviaki" is the Hyades cluster in the IAU constellation Taurus (Avilin 2009). It is also known as "Dazhdzhaviki" (see Grass Snakes, above).

Wotan's Wagon:

This ancient Dutch asterism "Woonswaghen" or "Woenswaghen" is the Big Dipper asterism in the IAU constellation Ursa Major (see Big Dipper, above). This was found in the phrase "sevenstarre ofde Woenswagen" ("the seven stars of Wotan's wagon") as late as the 15th century. Compare this to Odin's Wagon (above) or Wodan's Wagon (above).

Wound Lodge:

This Korean asterism "Sangcheo Odumag" (상처 오두막) is a line of six stars in the IAU constellation Ursa Minor: Zeta (ζ) Ursae Minoris, Epsilon (ε) Ursae Minoris, Delta (δ) Ursae Minoris, Alpha (α) Ursae Minoris (Polaris), 2 Ursae Minoris and HIP 112519. Note: Their neighboring asterism, "North Pole", doesn't contain Alpha (α) Ursae Minoris (Polaris).

Wounded Heart:

This **telescopic** asterism is the open cluster NGC 2546 in the IAU constellation Puppis. It was discovered by French astronomer Abbé Lacaille in 1751 who listed it in his catalogue as Lac II 4. It is GC 1635 in the *General Catalogue* of 1864. It is known as the Heart and Dagger or Wounded Heart as there is a line of stars through its center. It is also known simply as the Heart Cluster. Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) lists this as O'Meara 42 and he lists the names "Wounded Heart Cluster" and "Heart and Dagger Cluster".

Wounded Ibex:

This is one of the asterisms found on the cave ceiling in Armintxe, Spain, estimated to be between 12,000 and 14,000 years old. This is made up of stars of the IAU constellations Aquila, Cygnus, Delphinus, and Vulpecula:

- The "body" starts at a "nose" at the star HIP 101966 and runs up to the top of the "head" at 17 Delphini, then across the back of the "body" through Gamma (γ) 2 Delphini, and 29 Vulpeculae, to his "backside" at 41 Cygni, then down to his "back foot" at 15 Vulpeculae, then across his "belly" through QR Vulpeculae and HIP 100276 to his "front foot" at Rho (ρ) Aquilae, then to the "neck" at Zeta (ζ) Delphini and Beta (β) Delphini and back to his "nose" at HIP 101966,
- The middle of the "neck" is a diamond of stars: Beta (β) Delphini, Delta (δ) Delphini, Gamma (γ) 2 Delphini, and Alpha (α) Delphini (Sualocin), and
- The "horns" run from 17 Delphini through HIP 103635 to 33 Vulpeculae.

Wounded of Canes Venatici:

This **telescopic** asterism "Laésus Cánum Venaticórum" is the barred spiral galaxy NGC 5112 in the IAU constellation Hydra. It was discovered in 1787 by William Herschel who listed it as "II 646". It became GC

3511 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the spiral structure of this galaxy is symmetric in its southern parts, but somewhat perturbed in the northern part."

Wouri:

This **telescopic** Duala star is the K type star WASP-69 in the IAU constellation Aquarius (magnitude 10.93). It received this name in the IAU's NameExoWorlds competition in 2022. The Wouri is a major river in Cameroon. It has an exoplanet, WASP-69b, "Makombé", which is named after a tributary of the Wouri.

Woven Yoke:

"Uegeton Uedon" is a proposed early Celtic name for the IAU constellation Aquarius from the Book of Ballymote through an etymological reconstitution (Boutet 2014).

Wrapped of Draco:

This **telescopic** asterism "Obvolúta Dracónis" is the spiral galaxy NGC 6340 in the IAU constellation Draco. It was discovered in 1788 by William Herschel who listed it as "II 767". It became GC 4292 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the almost circular arms of this galaxy are extremely tightly wound around the nucleus."

Wreath:

This Gallic asterism "Stefadium" or "Symma" is the IAU constellation Corona Borealis. The Gallo-Roman historian and Bishop Gregory of Tours (538 – 594) created this to help monks use certain stars in the sky to determine the time for prayers. Stefadium is a Latin word for "Wreath". McKay (2020) suggests that "Symma" is possibly derived from the Gaulish term "simin" (rope or binding made of rushes).

This Lithuanian asterism "Vainykėlis" is the Pleiades open cluster in the IAU constellation Taurus.

Wreath of Flowers:

This asterism is the IAU constellation Corona Borealis and was inspired by the original Greek name of the constellation "Στέφανος" ("wreath" or "crown") and the Latin word "Corona" ("crown").

Wreath of the Erribra:

This Marshallese asterism is the IAU constellation Corona Australis (Kemp et al 2022). The Erribra are one of the clans of the Marshall Islands

Wreath of the Ijjirik:

This Marshallese asterism is the IAU constellation Corona Borealis (Kemp et al 2022). The Ijjirik are one of the clans of the Marshall Islands

Wreathed of Fornax:

This **telescopic** asterism "Perístephes Fornácis" is the spiral galaxy IC 1993 in the IAU constellation Fornax. It was discovered by Lewis Swift in 1897. This name appears in *The Catalogue of One Thousand*

Named Galaxies by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because of "the beautiful ring around this galaxy, formed by intertwining arms."

Wreathed of Hydra:

This **telescopic** asterism "Stephanítes Hýdrae" is the field spiral galaxy NGC 3621 in the IAU constellation Hydra. It was discovered by William Herschel in 1784. It was discovered in 1790 by English astronomer William Herschel who listed it as "I 241" in his catalogue. It is GC 2371 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010). It is also known as the Southern Cross Galaxy (see below) and as the "Wreath Wearer of Leo" (see below). Stephen James O'Meara's *Hidden Treasures Catalogue* (2007) lists this as O'Meara 57 without a name.

Wreathed of Ursa Major:

This **telescopic** asterism "Stephanéphorus Úrsae Majóris" is the intermediate spiral galaxy NGC 4102 in the IAU constellation Ursa Major. It was discovered in 1789 by William Herschel who listed this as "I 225". It became GC 2717 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): The "wreath" is the "inner zone of bright star formation".

Wrestler of Serpens:

This **telescopic** asterism "Palaéstes Serpéntis" is the barred spiral galaxy NGC 5996 (Arp 72) in the IAU constellation Serpens. It was discovered in 1784 by William Herschel who listed it as "II 97". It became GC 4139 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "the inextricable shape of this system of interacting galaxies brings to mind the grappling of wrestlers". Its companion is NGC 5994, which was listed originally by English astronomer William Parsons, 3rd Earl of Rosse.

Wrestler of Ursa Major:

This **telescopic** asterism "Luctátor Úrsae Majóris" is the spiral galaxy NGC 5278 (Arp 239) in the IAU constellation Ursa Major. It was discovered in 1789 by William Herschel who listed it as "II 798". It became GC 3639 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because "NGC 5278 and his partner NGC 5279 seem to be a wrestling pair".

Wrestlers of Cancer:

This **telescopic** asterism "Luctatóres Cáncri" is the interacting galaxy NGC 2623 (Arp 243) in the IAU constellation Cancer. It was discovered by Édouard Stephan in 1885. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name because "these two closely interacting galaxies seem to wrestle with each other".

Wrist:

There are four Arabic asterisms with this name:

- One, “al-Miʿasam uth-Thurayyā” (معصم الثّريّا) which means “wrist of al Thurayya”, is the star Lambda (λ) Herculis in the IAU constellation Hercules:
    - This was later latinized to “Maasym”, “Masym”, “Maasym”, “Maasim”, “Mazym”, “Mazim”, “Masini”, or “Masym”.
    - Johann Bayer’s *Uranometria* (1603) lists “Maasym” for this star.
    - Robert Hues lists it as “Mazim” and “Maasim” in his *A Learned Treatise of Globes* in 1659 and translates it as “strength”.
    - Johann Elert Bode’s *Vorstellung Der Gestirne* (1782) lists this star as “Maasym”.
    - Scottish uranographer Alexander Jamieson (1782 – 1850) lists this star as “Maasym” in his *Celestial Atlas* in 1822.
    - English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Masym… from the Arabic mi’sam, the wrist”.
    - This is listed in a boxed set of 32 constellation cards called *Urania’s Mirror* in 1852 as “Maasym”: The author is unknown, but it is based on Jamieson’s *Celestial Atlas*.
    - R. H. Allen lists it as “Miʿṣam al Thurayya” in his *Star Names* in 1899.
    - The *Century Cyclopedia* of 1894 incorrectly lists “Masym” as a name for Chi (χ) Herculis.
    - The IAU approved the name Maasym for Lambda (λ) Herculis.
- One “al-miʿşam” (المِعْصَم), later latinized to “Mahasim” is the star Theta (θ) Aurigae in the IAU constellation Auriga. The IAU chose the name Mahasim for the star Theta (θ) Aurigae A in 2017.
- One, “miʿşam” (مِعْصَم), later latinized to “Misam” is the star Kappa (κ) Persei in the IAU constellation Perseus. The IAU approved the name Misam for the star Kappa (κ) Persei Aa in 2017.

Written in the Middle of Leo Minor:

This **telescopic** asterism “Mesógraphus Leónis Minóris” is the barred spiral galaxy NGC 3504 in the IAU constellation Leo Minor. It was discovered in 1785 by William Herschel who listed it as “I 88”. It became GC 2287 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They call it this as the “conspicuous dust lanes in the central region giving it the appearance of a disk painted with black ink in the middle”.

WTF Star:

See Boyajian's Star (above).

