The Insider's Guide to the Galaxy Presents...

Messier Minutes

a guide to completing RASC's Messier Observing Certificate

Part 11 -

June 7th – July 4th, 2022

The following pages include a list of objects discussed in the June 7th, 2022, episode of Messier Minutes. Including finder charts and log pages.

List of Targets Discussed:

June 7 is the 1st Quarter Moon; twilight ends after 11 pm; westerly summer Messiers

Messier #	Constellation	Magnitude	Type	NGC	Name
9	Oph	7.7	GC	6333	Melotte 167
10	Oph	6.4	GC	6254	Melotte 157
12	Oph	7.7	GC	6218	Gumball Globular Cluster
14	Oph	7.6	GC	6402	Melotte 175
107	Oph	7.9	GC	6171	The Crucifix Cluster
4	Sco	5.9	GC	6121	Crab/Spider Globular Cluster
80	Sco	7.9	GC	6093	Melotte 142
19	Oph	7.5	GC	6273	Melotte 160
62	Oph	6.4	GC	6266	Flickering Globular Cluster

Notes:

M9:

(12 arc-minutes)

Too small and faint to be seen in binoculars, but any size of telescope will work. Quite low in the sky and has been extincted by dust due to its proximity to the galactic plane. 25,800 ly away. Located 3.5 degrees SE of Sabik, on the line connecting Xi Serpens and Antares. Look for squashed asymmetry and the density gradient. Nearby GC's NGC 6356 and NGC 6342 are telescope-close. Highest after midnight.

M10:

(20 arc-minutes)

Medium-sized, but bright and dense, so it's visible with unaided eyes, good binoculars and any size of telescope. Dim outskirts are revealed in larger apertures. 14,400 ly away. Just east of the centre line of Oph between Saik and Rasalhague, closer to the former. Or, make a right angle from Yed Posterior and Saik. Look for asymmetry and patterns in its brighter stars.

M12:

(16 arc-minutes)

Medium bright and size, allowing binoculars and any size of telescope to see it. Binoculars-close to west of M10. Large aperture resolves the core and halo well. Located inside Oph, just above the midway point between Kappa Oph and Saik, and on line between Yed Posterior and Cebalrai. Note less concentrated, shape nearby "rocket" asterism. 15,600 ly away.

M14:

(11 arc-minutes)

Medium bright and small due to its 30,300 ly distance. Requires binoculars or any size of telescope. Plates taken by HSHogg at DAO in 1938 caught a nova in it, first one ever imaged! Located 8 degrees south of Cebalrai, and almost exactly halfway between Rasalhague and Xi Serpens. Note density profile and shape. Check out GC NGC 6366 3 degrees to SW beside 47 Oph.

M107:

(13 arc-minutes)

Less bright and small, making it barely visible in binoculars while highest (after midnight). Located above Antares, in a starry field west of the MW. Only 2.8 degrees south of Saik, towards Fang (southern claw star). Surrounding foreground stars make the crucifix (right way up when inverted). 20,900 ly away. Last Messier Object to be discovered, in May, 1783! Added by HSHogg in 1947. Note its density profile, field stars.

M4:

(26 arc-minutes)

Huge and bright, but less dense. Very easy to find just 1.3 degrees to the right (west) of Antares! Visible with unaided eyes (when highest at midnight) and binoculars and telescopes. Look for an internal bar structure, shape of the core, chains of stars. Among the closest GCs, only 7,200 ly away.

M80:

(10 arc-minutes)

Small and medium bright, so any size telescope is required. Very dense! 32,600 ly away. Located halfway between Antares and Acrab (northern claw star). Look for the density gradient and the nearby Rho Oph complex 2 degrees to the left.

M19:

(17 arc-minutes)

Large, but faint due to low density and extinction in the galactic plane. Visible in binoculars when highest ~1 am) and any telescope. Larger scopes will reveal nice details. 28,700 ly away. To find M19, form a triangle to the upper left of the bright stars Antares and Larawag (Epsilon Sco), or double the length of the line from Fang (Scorpius' lowest claw) star through Antares. Look for its out-of-round shape, density profile, and starry background. GC's NGC 6293 and NGC 6284 sit 1.5 degrees to the east and north.