Wudba:

This Wardaman star is Gamma (γ) Tauri in the Hyades cluster in the IAU constellation Taurus (Cairns and Harney 2003). Compare this to their star Nailfish, above.

Wuja:

This Wardaman star is Alpha (α) Leonis (Regulus) in the IAU constellation Leo (Cairns and Harney 2003).

Wurren:

This Wardaman star is Lambda (λ) Scorpii in the IAU constellation Scorpius (Cairns and Harney 2003).

Wurttemberg:

This asterism “Wurtemb” was created of stars of the IAU constellations Aquarius and Capricornus by German astronomer Erhard Weigel (1625 – 99) who produced his *Astrocopium Orbi Europaeo Sacrum* chart in 1661, 1681 and 1688 in which he tried to replace existing constellations a new system based upon the heraldry of the nation states and principalities of seventeenth century Europe, as well as of its principal hierarchies and social classes. This is depicted by a pair of decorated horns over a lion holding seven arrows in his right front paw.

Wurubilum:

This Butchulla, Badjala, and Wakka Wakka asterism is the Coal Sack Nebula in the IAU constellation Crux (see Coal Sack, above).

Wuun:

This Micronesian star is Alpha (α) Tauri (Aldebaran) in the IAU constellation Taurus.

Wúyuè:

This Chinese star “Wúyuè” from the 3 Kingdoms and Ming Dynasty Period is the star Zeta (ζ) Aquilae in the IAU constellation Aquila and is and is part of their xing guan Heavenly Market East Wall (see above).

X:

There are thirteen **telescopic** “X” asterisms:

- One is Sánta 55, listed in 2007 by Hungarian astronomer Sánta Gábor, which is a group of 9th – 13th magnitude stars in the IAU constellation Lepus including HD 40148.
- One, “X Marks the Spot”, is Harrington 8 on American astronomer Phil Harrington’s asterism list, which is in the IAU constellation Telescopium. One corner of the “X” is HIP 90848.
- One is Corder 4788 in the IAU constellation Cepheus and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 20’.
- One is in the IAU constellation Cancer and is Corder 1612 on the observing list of American astronomer Jeffrey Corder. Size 45’ X 30’. This is seven 7th – 8th magnitude stars including HIP 41550, 41569, 41532, and 41430.
- One is in the IAU constellation Boötes and is Corder 2749 on the observing list of American astronomer Jeffrey Corder. Size 80’ X 50’. This is seven 7th magnitude stars including HIP 73303, 73203, 73071, 73301, and 73080.
- One is in the IAU constellation Corona Australis and is Ennis 83 on the observing list of Canadian astronomer Charles Ennis. Size 80’ X 72’. This is thirteen 9th – 10th magnitude stars in two intersecting lines: One line runs from HIP 90545 through Gaia DR3 6723229143888396544, Gaia DR3 6723205676186415360, and Gaia DR3 6723252164913936512, to Gaia DR3 6723250446926996352. The other runs from Gaia DR3 6723224436604196992 through HD 169878, Gaia DR3 6723204503648478336, DR3 6723205676186415360, and Gaia DR3 6723229143888396544 to HIP 90545. Jeffrey Corder lists this as Corder 3576 and lists it as a “T” intersection of star lines.
- One is in the IAU constellation Pegasus and is Corder 4621 on the observing list of American astronomer Jeffrey Corder. Size 40’. This is six 9th – 10th magnitude stars.
- One is the open cluster NGC 6819 in the IAU constellation Cygnus. This was discovered by English astronomer Caroline Herschel in 1784. It is GC 4511 in the *General Catalogue* of 1864.

Size 5’ X 5’. It is also known as the Octopus (see above), or the Fox Head (see above) and has also been described as a letter “U” or “K”.

- One is the open cluster NGC 6830, found in the IAU constellation Vulpecula. This was discovered by English astronomer William Herschel in 1785 who listed it as “VII 9”. It is GC 4516 in the *General Catalogue* of 1864. It is also known as the Poodle (see above). Dutch astronomer Michael Geldorp (1999) describes it as “a cross in a cross”. South African astronomer Magda Streicher describes it both as a “distinctive cross shape” and in 2006 as a “letter ‘X’”.
- One is the open cluster NGC 1807 in the IAU constellation Taurus. It was discovered by English astronomer William Herschel in 1784 who listed it along with NGC 1817 in his catalogue as “VII 4”. It is GC 1020 in the *General Catalogue* of 1864. American astronomer Rick Raasch of the Texas Astronomical Society writes in The Focal Point, Vol. 6, No. 3 (1993) that “1807 is… about 20 stars in a box or X-shape”, as does astronomer Donald J. Ware. This is also known as the Rocket Ship (see above).
- One is the open cluster Dolidze-Dzimselejsvili 11 (DoDz 11) in the IAU constellation Cygnus. René Merting describes it on the Faint Fuzzies website: “At 32x, the SE-NW line of the X is conspicuous indirectly, the NE-SW line is not yet clear and is weakest in the SW - at 71x, the matter becomes clear, the X shows itself in all its glory, the four style stars are indirectly recognizable.”
- One is the open cluster NGC 7708 in the IAU constellation Cepheus. René Merting describes it on the Faint Fuzzies website: “At 40x, a bright star in the northwest is prominent. The next brightest members form two intersecting star chains like a flat X, with the brightest members at each end. There are also a few fainter ones all around.
- One is made up of stars in the IAU constellation Serpens. *Astronomy With an Opera Glass* (1890) by American Astronomer Garrett P. Serviss (1851 – 1929), describes this as “stars in the head of Serpens, several of which form a figure like a letter X”. This is the stars Beta (β) Serpentis (Chow), Gamma (γ) Serpentis, Kappa (κ) Serpentis, Iota (ι) Serpentis, and Rho (ρ) Serpentis.

Xamidimura:

See Eyes of the Lion, above.

Xi:

This **telescopic** asterism is in the IAU constellation Aries and was listed as Corder 315 on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Corder attributes it to John Raymond. It resembles a Greek letter Xi (ξ) and includes the stars HIP 11194, Xi (ξ) Arietis, HIP 11390, 24 Arietis, and HIP 11603A. Size 30’.

Xi Mu:

This Chinese asterism “Xi Mu” from the *Xiuyao jing* (宿曜經）(759 and revised 764) is the IAU constellation Sagittarius (Kotyk 2017).

Xi Zhong:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is a “Z” shaped line of four stars in the IAU constellation Cygnus: Kappa (κ) Cygni (the determinative star), Iota (ι) Cygni, HIP 96620, and 20 Cygni.

This Chinese xing guan “Xīzhòng” (奚仲) is a bent line of four stars in the IAU constellation Cygnus: Kappa (κ), Iota (ι), Theta (θ), and 16 Cygni.

This Chinese Chenzhuo xing guan “Xizhòng” is a bent line of four stars in the IAU constellation Cygnus: Kappa (κ) Cygni, Iota (ι) Cygni, Theta (θ) Cygni, and HIP 96014.

Xihe:

This Chinese star “Xihe” is HIP 91852 (HD 173416) in the IAU constellation Lyra (magnitude 6.04). It was given this name in the IAU NameExoWorlds campaign. Xihe is the Goddess of the Sun. It has an exoplanet named Wangshu, which is their Lunar Goddess.

Xing Ji:

This Chinese asterism “Xing Ji” from the *Xiuyao jing* (宿曜經）(759 and revised 764) is the IAU constellation Capricornus (Kotyk 2017).

Xú:

This Chinese star “Xú” from the 3 Kingdoms and Ming Dynasty Period is the star Theta (θ) 1 Serpentis in the IAU constellation Serpens and is and is part of their xing guan Heavenly Market East Wall (see above).

Xuan Xiao:

This Chinese asterism from the *Xiuyao jing* (宿曜經）(759 and revised 764) is the IAU constellation Aquarius (Kotyk 2017).

Xuanyuan:

This large Chinese xing guan from the Three Kingdoms to the Ming Dynasty “Xuānyuán” (轩辕) is a long, wavy line of stars in the IAU constellations Leo, Lynx, and Ursa Major, all having names.

- The line starts with a string of 12 stars labelled “Cifei” (“Minor Imperial Consort”): 10 Ursae Majoris, HIP 44700, 38 and Alpha (α) Lyncis, HIP 47168, 15 Leonis, Kappa (κ), Lambda (λ), Epsilon (ε), Mu (μ), and Zeta (ζ) Leonis
- The line continues with the stars:
    - Gamma (γ) 1 Leonis: “Fei” (“Imperial Consort”) or “Cijiang” (“Second General”)
- Eta (η) Leonis: “Furen” (“Highest Ranking Imperial Consort”) or “Shangjiang” (“Great General”)
    - Alpha (α) Leonis (Regulus): “Nüzhu” (“Empress”) the determinative star
- Three lines of stars branch out from Regulus:
    - One to the star to the stars Omicron (o) Leonis, “Damin” (“Patriarchal Clan of Empress Dowager”)
    - One to 31 Leonis, “Yunü” (“Maids in Waiting”), and
    - One to Rho (ρ) Leonis, “Shaomin” (“Patriarchal Clan of the Empress Consort”).

This large Chinese xing guan “Xuānyuán” (轩辕) is a long, wavy line of stars in the IAU constellations Leo, Lynx, and Ursa Major:

- The line starts with 10 Ursae Majoris and runs down through 38 and Alpha (α) Lyncis, 15 Leonis, Kappa (κ), Lambda (λ), Epsilon (ε), Mu (μ), Zeta (ζ), Gamma (γ), and Eta (η) Leonis, ending at Alpha (α) Leonis (Regulus), and

- Three lines of stars branch out from Regulus to the stars Omicron (ο), 31, and Rho (ρ) Leonis.

This large Chinese Chenzhuo xing guan "Xuānyuán" (轩辕) is a long, wavy line of stars in the IAU constellations Leo, Lynx, and Ursa Major. At the "tail end" one finds 10 Ursae Majoris and the line runs through HIP 44700, 38 Lyncis, Alpha (α) Lyncis, HIP 47168, 15 Leonis, 1 Leonis, Lambda (λ) Leonis, Epsilon (ε) Leonis, Mu (μ) Leonis, Zeta (ζ) Leonis, Gamma (γ) 1 & 2 Leonis, and Eta (η) Leonis to a "head" at Alpha (α) Leonis (Regulus, "Nuzhu" ("Empress")). From Alpha (α) Leonis three lines run out:

- One to Rho (ρ) Leonis, "Patriarchal Clan of Empress Consort",
- One to 31 Leonis, "Maids in Waiting", and
- One to Omicron (ο) Leonis, "Patriarchal Clan of Empress Dowager.

"Y":

This asterism is Corder 2566 in the IAU constellation Centaurus and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 210' X 75'. It includes Phi (ϕ), Mu (μ), Nu (ν), and Chi (χ) Centauri and resembles a lower case "y".

This asterism in the IAU constellation Orion is Corder 871 on the observing list of American astronomer Jeffrey Corder. Size 240' X 100'. This includes 23, 25, Phi (ϕ) 2, 33, 38 and Omega (ω) Orionis.

There are 106 **telescopic** "Y" asterisms:

- One is found in the open cluster NGC 1893 in the IAU constellation Auriga. This is GC 1101 in the *General Catalogue* of 1864.
- One, Sánta 38, listed in 2007 by Hungarian astronomer Sánta Gábor, is a group of 9^{th} – 10^{th} magnitude stars in the IAU constellation Cassiopeia. It is described by Gábor as "Y-shaped group… next to King 1, binocular object".
- One, Sánta 37, listed in 2007 by Hungarian astronomer Sánta Gábor, is described by Gábor as a "Y-shaped chain" of stars in the IAU constellation Auriga.
- One, Sánta 149, listed in 2009 by Hungarian astronomer Sánta Gábor, is in the IAU constellation Monoceros. Gábor describes this as "very tiny Y shape asterism of 8, TYC 741 233, along NNE – SSW."
- One, Sánta 113, listed in 2009 by Hungarian astronomer Sánta Gábor, is a group of 8^{th} – 15^{th} magnitude stars in the IAU constellation Hydra. Gábor describes this as a "Y-shaped asterism of 7 – 8 stars, 8 [magnitude] HD 84081 brightest…very nice." Hungarian astronomer Gábor János Kernya includes this in his list as Kernya 57.
- One, Sánta 8, listed in 2007 by Hungarian astronomer Sánta Gábor, is in the IAU constellation Leo. Gábor describes this as "Part of Raymond 3, nice, dense, y-shape, 9 – 14 [stars]".
- One, Sánta 120, listed in 2008 by Hungarian astronomer Sánta Gábor, is a group of stars in the IAU constellation Corvus. Gábor describes it as a "Y-shaped group of 4, 11 [magnitude] stars."
- One, Sánta 154, listed in 2008 by Hungarian astronomer Sánta Gábor, is a group of stars between 10^{th} – 13^{th} magnitude in the IAU constellation Serpens.
- One is Kernya 70, listed by Hungarian astronomer Gábor János Kernya, which is in the IAU constellation Andromeda. Kernya reports that he originally discovered this with binoculars and described it thus: "six stars can be seen, four of which draw a very striking y-…shape in the sky. Just 0.5 degrees from the formation, the cigar-shaped… galaxy NGC 7640 can be seen even with a 10 cm telescope."

- One is the asterism Alessi 42A, listed by René Merting on the *Faint Fuzzies* website, and is in the IAU constellation Lacerta. Merting writes that it "looks like an inverted 'Y'". The star at the intersection of the three lines forming the "Y" is HIP 112478.
- One is in the IAU constellation Cetus and is listed as Corder 244 on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. It is a group of 5 stars including HIP 7188 and HIP 7108. Size 30'.
- One is Corder 370 in the IAU constellation Aries and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. It includes the stars HIP 11237 and 11114. Size 60' X 30'.
- One is Corder 517 in the IAU constellation Reticulum and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. This is HIP 15441, 15445, 15568, and 15719A. Size 25'.
- One is Corder 679 in the IAU constellation Taurus and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 60'. The upright of the "y" is Kappa (κ) 1 and 2 Tauri. The left branch of the "Y" is Upsilon (υ) and 72 Tauri. The right branch of the "Y" is HIP 20580A and HIP 20513.
- One is Corder 784 in the IAU constellation Pictor and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 45'. This includes Eta (η) 1 and 2 Pictoris and HIP 23487.
- One is Corder 1234 in the IAU constellation Gemini and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 60' X 20'. This includes HIP 34055, 33917, and 33748.
- One is Corder 1531 in the IAU constellation Canis Minor and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 50' X 20'. This is 5 8th magnitude stars including HIP 40117 and 40099.
- One is Corder 1667 in the IAU constellation Hydra and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 5'. This is a lower case "y" of six 9th magnitude stars. It is nearly upright to the north and is 1.4° NNE of 6 Hydrae.
- One is Corder 2323 in the IAU constellation Virgo and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 50' X 40'. This includes the stars HIP 59676, 59787, 59849, and 59808A.
- One is Corder 2427 in the IAU constellation Draco and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 120' X 75'. Includes 7, 8, 9, and RY Draconis.
- One is Corder 2778 in the IAU constellation Boötes and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 45'. The four 7th magnitude stars include HIP 74094, 73956, and 74019.
- One is Corder 2882 in the IAU constellation Libra and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 25'. Includes the stars HIP 76555 and 76410.
- One is Corder 2953 in the IAU constellation Scorpius and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 50' X 20'. This includes the stars HIP 78129, 78123, and 78103.
- One is Corder 3279 in the IAU constellation Scorpius and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 45' X 35'. This includes the stars HIP 85531, 85482, and 85524.

- One is Corder 4197 in the IAU constellation Delphinus and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 35'. This includes HIP 101796.
- One, "Pisces Y", is Corder 4949 in the IAU constellation Pisces and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Corder attributes this to John Raymond. Size 25'. This looks like a lower case "y" and includes the star HIP 116816.
- One is in the IAU constellation Perseus and is Corder 417 on the observing list of American astronomer Jeffrey Corder. Size 25'. Corder describes this as "a 'Y' shaped asterism of five 9th magnitude stars, plus some fainter stars… There is a nice double star of magnitude 9.5/9.5 in the center."
- One is in the IAU constellation Horologium and is Corder 493 on the observing list of American astronomer Jeffrey Corder. Size 20'. Corder describes this as "a 'Y' shaped asterism of four 8th magnitude stars… just NW of the globular cluster NGC 1261." This includes HIP 14788, 14685, and 14799.
- One is in the IAU constellation Lepus and is Corder 815 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is made up of four 8th – 9th magnitude stars including the double star HIP 24250.
- One is in the IAU constellation Orion and is Corder 892 on the observing list of American astronomer Jeffrey Corder. Size 55' X 30'. Corder describes this as a "lower case 'y'". This includes the double star HIP 26246A, HIP 26541, and HIP 26446.
- One is in the IAU constellations Taurus and is Corder 907 on the observing list of American astronomer Jeffrey Corder. Size 50' X 20'. This is four 7th magnitude stars including HIP 26839, 26761, 26691 and 26651.
- One is in the IAU constellation Camelopardalis and is Corder 913 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is four stars, three 9th magnitude stars and one 6th magnitude star, HIP 27025. The middle star is double star HIP 26989A.
- One is in the IAU constellation Orion and is Corder 1002 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is four 8th magnitude stars including the double star HIP 28676A.
- One is in the IAU constellation Camelopardalis and is Corder 1052 on the observing list of American astronomer Jeffrey Corder. Size 25' X 10'. This is four 8th – 9th magnitude stars including HIP 29499 and the double star HIP 30166A.
- One is in the IAU constellations Camelopardalis and Lynx and is Corder 1067 on the observing list of American astronomer Jeffrey Corder. Size 180' X 75'. This is the star 2 and 5 Lyncis and 37 and 40 Camelopardalis.
- One is in the IAU constellation Gemini and is Corder 1120 on the observing list of American astronomer Jeffrey Corder. Size 45'. This is seven stars of 7th – 9th magnitude including 19 Geminorum and the double star HIP 31164A.
- One is in the IAU constellation Gemini and is Corder 1511 on the observing list of American astronomer Jeffrey Corder. Size 30'. This is seven stars between magnitude 6 and 9 and includes HIP 39719 and 39697.
- One is in the IAU constellation Cancer and is Corder 1690 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is nine 7th – 9th magnitude stars including HIP 43134.