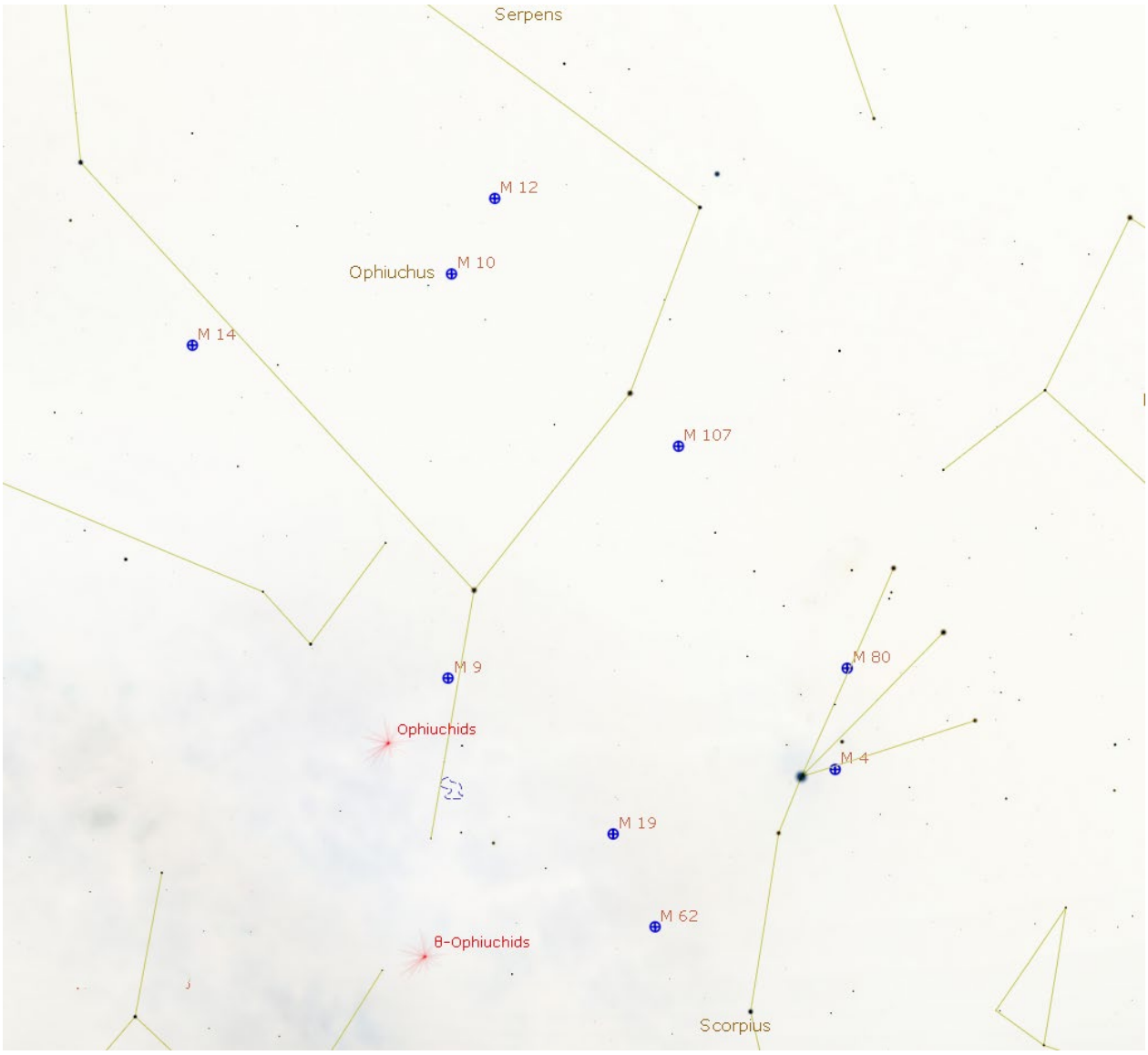
M62:

(15 arc-minutes)