- One is in the IAU constellation Cancer and is Corder 1790 on the observing list of American astronomer Jeffrey Corder. Size 30'. This is four stars including Pi (π) 2 Cancri, HIP 45474, HIP 45462, and HIP 45495.
- One is in the IAU constellation Hydra and is Corder 1876 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is four 7^{th} – 9^{th} magnitude stars including HIP 47220, and the double stars HIP 47237A and HIP 47292.
- One is in the IAU constellation Draco and is Corder 2055 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is four 8^{th} – 9^{th} magnitude stars.
- One is in the IAU constellation Ursa Major and is Corder 2191 on the observing list of American astronomer Jeffrey Corder. Size 20' X 10'. This is four 8^{th} – 9^{th} magnitude stars including HIP 58927 and the double star HIP 59007A.
- One is in the IAU constellation Vir and is Ennis 57 on the observing list of Canadian astronomer Charles Ennis. Size 35'. This is four stars including HIP 62070, Rho (ρ) Virginis, and the double stars 27 Virginis, and HIP 61950.
- One is in the IAU constellation Canes Venatici and is Ennis 58 on the observing list of Canadian astronomer Charles Ennis. Size 100' X 30'. This is the stars HIP 62748, HIP 62802, SAO 44374, SAO 44368, and SAO 44360.
- One is in the IAU constellation Eridanus and is Corder 743 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is five 9^{th} – 10^{th} magnitude stars.
- One is in the IAU constellation Eridanus and is Corder 745 on the observing list of American astronomer Jeffrey Corder. Size 60' X 25'. This is four 8^{th} magnitude stars including HIP 22530, 22481, 22502, and 22482.
- One is in the IAU constellation Eridanus and is Corder 751 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is five 7^{th} – 9^{th} magnitude stars including HIP 22687, 22649, and 22644. Corder also describes this as a Greek letter Lambda (λ).
- One is in the IAU constellation Dorado and is Corder 753 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is five 7^{th} – 9^{th} magnitude stars including HIP 22759 and 22660.
- One is in the IAU constellation Canis Major and is Corder 1044 on the observing list of American astronomer Jeffrey Corder. Size 50' X 35'. This resembles a lower case "y" and is four 6^{th} – 7^{th} magnitude stars including HIP 29466, 29546, and 29671 and the double star HIP 29619
- One is in the IAU constellation Canis Major and is Corder 1194 on the observing list of American astronomer Jeffrey Corder. Size 3'. This is four 10^{th} magnitude stars.
- One is in the IAU constellation Puppis and is Corder 1375 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is four 7^{th} – 8^{th} magnitude stars including HIP 36932 and 36837 and the double star HIP 36892.
- One is in the IAU constellation Puppis and is Corder 1422 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is four 6^{th} – 8^{th} magnitude stars including HIP 37881, 37906, and 37896.
- One is in the IAU constellation Pyxis and is Corder 1748 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is five 7^{th} – 9^{th} magnitude stars in the form of a lower case "y" including the double stars HIP 44500 and 44460A.

- One is in the IAU constellation Antlia and is Corder 1868 on the observing list of American astronomer Jeffrey Corder. Size 45'. This is four 6th – 7th magnitude stars including HIP 47224, 47147, 47129, and 47039.
- One is in the IAU constellation Vela and is Corder 1923 on the observing list of American astronomer Jeffrey Corder. Size 140' X 25'. This includes HIP 47963, 48348, 48374, 48287, and the double star HIP 48224.
- One is in the IAU constellation Antlia and is Corder 2021 on the observing list of American astronomer Jeffrey Corder. Size 25' X 15'. This is four 8th magnitude stars including HIP 51143, 51101, and 51089.
- One is in the IAU constellation Centaurus and is Corder 2133 on the observing list of American astronomer Jeffrey Corder. Size 2'. This is four 10th magnitude stars.
- One is in the IAU constellation Hydra and is Corder 2161 on the observing list of American astronomer Jeffrey Corder. Size 35'. This is four 6th – 7th magnitude stars including HIP 55164, 55063, and 55105.
- One is in the IAU constellation Carina and is Corder 2167 on the observing list of American astronomer Jeffrey Corder. Size 45' X 15'. This is eight 6th – 9th magnitude stars including HIP 55046, 54931, 55297 and the double star HIP 55140.
- One is in the IAU constellation Centaurus and is Corder 2185 on the observing list of American astronomer Jeffrey Corder. Size 30'. This is five 7th – 9th magnitude stars including HIP 58712 and the double star HIP 58799A.
- One is in the IAU constellation Hydra and is Corder 2332 on the observing list of American astronomer Jeffrey Corder. Size 8' X 6'. Corder's asterism is a roughly rectangular group of about a dozen stars with a "Y" at one end made up of one 8th and three 9th magnitude stars including HIP 60227.
- One is in the IAU constellation Musca and is Corder 2386 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is four 8th – 10th magnitude stars.
- One is in the IAU constellation Centaurus and is Corder 2484 on the observing list of American astronomer Jeffrey Corder. Size 6'. This is four 7th magnitude stars including HIP 65045 and 65033.
- One is in the IAU constellation Centaurus and is Corder 2572 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is six 8th – 11th magnitude stars including HIP 68008 and appears as a lower case "y".
- One is in the IAU constellation Centaurus and is Corder 2589 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is eight 8th – 10th magnitude stars including HIP 68598 and the double star HIP 68575A.
- One is in the IAU constellation Hydra and is Corder 2633 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is four 9th magnitude stars.
- One is in the IAU constellation Centaurus and is Corder 2663 on the observing list of American astronomer Jeffrey Corder. Size 35'. This is four 6th – 7th magnitude stars including HIP 70988 and 70966 and the double stars HIP 70933 and 70998.
- One is in the IAU constellation Libra and is Corder 2806 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is four 9th – 10th magnitude stars including HIP 74774.

- One is in the IAU constellation Triangulum Australe and is Corder 2857 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is seven 7th – 9th magnitude stars including HIP 75865 and 75954.
- One is in the IAU constellation Apus and is Corder 2991 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is eight 7th – 9th magnitude stars including HIP 79070, 79056, and 78815.
- One is in the IAU constellation Scorpius and is Corder 3013 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is five 9th – 10th magnitude stars.
- One is in the IAU constellation Ophiuchus and is Corder 3202 on the observing list of American astronomer Jeffrey Corder. Size 40'. This is five 7th – 8th magnitude stars including HIP 83685.
- One is in the IAU constellation Ophiuchus and is Corder 3243 on the observing list of American astronomer Jeffrey Corder. Size 70' X 50'. This is four 6th – 7th magnitude stars including HIP 84780, 84600, and the double stars HIP 84500 and 84479.
- One is in the IAU constellation Hercules and is Corder 3292 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is five 8th – 10th magnitude stars including HIP 85646.
- One is in the IAU constellation Hercules and is Corder 3403 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is five 8th – 10th magnitude stars including HIP 87906.
- One is in the IAU constellation Corona Australis and is Corder 3656 on the observing list of American astronomer Jeffrey Corder. Size 20' X 10'. This is five 7th – 8th magnitude stars including HIP 91956.
- One is in the IAU constellation Aquila and is Corder 3761 on the observing list of American astronomer Jeffrey Corder. Size 65' X 35'. This is eight 6th – 9th magnitude stars including HIP 93937, and 93833, and the double stars HIP 93822B and 93772A.
- One is in the IAU constellation Sagitta and is Corder 3779 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is four 7th – 8th magnitude stars including HIP 94373, and 94313.
- One is in the IAU constellation Telescopium and is Corder 3839 on the observing list of American astronomer Jeffrey Corder. Size 12'. This is five 8th – 9th magnitude stars including HIP 95139.
- One is in the IAU constellation Sagitta and is Corder 3853 on the observing list of American astronomer Jeffrey Corder. Size 5'. This is four 8th magnitude stars.
- One is in the IAU constellation Cygnus and is Corder 3875 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is four 7th – 8th magnitude stars including HIP 95907, 95989, and 96062.
- One is in the IAU constellation Aquila and is Corder 3887 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is four 7th – 8th magnitude stars including HIP 96205, 96166, and the double star HIP 96241A.
- One is in the IAU constellation Pavo and is Corder 3898 on the observing list of American astronomer Jeffrey Corder. Size 4'. This is five 10th – 11th magnitude stars including HIP 96385.
- One is in the IAU constellation Sagittarius and is Corder 3913 on the observing list of American astronomer Jeffrey Corder. Size 30'. This is four 7th – 8th magnitude stars including HIP 96644.
- One is in the IAU constellation Aquila and is Corder 3923 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is four 8th – 9th magnitude stars including HIP 96813.

- One is in the IAU constellation Pavo and is Corder 3967 on the observing list of American astronomer Jeffrey Corder. Size 8'. This is five 8th – 9th magnitude stars including HIP 97656, and 97574.
- One is in the IAU constellation Sagitta and is Corder 3981 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is five 6th – 9th magnitude stars including HIP 97840, 97818, and 9 Sagittae.
- One is in the IAU constellation Vulpecula and is Corder 4108 on the observing list of American astronomer Jeffrey Corder. Size 125' X 90'. This is 22, 24, and 25 Vulpeculae and the double star HIP 99824A.
- One is in the IAU constellation Cygnus and is Corder 4145 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is five 8th – 9th magnitude stars including HIP 100688 and 100794.
- One is in the IAU constellation Sagitta and is Corder 4146 on the observing list of American astronomer Jeffrey Corder. Size 8'. This is five 8th – 10th magnitude stars.
- One is in the IAU constellation Sagitta and is Corder 4157 on the observing list of American astronomer Jeffrey Corder. Size 20' X 10'. This is five 8th magnitude stars including HIP 100917.
- One is in the IAU constellation Aquarius and is Corder 4247 on the observing list of American astronomer Jeffrey Corder. Size 50' X 35'. This is six 7th – 8th magnitude stars including HIP 102601, 102711, and the double star HIP 102689A.
- One is in the IAU constellation Microscopium and is Corder 4269 on the observing list of American astronomer Jeffrey Corder. Size 30' X 20'. This is nine 7th – 9th magnitude stars including HIP 103136 and 103205.
- One is in the IAU constellation Pegasus and is Corder 4418 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is five 8th – 10th magnitude stars including HIP 105896.
- One is in the IAU constellation Capricornus and is Corder 4426 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is four 8th magnitude stars including the double star HIP 105946A.
- One is in the IAU constellation Pegasus and is Corder 4447 on the observing list of American astronomer Jeffrey Corder. Size 6'. This is five 8th – 9th magnitude stars including HIP 106239.
- One is in the IAU constellation Pegasus and is Corder 4448 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is seven 8th – 10th magnitude stars including HIP 106232.
- One is in the IAU constellation Aquarius and is Corder 4285 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is seven 10th – 11th magnitude stars.
- One is in the IAU constellation Pegasus and is Corder 4500 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is six 8th – 9th magnitude stars including HIP 107371 and 107419. Corder describes this as a "'Y' or 'Lambda'".
- One is in the IAU constellation Piscis Austrinus and is Corder 4504 on the observing list of American astronomer Jeffrey Corder. Size 35'. This is five 8th magnitude stars including HIP 107384.
- One is in the IAU constellation Aquarius and is Corder 4548 on the observing list of American astronomer Jeffrey Corder. Size 30' X 20'. This is four 8th magnitude stars including HIP 108488 and 108428.

- One is in the IAU constellation Grus and is Corder 4712 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is six 7^{th} – 8^{th} magnitude stars including HIP 111439 and 111421, and the double star HIP 111501A.
- One is in the IAU constellation Grus and is Corder 4804 on the observing list of American astronomer Jeffrey Corder. Size 120' X 50'. This is three 6^{th} – 7^{th} magnitude stars star including HIP 113877, 113592, 113240, and one 5^{th} magnitude double star, HIP 113902.
- One is in the IAU constellation Pisces and is Corder 4891 on the observing list of American astronomer Jeffrey Corder. Size 30' X 15'. This is five 9^{th} – 10^{th} magnitude stars including HIP 115589.
- One is in the IAU constellation Pisces and is Corder 4932 on the observing list of American astronomer Jeffrey Corder. Size 30'. This is five 7^{th} – 10^{th} magnitude stars including HIP 116600.
- One is in the IAU constellation Cepheus and is Corder 4976 on the observing list of American astronomer Jeffrey Corder. Size 25'. This is eight 8^{th} – 10^{th} magnitude stars including HIP 117546.
- One is the planetary nebula NGC 7048 in the IAU constellation Cygnus. It is also described as the Peek-a-Boo Nebula (see above). American astronomy author Alan M. MacRobert describes it as a "little Y-shaped asterism."

Yacht:

This **telescopic** "sailboat" asterism, also known as the Sailboat, from *Pattern Asterisms* by American astronomer John A. Chiravalle, is in the IAU constellation Cassiopeia two degrees north of 4 Cassiopeiae. 14 stars form the "hull", with two stars above forming the "cabin" and six stars in a triangle the "sail": HIP 115788, 115569, 116022, 115710, 114898, 115362, 115304, 114203, 115503, 115772, and 116161. Size 35' X 20'. This is Corder 4878 and 4899 on Jeffrey Corder's list.

Yahweh's Treasure Chest:

This Romanian star "Comoara lui Iov" is Beta (β) Geminorum (Pollux) in the IAU constellation Gemini (Ottescu 2009). Compare this to "Treasure Chest" (above).

Yam Star:

This Mabuiag star "Kek" is Alpha (α) Boötis (Arcturus) in the IAU constellation Boötes (Hamacher 2017).

Yam Stick:

This Arrernte asterism "Atneme" is probably the Hyades cluster in the IAU constellation Taurus (Clarke 2014).

Yámoréya's Cooking Vessel:

This Sahtúotine asterism is the Big Dipper asterism in the IAU constellation Ursa Major (Cannon 2021) and is part of their asterism "Yámoréya" or "Yihda" (see Traveller, above).

Yān:

This Chinese star "Yān" from the 3 Kingdoms and Ming Dynasty Period is the star Nu (ν) Ophiuchi in the IAU constellation Ophiuchus and is and is part of their xing guan Heavenly Market East Wall (see above).

Yânce:

This Chakavian asterism is the IAU constellation Aries.

Yard:

See Golden Yard, above.

Yard for Empresses:

This Korean lunar mansion “Mi” is a curve of stars in the tail of the IAU constellation Scorpius: Upsilon (υ), Lambda (λ), Kappa (κ), Iota (ι) 1, Theta (θ), Eta (η), Zeta (ζ) 1, Mu (μ) 1, and Epsilon (ε) Scorpii.

Yard Stick:

This English asterism “Yard Stick”, “Yard Wand”, “L”, “Ell”, or “Ell and Yard” is the belt and sword of Orion in the IAU constellation Orion:

- American uranographer Elijah Burritt (1794 – 1838) listed the name “Ell” and Allen writes that this is because this line of stars "is once and a quarter the length of the yard."
- English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists this as the “Ell and Yard of tradesmen”.
- *Popular Astronomy* (1884, revised by Mabel Loomis Todd 1899) by American educator Joel Dorman Steele (1836 – 1886) lists this asterism as “the Yard” and claims that it received this name “because it forms a line 3° long, divided into equal parts by a star in the center. These divisions are useful for measuring the apparent distances of stars from one another”.
- R. H. Allen’s *Star Names* in 1899 lists this as the “Yard Stick” and lists the source as “tradesmen” but does attribute Scottish bishop Gavin Douglas (1474 - 1522) with the variation “Elwand”.

Yarlguj:

This Wardaman star is Sigma (σ) Scorpii in the IAU constellation Scorpius (Cairns and Harney 2003).

Yarn Baskets:

This Estonian asterism is the area of the Large Sagittarius Star Cloud in the Milky Way (Kuperjanov 2006).

Yarn Spinners:

This Belarussian asterism “Prahi” or “Papradki” is the IAU constellation Orion (Avilin 2009). This is related to a myth regarding three cursed sisters who became stars when they died. It is also known as “Karomyselko” (see Small Yoke, above), “Grabli” (see Rake, above), “Kastsy” (see Mowers, above), “Try Karali” (see Three Kings, above), “Kasar” (see Mower, above), “Kreselca Pana Jezusa” (see Lord Jesus’ Chair, above), “Tri Siostry” (see Three Sisters, above), “Traiko” (see Three Times, above), “Asilki” (see above), “Matawila” (see Wheel, above), “Kosy” (see Scythes, above), “Kigachi ragachy” (see Shaft of a Plough, above), Kryzhe (see Cross, above), “Lisa” (see Fox, above), and “Trohkutnaia” (see With Three Corners, above).

Yayael:

This Taíno asterism is the IAU constellation Orion (Flaquer 2020). Yaya (“high spirit”) killed his son Yayael and hung his bones in a pumpkin inside his bohio (Taíno dwelling). The sea and fish were born from Yayael’s bones. The rising of this asterism in December marks the end of the rainy season and marks the time of year that the most important fish were caught at the mouths of rivers.

Year:

This Estonian asterism “Jäär” is the IAU constellation Aries and appears in the *Sky of Ests (Chudes)* by Aleksander Heintalu (Sass of Vigala) (Kuperjanov 2006).

Year Star:

This northern Polynesian star “Whetu o te tau” is Alpha (α) Lyrae (Vega) in the IAU constellation Lyra.

Yed Post:

This is Eta (η) Ursae Minoris in the IAU constellation Ursa Minor. Yed is the Arabic word for “hand” and Post is the Latin word for “after”.

Yed Posterior:

See Back of the Snake Man’s Hand, above.

Yed Prior:

See Hand Before, above.

Yellow:

This Chaldean star “mul sig” or “ul.sig” is listed in the *Great Star List* (Koch-Westenholz 1995) but the stars have not been identified.

Yellow Animals:

This Sotho and Tswana asterism “Dipabe” is the Southern Cross asterism in the IAU constellation Crux (see Southern Cross, above).

Yellow Star:

This Hawaiian star “Kaulu-lena” or “Kaulua-lena” ("Yellow star"), is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major. It is also known as “A’a” (‘burning brightly”), “Hiki-kau-[e]-lia” or “Hiki-kau-e-lono” ("The-small-booby-bird-of-Lono"), “Hiki-kau-lono-meha” ("Star of solitary Lono"; also Lono or Lono-meha), “[Hiki] kaulana-o-meha” or “Kau-ano-meha” ("Standing alone and sacred"), “Hoku-kau'opae” ("Star for placing shrimp"), “Hoku-ho'okele-wa'a" ("Canoe-guiding star"), or “Kaulua[-i-ha'i-mohai]” or “[-a-ha'i-mohai]” ("Flower of the heavens").

This Skidi star is Alpha (α) Aurigae (Capella) in the IAU constellation Auriga (Krupp 1983). They considered it to be one of the four pillars of heaven.

This Mara and Moporr star “Kuupartakil” is an unidentified star in the IAU constellation Orion (Hamacher 2011). Hamacher (2011) lists this as a Boorong name for a “yellow star in Orion”.

Yemeni:

This Arabic star “al-Yamāniya” is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major as listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010). This is a reference to the star being in the southern sky.

Yen:

This Chinese star “Yān” or “Yen” is Zeta (ζ) Capricorni in the IAU constellation Capricornus and represents an ancient Chinese state.

Yesterday’s Fish:

This Coptic asterism “Pikotorion” is the IAU constellation Pisces as listed in John Hill’s *Urania* in 1754. Hill translates this in Latin as “Cubitus Nili”, but this is actually one of the names for the constellation Leo (see Elbow of the Nile, above).

Yeyumari:

This Carib star is currently unidentified (Magaña, and Jara, 1982).