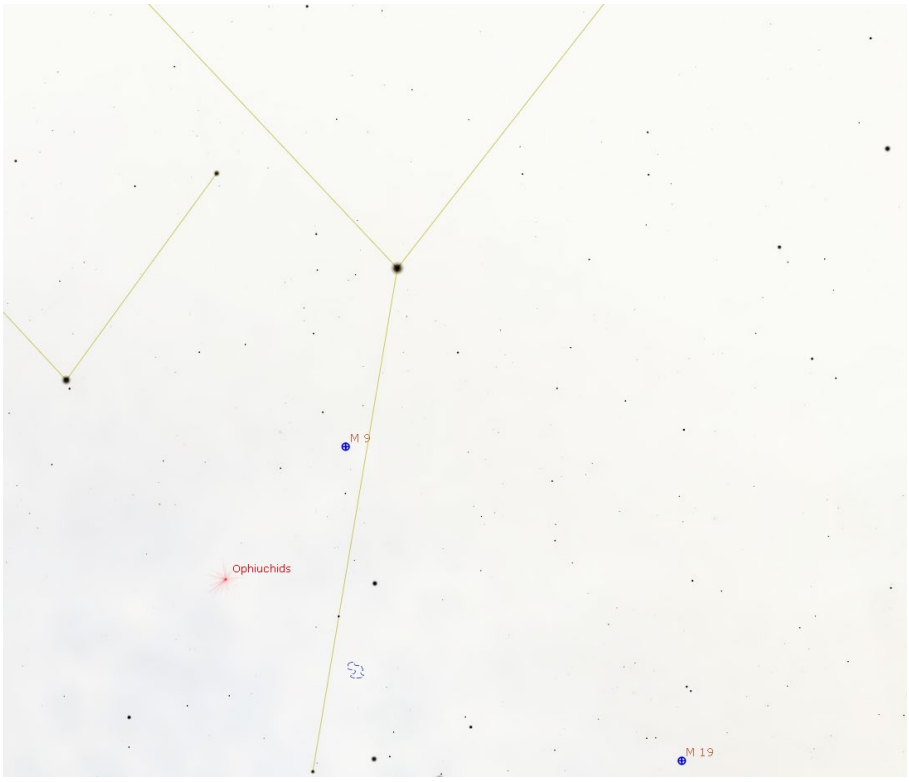
Medium-bright, medium-aized, and dense. 22,300 ly away, but sits nearest GC to the galactic core, so it has been dimmed. Visible in binoculars, especially when highest after midnight. Contains the first GC black hole! Telescopes reveal structure and irregular shape. Located by doubling the line from Dschubba through Antares. Watch for blinking effect, out-of-round shape, offset core (comet-like?), density profile.

Target Finder Charts:

Overview of Targets -



M9 Closer Look –

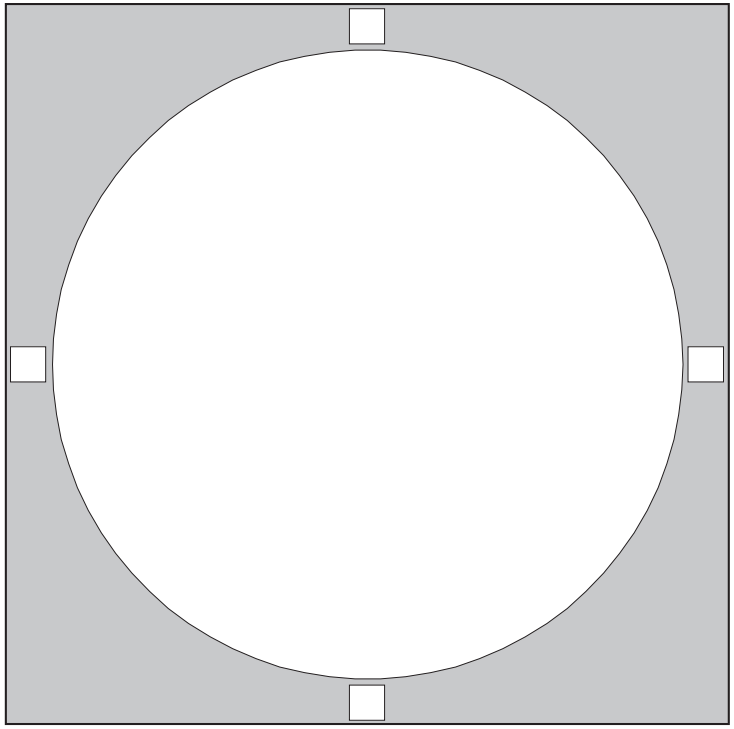


M10, M12, M14, & M107 Closer View –

M4, M80, M19, & M62 Closer View:

RASC Messier Objects - M9

Messier Object	**M9**		
NGC	**6333**		
Constellation	**Ophiuchus**		
Type	**Globular Cluster**		
Magnitude	**7.6**		
Distance (Kilo light-years)	**26.7**		
RA	**17 19.2**		
Dec	**-18:31**		
Size	**9.3'**		
UM I	UM II	**337,338**	**146**
SA	**15, 22**		
Remarks	**smallest of Ophiuchus globulars**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

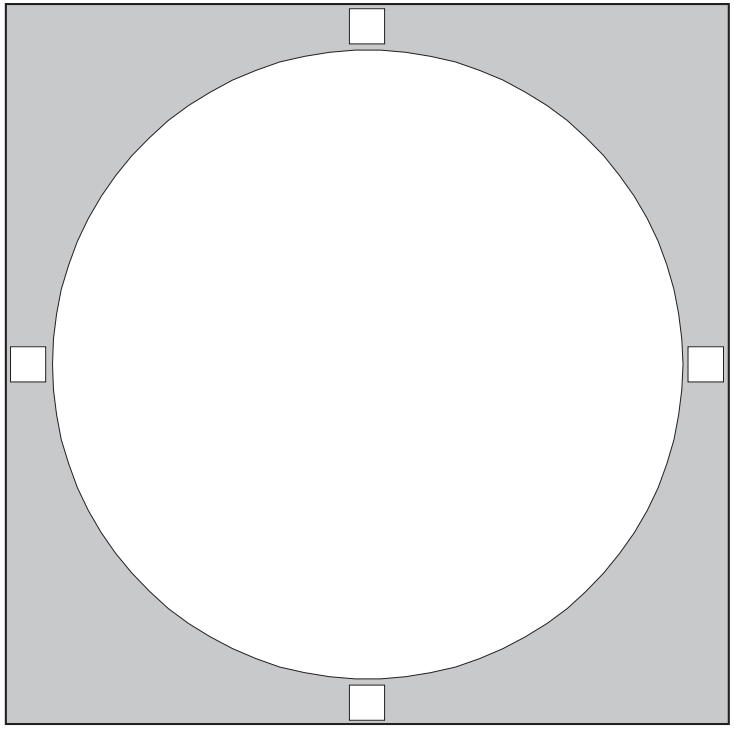


Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M10

Messier Object	**M10**		
NGC	**6254**		
Constellation	**Ophiuchus**		
Type	**Globular Cluster**		
Magnitude	**6.6**		
Distance (Kilo light-years)	**14.4**		
RA	**16 57.1**		
Dec	**-04:06**		
Size	**15.1'**		
UM I	UM II	**247**	**107**
SA	**15**		
Remarks	**rich globular cluster; M12 is three degrees north west**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



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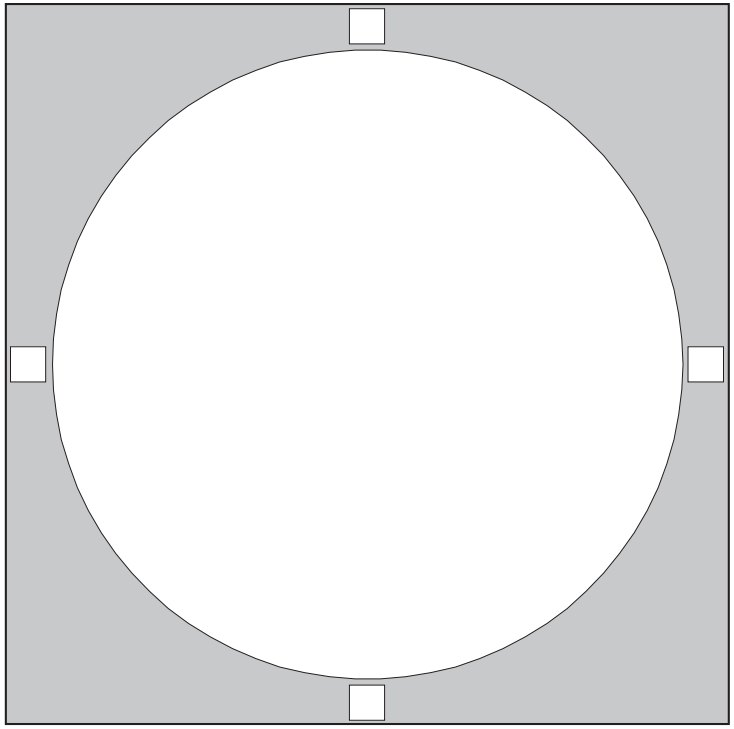
RASC Messier Objects - M12