Yida’s Wife:

This T’atsaol’ine and Wiidiideh asterism “Yìda wets’ekeè” is the six brightest stars in the IAU constellation Cassiopeia (Cannon 2021): Alpha (α) Cassiopeiae (Shedar), Beta (β) Cassiopeiae (Caph), Eta (η) Cassiopeiae, Gamma (γ) Cassiopeiae, Delta (δ) Cassiopeiae, and Epsilon (ε) Cassiopeiae. This is related to their asterism Yida (see Traveller, above).

Yilange:

This “Turkish” asterism “Yilange” or “Alyinange” is the IAU constellation Serpens as listed in John Hill’s *Urania* in 1754.

Yildun:

See Star, above.

Yin-Yang:

This **telescopic** asterism is the open cluster NGC 659 in the IAU constellation Cassiopeia. It was discovered by Caroline Herschel in 1783 and her brother William Herschel listed it as “VIII 65”. It is GC 389 in the *General Catalogue* of 1864. A group of lighter stars on one side creates the coma-shaped light side of the Yin-Yang symbol, and the dimmer stars on the other side the darker side. Astronomer Stephen James O’Meara’s Hidden Treasures Catalogue (2007) lists this as O’Meara 7.

Yiyeng:

This Wardaman star is Rho (ρ) Scorpii in the IAU constellation Scorpius as listed by Cairns and Harney in 2003.

Yoke:

This Babylonian asterism from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) “MUL.SUDUN”.(Hunger 1992) or “SHUDUN” as listed in Anthony Hope’s *A Guide to Ancient Near Eastern Astronomy* in 1996 is the IAU constellation Boötes. It appears in the *Great Star List* (626 – 539 B.C.E.) of the Neo-Babylonian (Chaldean) period as “mul.sudun” (Koch-Westenholz 1995).

This Babylonian ziqpu “mulSUDUN” from cuneiform text AO 6478 (Schaumberger 1952) is Alpha (α) Boötis (Arcturus) and Eta (η) Boötis in the IAU constellation Boötes.

This Sumerian asterism“mulšudun”.listed in the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) is the IAU constellation Boötes.

This Akkadian asterism “Niru” (Hunger 1992) from the *Astrological Reports to the Kings* of the late Assyrian period (~900 – 600 B.C.E.) is the IAU constellation Boötes. It appears in the Ura =hubulla XXII lists (Yigal, Block and Wayne Horowitz 2015) as “ni-i-r[u]”.

The Latin asterism “Jugum” is the IAU constellation Lyra. It got this name from a misunderstanding of the 8th century B.C.E. poet Homer’s use of the term “Ζυγόν” (“Zygón”) and Hipparchus’ use of the term “Ζύγωμα” (“Zýgoma”) to describe the cross bar of the lyre. Johann Bayer’s *Uranometria* (1603) lists the name “Iugum” but seems to associate it with Gamma (γ) Lyrae. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists “Jugum”.

This Macedonian asterism “Jarem” or “Yarem” is a line of two stars in the IAU constellation Perseus: Beta (β) Persei (Algol) and Epsilon (ε) Persei (Cenev 2004 & 2014).

There are two Latin asterisms with the name “Jugum”:

- One is the star Gamma (γ) Lyrae in the IAU constellation Lyra.
- One is the IAU constellation Libra. It appears as “Jugo” in the 1551 edition of the Latin *Almagest*. John Hill lists “Jugum” in his *Urania* in 1754.

This Greek asterism “Ζυγόν” (“Zygón”), or “Ζυγός” (“Zygós”), later latinized to “Zichos” is the IAU constellation Libra as described by Hipparchus (190 – 120 B.C.E.) and 1st century B.C.E. astronomer and mathematician Geminus of Rhodes.

This Latin asterism “Jugulae” is the stars Delta (δ) Cancri (Asellus Borealis) and Gamma (γ) Cancri (Asellus Australis in the IAU constellation Cancer as listed by 1st century Roman poet Marcus Manilius and in John Hill’s *Urania* in 1754. Hill identified this as the “Aselli” and listed “Jugula” as a variation of the name.

This Greek asterism “Zygós” (ζυγός) is the IAU constellation Libra. John Hill listed it as “Zygus” in his *Urania* in 1754.

This Vedic asterism “Juga” or “Juka” is the IAU constellation Libra as listed by Indian astrologer Varāhamihira (c. 505 – c. 587).

This Belarussian asterism “Karomisla” is the IAU constellation Ursa Minor (Avilin 2009). Compare this to their asterism “Karomyselko” (see Small Yoke, above).

Yoke of the Enclosure:

This Babylonian asterism “Mu-sir-kes-da” is the IAU constellation Gemini as listed by R. H. Allen in his **Star Names** in 1899.

Yoke of the Sea:

This Akkadian asterism Gu-shi-rab-ba is the stars Pi (π), Zeta(ζ), and Sigma (σ) Sagittarii in the IAU constellation Sagittarius as listed in R. H. Allen’s *Star Names* in 1899.

Yolk of Grus:

This **telescopic** asterism "Vitéllum Grúis" is the elliptical galaxy IC 1459 in the IAU constellation Grus. It was discovered by American astronomer Edward Emerson Barnard in 1892. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this because it "shows some resemblance to the yolk of a bird's egg".

Yondorrin:

This Wardaman star is Iota (ι) 1 Scorpii in the IAU constellation Scorpius (Cairns and Harney 2003).

Yoonir:

This Serer and Cangin star is Alpha (α) Canis Majoris (Sirius) in the IAU constellation Canis Major. They used it to forecast rainfall and determine when to plant seeds.

Yotaleño:

This Quechua star "Yotaleño" or "Yampareño" is Alpha (α) Carinae (Canopus) in the IAU constellation Carina (Ciancia 2018).

Young Boy in a Canoe:

This star is Gamma (γ) Orionis (Bellatrix) in the IAU constellation Orion as listed by R. H. Allen in his Star Names in 1899. He only lists this as an "Amazon River myth" without naming the precise culture or source and goes on the say that Alpha (α) Orionis (which Allen calls Betelgeuze) is an old man "chasing the Peixi Boi, a dark spot in the sky near Orion".

Young Boys of Lapnuman:

This Netwar (Lenakel) asterism "Nowaswas Lapnuman" is the Pleiades cluster in the IAU constellation Taurus (Ramik 2019). It is alternatively known as "Neperawen Lapnuman" (Young Girls of Lapnuman, see below).

Young Camel:

This Arabic asterism is a quadrilateral of stars in the IAU constellation Delphinus: Alpha (α) Delphini (Sualocin), Beta (β) Delphini (Rotanev), Delta (δ) Delphini, and Gamma (γ) Delphini.

Young Girls of Lapnuman:

This Netwar (Lenakel) asterism "Neperawen Lapnuman" (Ramik 2019) is an alternate name in Netwar (Lenakel) sky culture for the Pleiades (see Young Boys of Lapnuman, above).

Young Goat:

This Arabic asterism "Almaeiz Alsaghir" (الماعز الصغير) is the IAU constellation Capricornus.

Young Hens:

This Italian asterism is the Pleiades cluster in the IAU constellation Taurus.

Young Hunters:

This Kaurna asterism "Tinniinyaranna" or "Kukukurkurra" is the belt and sword of Orion in the IAU constellation Orion as listed by Hamacher in 2015. They are young boys hunting kangaroos, emus, and other game on the celestial plain.

Young Maids:

This Arabic asterism is the sword of Orion in the IAU constellation Orion.

Young Man of Leo Minor:

This **telescopic** asterism "Júvenis Leónis Minóris" is the lenticular galaxy NGC 3254 in the IAU constellation Leo Minor. It was discovered in 1785 by English astronomer William Herschel who listed it as "I 72". It became GC 2112 in the *General Catalogue* of 1864. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They translate this as "who is the flower of his age" yet the simple Latin translation is "young man."

Young Marine:

This Latin asterism "Juvenis Aequoreus" is the IAU constellation Cepheus.

Young Men Dancing:

This Wotjobaluk asterism "Kulkunbulla" is the IAU constellation Orion. They are dancing to the music of the "Larnankurrk".

This Boorong asterism "Kuckan bulla" or "Kulkunbulla" is the belt and sword of Orion in the IAU constellation Orion (Stanbridge 1858, Hamacher 2011).

This Marra and Moporr asterism "Kuppiheear" is the belt of Orion in the IAU constellation Orion.

Young Morning Star:

This Blackfoot star is unidentified at present (Chamberlain 2019).

Young Mule:

This Latin asterism "Hinnulus" is the IAU constellation Equuleus as listed by French astronomer Joseph Jérôme Lefrançois de Lalande (1732 – 1807).

Young Ostriches:

There are twos Arabic asterisms with the name "Al Ri'āl":

- One, later latinized to "Alrial" (I,II, III, IV, and V) is the stars Beta (β), Gamma (γ), Kappa (κ), Mu (μ), and Nu (ν) Phoenicis in the IAU constellation Phoenix, as named by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986).
- One is four sets of lines of three stars in the IAU constellations Aquarius and Cetus:
  - One is the stars 7 Ceti, HIP 983, and 2 Ceti
  - One is the stars 104 Aquarii, 106 Aquarii, and 108 Aquarii
  - One is the stars 98 Aquarii, 99 Aquarii, and 101 Aquarii, and
  - One is the stars 88 Aquarii, 89 Aquarii, and 86 Aquarii.

Young She Camels:

This Arabic asterism "Al Ḳilāṣ," is a loop of stars enclosing the Hyades cluster in the IAU constellation Taurus. The star Alpha (α) Tauri (Aldebaran) in this cluster is known as either the Male Camel (see

above), or the Camel Herder (see above). The loop of stars includes Tau (τ) Tauri, Phi (ϕ) Tauri, 37 Tauri, HIP 19284A, 57 Tauri, Rho (ρ) Tauri, and Iota (ι) Tauri:

- "al-Qilās" and "Qilāsa" are listed by Persian astronomer 'Abd al-Rahman al-Sufi (903 – 986) in his *Book of the Fixed Stars* in 964 (Hafez 2010).
- 9th century astronomer Aben al Khethir of Fergana (Al Ferghani) listed it as "Ḳalāʾiṣ".
- "Al Ḳilāṣ," and "Ḳalāʾiṣ" are both listed by R. H. Allen in his *Star Names* in 1899 but translates it as "Little She Camels". Allen writes that "another author made the word Al Ḳallāṣ, the Boiling Sea", but doesn't identify the author.
- Compare this to Female Camel (above).

The Greeks and Romans described the Hyades with numerous "stormy" adjectives as it was used to predict the beginning of a rainy season and Allen suggests that the Arabs may have also done this.

Younger Brother:

This //Gana star is Alpha (α) Eridani (Achernar) who they believe to be the brother of the stars Canopus (see Big Star, above) and Sirius (see Husbands, above).

Youth Carrying Water:

This Latin asterism "Juvenis gerens aquam" is the IAU constellation Aquarius and is listed in R. H. Allen's *Star Names.* He attributes it to 1st century Roman poet Publius Ovidius Naso (Ovid).

Youthful:

This Latin asterism "Juvenis" or "Aequoreus Juvenis" is the IAU constellation Aquarius and is listed in R. H. Allen's *Star Names* in 1899*.* Allen attributes it to 1st century Roman poet Marcus Manilius.

Yuuki:

This Ngarrindjeri asterism is the IAU constellation Crux (Clarke 2009).

Yzdène:

This Chakavian asterism is the IAU constellation Centaurus.

Z:

There are nine **telescopic** "Z" asterisms:

- One is Sánta 5, listed in 2007 by Hungarian astronomer Sánta Gábor, which is a group of 6.5 – 11 magnitude stars in the IAU constellation Hydra. Gábor describes this as an "inverted Z-shape asterism of 10 stars". This includes HIP 41992.
- One is Cseh 9, listed by Hungarian astronomer Viktor Cseh, which is a group of 10th – 11th magnitude stars in the IAU constellation Eridanus. Cseh describes these as forming "a small letter 'Z'".
- One is Berkeley 43 in the IAU constellation Aquila. Its size is 5' X 5'.
- One is in the IAU constellation Centaurus and is Corder 2325 on the observing list of American astronomer Jeffrey Corder. Size 50' X 30'. This is nine 7th – 9th magnitude stars including HIP 59951, 59604 and the double stars HIP 59654A and 59392A.

- One is in the IAU constellation Centaurus and is Ennis 76 on the observing list of Canadian astronomer Charles Ennis. Size 10' X 15'. This is ten 8th – 9th magnitude stars including HD 125013, HD 124980, HD 124875, HD 124944, Gaia DR3 5892284776094030336, HIP 69980, HD 125036, HD 124981, HD 124945, and HD 124876. This includes stars of Corder 2630 on Jeffrey Corder's list.
- One is in the IAU constellation Telescopium and is Corder 3589 on the observing list of American astronomer Jeffrey Corder. Size 20. This is five 7th – 8th magnitude stars including HIP 90691 and 90731. NOTE: Corder describes this as "an 'L' shape", but it is a very clear 'Z'.
- One is in the IAU constellation Sagittarius and is Corder 3959 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is six 9th – 10th magnitude stars.
- One is in the IAU constellation Cepheus and is Corder 4542 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is six 7th – 10th magnitude stars including HIP 108333 and 108603 and the double stars HIP 108364, 107893A, and 108226A.
- One is NGC 1365, a double-barred spiral galaxy in the IAU constellation Fornax. It was discovered by English astronomer John Herschel in 1837.It is GC 731 on the *General Catalogue* of 1864. A Southern Galaxies from Australia posting by "amastro" in 2008 describes it as a "Z" and South African astronomer Auke Slotegraaf refers to it as a "casual Z" in his observations in 2009 from Sutherland.

Zababa:

This Babylonian asterism from the MUL.APIN tablets is named after the God Zababa and is made up of stars of the IAU constellation Ophiuchus:

- His five-sided "body" is made up of the stars Alpha (α) Ophiuchi (Rasalhague), Beta (β) Ophiuchi (Cebalrai), Kappa (κ) Ophiuchi, Eta (η) Ophiuchi, and Zeta (ζ) Ophiuchi,
- One "hand" is Nu (ν) Ophiuchi and the other Delta (δ) Ophiuchi, and
- His "feet" are the stars Theta (θ) and Psi (ψ) Ophiuchi.

This appears in later Seleucid sky lore.

This Babylonian and Sumerian asterism "za-ba-ba" as listed in the BM 78161 tablets (Liechty 1988) is made up of stars of the IAU constellations Aquila, Ophiuchus, and Serpens. His "eye" is Eta (η) Ophiuchi, Nu (ν) Ophiuchi is his "middle", one "knee" is Eta (η) Serpentis, and one "foot" is Lambda (λ) Aquilae. This appears in later Seleucid sky lore.

Zababa was a war God who was the tutelary deity of Kish in Mesopotamia.

Zaniah:

See Angle, above.

Zaofu:

This Chinese xing guan from the Three Kingdoms to the Ming Dynasty is made up of stars in the IAU constellation Cepheus. From the star HIP 113561 four lines run out to the stars:

- HIP 111795
- Epsilon (ε) Cephei,
- Zeta (ζ) Cephei, and
- Delta (δ) Cephei (the determinative star).

This Chinese xing guan “Zàofù” (造父) is a “W” of stars in the IAU constellation Cepheus: Delta (δ), Zeta (ζ), Gamma (γ), Mu (μ), and Nu (ν) Cephei.

This Chinese Chenzhuo xing guan is four lines radiating out from a central star in the IAU constellation Cepheus: The central star is Delta (δ) Cephei. From this star four lines run out:

- One to Epsilon (ε) Cephei,
- One to Zeta (ζ) Cephei,
- One to Lambda (λ) Cephei, and
- One to HIP 109592.

Zarje-Harvâtje:

This Chakavian asterism is a combination of the IAU constellations Andromeda and Pegasus. The central star is Alpha (α) Andromedae (Alpheratz).

Zaurak:

See Boat, above.

Zavijava:

See Angle of the Barking Dog, above.

Zembra:

This Tunisian star “Zembra” (زمبرة) is the K type star HATS-72 in the IAU constellation Virgo. It received this name in the IAU’s NameExoWorlds competition in 2022. Zembra is an island in the Gulf of Tunis which is a wildlife preserve. It has an exoplanet HATS-72b, “Zembretta” (زمبرتا), which is named for a islet of Zembra.

Zenith Star:

This English star is Gamma (γ) Draconis in the IAU constellation Draco. English Admiral Henry William Smyth’s *Bedford Catalogue* in 1844 lists this as a name “obtained at Greenwich” and describes this name as “rather relative than real; of no star has yet been actually observed in the zenith of any observatory”.

Zernaizan:

This Persian asterism “Zernaizan” or “Zurnaizan” is the IAU constellation Hercules as listed in John Hill’s *Urania* in 1754.

Zeta:

This telescopic asterism is in the IAU constellation Cassiopeia and was listed as Corder 114 on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Corder attributes it to John Raymond. This resembles the Greek letter Zeta (ζ) and the base of the asterism is Zeta (ζ) Cassiopeiae. It includes 14 Cassiopeiae, HIP 2854, 2581, 2611, and 2901. Size 45’ X 25’.

Zeus:

This Egyptian asterism is one of the paranatellonta of the decans of Pisces as listed in *the Sphaera Barbarica* described by Teucros (Mosenkis, date n/k) and is the IAU constellation Cepheus. Compare to Tower of Zeus (above).

Zhào:

This Chinese star "Zhào" from the 3 Kingdoms and Ming Dynasty Period is the star Lambda (λ) Herculis in the IAU constellation Hercules and is and is part of their xing guan Heavenly Market East Wall (see above).

Zhèng:

This Chinese star "Zhèng from the 3 Kingdoms and Ming Dynasty Period is the star Gamma (γ) Serpentis in the IAU constellation Serpens and is part of their xing guan Heavenly Market West Wall (see above).

Zhōngshān:

This Chinese star "Zhōngshān" from the 3 Kingdoms and Ming Dynasty Period is the star Omicron (ο) Herculis in the IAU constellation Hercules and is and is part of their xing guan Heavenly Market East Wall (see above).

Zhōu:

This Chinese star "Zhōu" from the 3 Kingdoms and Ming Dynasty Period is the star Beta (ε) Serpentis (Nasak Shamiya) in the IAU constellation Serpens and is part of their xing guan Heavenly Market West Wall (see above).

Zibal:

See Ostrich Chicks, above.

Zigzag:

This Zuni asterism is the "W" asterism in the IAU constellation Cassiopeia (see W of Cassiopeia, above).