Messier Object	**M12**		
NGC	**6218**		
Constellation	**Ophiuchus**		
Type	**Globular Cluster**		
Magnitude	**6.8**		
Distance (Kilo light-years)	**16.0**		
RA	**16 47.2**		
Dec	**-01:57**		
Size	**14.5'**		
UM I	UM II	**246,247**	**107**
SA	**15**		
Remarks	**loose globular cluster near M10**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



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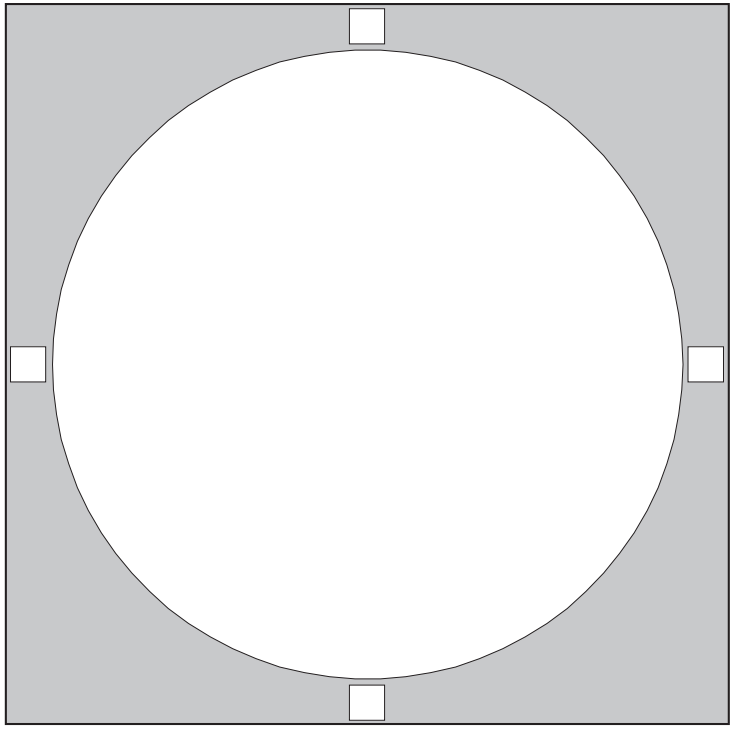
RASC Messier Objects - M14

Messier Object	**M14**		
NGC	**6402**		
Constellation	**Ophiuchus**		
Type	**Globular Cluster**		
Magnitude	**7.6**		
Distance (Kilo light-years)	**29.0**		
RA	**17 37.6**		
Dec	**-03:15**		
Size	**11.7'**		
UM I	UM II	**248**	**106**
SA	**15**		
Remarks	**200-mm telescope needed to resolve**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