There are twenty-eight **telescopic** "zigzag" asterisms:

- One, Harrington 7 from first appeared in *Touring the Universe Through Binoculars* by American astronomer Phil Harrington. It is in the IAU constellation Hercules and is made up of about twelve 8th to 9th magnitude stars. It is 2 degrees west of the star Omega (ω) Herculis and includes the stars HIP 79952, 79947, 79858, 79767, and 79695. Size 60' X 12'. Jeffrey Corder lists it as Corder 3023.
- One is Sánta 153, listed in 2015 by Hungarian astronomer Sánta Gábor, which is described by Gábor as a "zig-zag line with some connected stars, 9 – 13 [magnitude]" in the IAU constellation Serpens.
- One is Sánta 168, listed in 2015 by Hungarian astronomer Sánta Gábor, which is described by Gábor as an "asterism of 6 stars in a zig zag shape" in the IAU constellation Draco.
- One is in the IAU constellation Coma Berenices and was listed as Corder 2440 on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size 80' X 20'. This consists of 7th-8th magnitude stars including HIP 63692, 63632A, 63682, 63638, 63677, 63951, and 39 and 40 Comae Berenices.

- One is Corder 3023 in the IAU constellation Hercules and is on the observing list of Jeffrey Corder of the Ancient City Astronomy Club in Florida. Size75' X 25'. This runs from HIP 79767 to 79952.
- One is in the IAU constellation Camelopardalis and is Ennis 34 on the observing list of Canadian astronomer Charles Ennis. This is three lines of stars: One starts at HIP 15595 and runs through a line of 8^{th} – 9^{th} magnitude stars with the 7.7 magnitude double star HIP 15855A in the middle. The next line of 8^{th} – 9^{th} magnitude stars begins at HIP 15765 and runs to the double star HIP 15482B. From here the third line is four 9^{th} magnitude stars with the 7.15 magnitude star HIP 16060 at the end. This includes the stars of Corder 520.
- One is in the IAU constellation Lynx and is Corder 1195 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is four stars of 7^{th} – 8^{th} magnitude including HIP 33030.
- One is in the IAU constellation Hydrus and is Corder 287 on the observing list of American astronomer Jeffrey Corder. Size 90'. This is six 8^{th} – 10^{th} magnitude stars including HIP 8338, 8472, 8508, and 8623.
- One is in the IAU constellation Lepus and is Corder 763 on the observing list of American astronomer Jeffrey Corder. Size 100' X 45'. This is ten 7^{th} – 9^{th} magnitude stars including HIP 22963, 22905, and 22813. Corder describes this as "a stretched 'Z' shape."
- One is in the IAU constellation Lepus and is Corder 794 on the observing list of American astronomer Jeffrey Corder. Size 70' X 30'. This is four 7^{th} – 8^{th} magnitude stars including HIP 23698, HIP 23671, and the double star HIP 23620A.
- One is in the IAU constellation Canis Major and is Corder 1158 on the observing list of American astronomer Jeffrey Corder. Size 30' X 15'. This is five 7^{th} – 8^{th} magnitude stars including HIP 32047 and 32028. NOTE: At the north end of this chain, it is extended by a row of 4 10^{th} magnitude stars.
- One is in the IAU constellation Hydra and is Corder 2101 on the observing list of American astronomer Jeffrey Corder. Size 35' X 15'. This is four 7^{th} – 9^{th} magnitude stars including HIP 53696, 53617, and 53561.
- One is in the IAU constellation Ophiuchus and is Corder 3247 on the observing list of American astronomer Jeffrey Corder. Size 20'. This is seven 8^{th} – 10^{th} magnitude stars including HIP 84703 and 84693 and the double star HIP 84719.
- One is in the IAU constellation Ophiuchus and is Corder 3464 on the observing list of American astronomer Jeffrey Corder. Size 40' X 25'. This is four 7^{th} magnitude stars including HIP 88822, 88764, and 88724.
- One is in the IAU constellation Pavo and is Corder 3515 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is six 7^{th} – 11^{th} magnitude stars including HIP 89382 and 89533.
- One is in the IAU constellation Sagittarius and is Corder 3728 on the observing list of American astronomer Jeffrey Corder. Size 20' X 10'. This is six 8^{th} – 9^{th} magnitude stars including HIP 93289.
- One is in the IAU constellation Octans and is Corder 3759 on the observing list of American astronomer Jeffrey Corder. Size 35' X 15'. This is six 9^{th} – 10^{th} magnitude stars including HIP 93475.

- One is in the IAU constellation Pavo and is Corder 4059 on the observing list of American astronomer Jeffrey Corder. Size 10'. This is five 7th – 11th magnitude stars including the double star HIP 99162A.
- One is in the IAU constellation Cepheus and is Corder 4309 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is five 8th – 9th magnitude stars including HIP 103974 and the double star HIP 104020.
- One is in the IAU constellation Delphinus and is Corder 4317 on the observing list of American astronomer Jeffrey Corder. Size 15'. This is four 7th – 10th magnitude stars including HIP 104179.
- One is in the IAU constellation Cygnus and is Corder 4381 on the observing list of American astronomer Jeffrey Corder. Size 5'. This is four 8th – 10th magnitude stars including HIP 105299 and the double star HIP 105320A.
- One is in the IAU constellation Indus and is Corder 4438 on the observing list of American astronomer Jeffrey Corder. Size 50' X 20'. This is seven 8th – 9th magnitude stars including HIP 105980, 106100, and 106207.
- One is in the IAU constellation Pegasus and is Corder 4629 on the observing list of American astronomer Jeffrey Corder. Size 50' X 30'. This is six 7th – 9th magnitude stars including HIP 109837, 109910 and the double star HIP 109781.
- One is in the IAU constellation Grus and is Corder 4751 on the observing list of American astronomer Jeffrey Corder. Size 20' X 15'. This is five 8th – 10th magnitude stars including HIP 112423 and the double star HIP 112458A.
- One is in the IAU constellation Tucana and is Corder 4768 on the observing list of American astronomer Jeffrey Corder. Size 80' X 30'. This is six 7th – 8th magnitude stars including HIP 112569, 112726, 112848, 112869, 112791, and 112895.
- One is in the IAU constellation Cepheus and is Corder 4822 on the observing list of American astronomer Jeffrey Corder. Size 45'. This is five 7th magnitude stars including HIP 113793, 113947, and 114070 and the double star HIP 113907A.
- One is in the IAU constellation Octans and is Corder 4835 on the observing list of American astronomer Jeffrey Corder. Size 30' X 20'. This is four 9th – 10th magnitude stars including HIP 114397.
- One is in the IAU constellation Grus and is Corder 4873 on the observing list of American astronomer Jeffrey Corder. Size 75' X 50'. This is seven 5th – 9th magnitude stars including 11 Andromedae and the double stars 8 Andromedae, HIP 115128A, 115114A, and 115171. John Raymond lists this asterism as "8 & 11".

Zipper:

This **telescopic** asterism is the star cluster Collinder 15 (Trumpler 1) in the IAU constellation Cassiopeia and is found on the asterisms list of American astronomer John Davis.

Zmûli:

This Chakavian asterism is the IAU constellation Crater.

Žmÿni:

This Chakavian asterism is the IAU constellation Libra.

Zosma:

See Girdle, above.

Zubenelgenubi:

See Southern Claw of the Scorpion, above.

Zubeneschamali:

See Northern Claw of the Scorpion, above.

Zuzuecha: This Dakota/Lakota/Nakota asterism is made up of stars of the IAU constellations Canis Major, Columba, and Puppis: It runs from Runs from Rho (ρ) Puppis to Epsilon (ε) Columbae.

Zwicky's Necklace:

This **telescopic** asterism is 8 ZW 388, a group of galaxies in the IAU constellation Virgo. Fritz Zwicky published it in his *Eighth List of Compact Galaxies* in 1975. These are magnitude 17 and fainter.

Zwicky's Nonet:

This **telescopic** asterism is a group of nine galaxies in the IAU constellation Perseus. It is named after Swiss astronomer Fritz Zwicky (1898 – 1974).

Zwicky's of Ursa Major:

This **telescopic** asterism "Zwíckius Úrsae Majóris" is the dwarf starburst galaxy UGCA 166 (Mrk 116) in the IAU constellation Ursa Major. This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They called it this to honor Fritz Zwicky (1898 – 1974) because it was in Zwicky's catalogue (#18).

Zwicky's Pierced Galaxy:

This **telescopic** asterism is the interacting galaxy NGC 7732 in the IAU constellation Pisces. It is interacting with NGC 7731. It is mentioned by this name in *Interstellarum*.

Zwicky's Triplet:

This telescopic asterism is a group of three galaxies in the IAU constellation Hercules: IC 3481, 3481A and 3483. IC 3481 and IC 3483 were discovered by American astronomer Royal Harwood Frost (1879 – 1950).

Zygote of Fornax:

This **telescopic** asterism "Zygóte Fornácis" is the lenticular galaxy NGC 1316 (Arp 154) in the IAU constellation Fornax. . It was discovered by James Dunlop and became 2527 on John Herschel's list and GC 697 in the *General Catalogue* of 1864. This is O'Meara 13 in astronomer Stephen James O'Meara's *Hidden Treasures Catalogue* (2007). This name appears in *The Catalogue of One Thousand Named Galaxies* by astronomers Gerard Bodifee and Michel Berger (2010): They gave it this name due to "the egg-shaped galaxy" resembling a "fertilized egg-cell". It is also known as "Fornax A".

Conclusion:

This handbook is a celebration of the sky cultures of the world. As I mentioned at the beginning, this is a living project.

I know that there are more asterisms out there. For one thing, in my research I found references to many asterisms which ethnoastronomers have found names and/or stories for, but no location in the sky. Continuing research will likely reveal some of those locations so that those can be added to the list. For another, the process of people identifying and naming new asterisms is ongoing around the world.

This is a massive undertaking and a work in progress as ethnoastronomers across the world continue to unearth new information and recover lost information. If a reader has corrections or additions, I welcome them. You can contact us at: worldasterismsproject@rasc.ca