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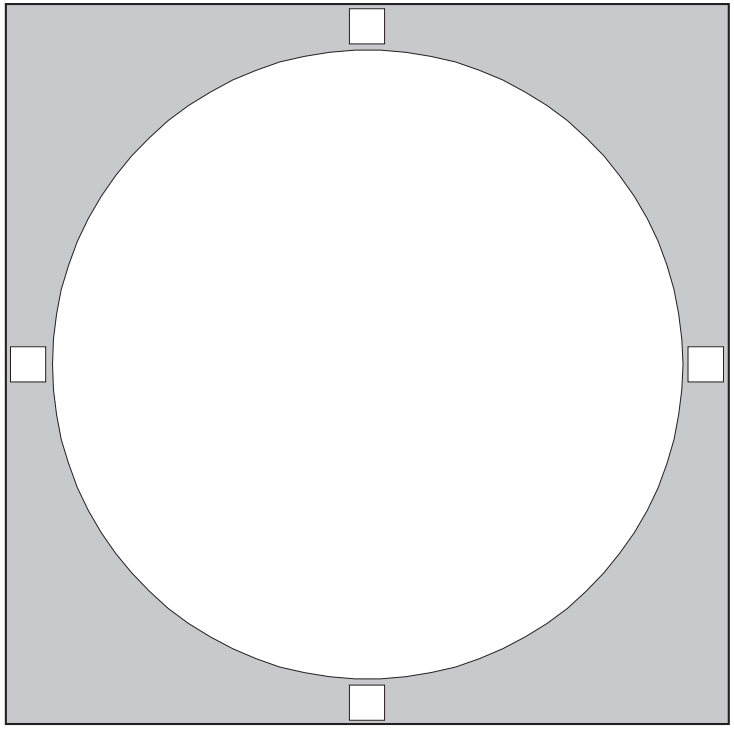
RASC Messier Objects - M107

Messier Object	**M107**		
NGC	**6171**		
Constellation	**Ophiuchus**		
Type	**Globular Cluster**		
Magnitude	**8.1**		
Distance (Kilo light-years)	**20.9**		
RA	**16 32.5**		
Dec	**-13:03**		
Size	**10.0'**		
UM I	UM II	**291**	**127**
SA	**15**		
Remarks	**small. faint globular**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



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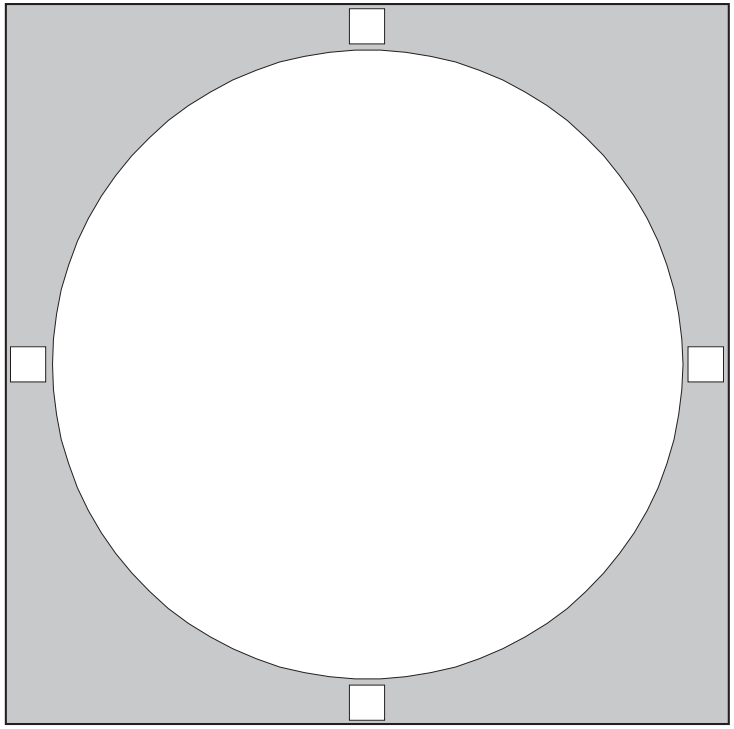
RASC Messier Objects - M4

Messier Object	**M4**		
NGC	**6121**		
Constellation	**Scorpius**		
Type	**Globular Cluster**		
Magnitude	**5.8**		
Distance (Kilo light-years)	**7.2**		
RA	**16 23.6**		
Dec	**-26:32**		
Size	**26.3'**		
UM I	UM II	**336**	**147**
SA	**4, 15**		
Remarks	**bright globular near Antares**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



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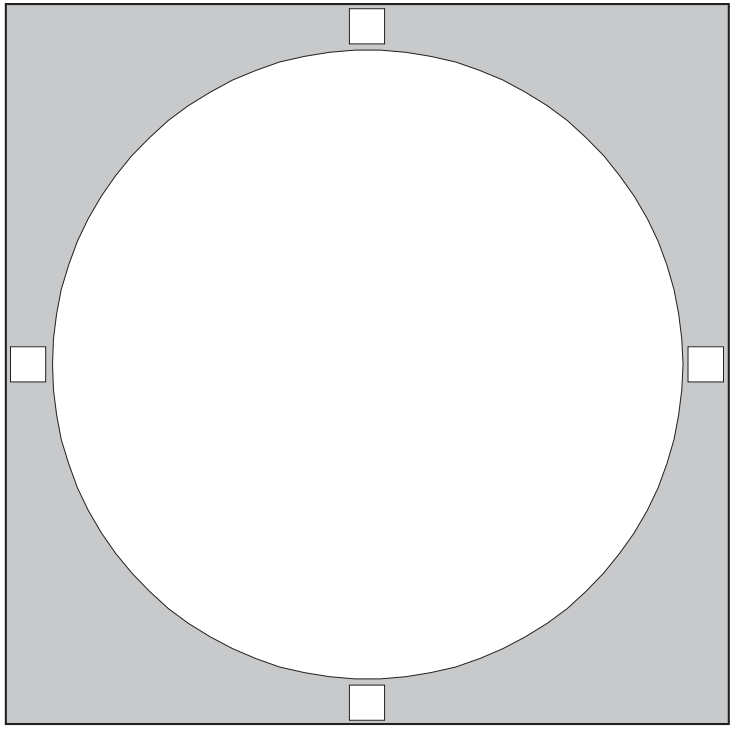
RASC Messier Objects - M80

Messier Object	**M80**		
NGC	**6093**		
Constellation	**Scorpius**		
Type	**Globular Cluster**		
Magnitude	**7.3**		
Distance (Kilo light-years)	**32.6**		
RA	**16 17.0**		
Dec	**-22:59**		
Size	**8.9'**		
UM I	UM II	**335,336**	**147**
SA	**22**		
Remarks	**very compressed globular**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



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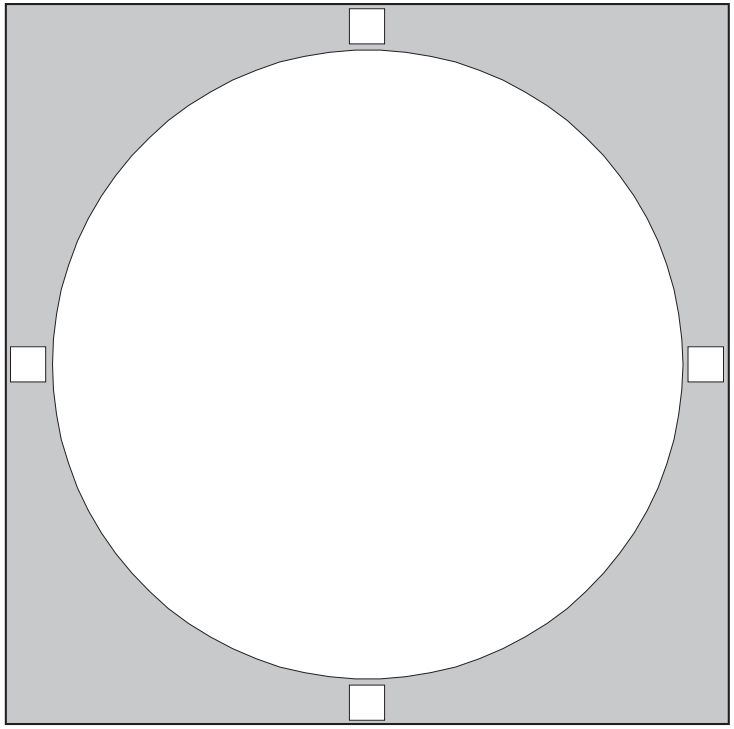
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Messier Objects - M19

Messier Object	**M19**		
NGC	**6273**		
Constellation	**Ophiuchus**		
Type	**Globular Cluster**		
Magnitude	**6.7**		
Distance (Kilo light-years)	**28.4**		
RA	**17 02.6**		
Dec	**-26:16**		
Size	**13.5'**		
UM I	UM II	**337**	**146**
SA	**22**		
Remarks	**oblate globular; M62 four degrees south**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



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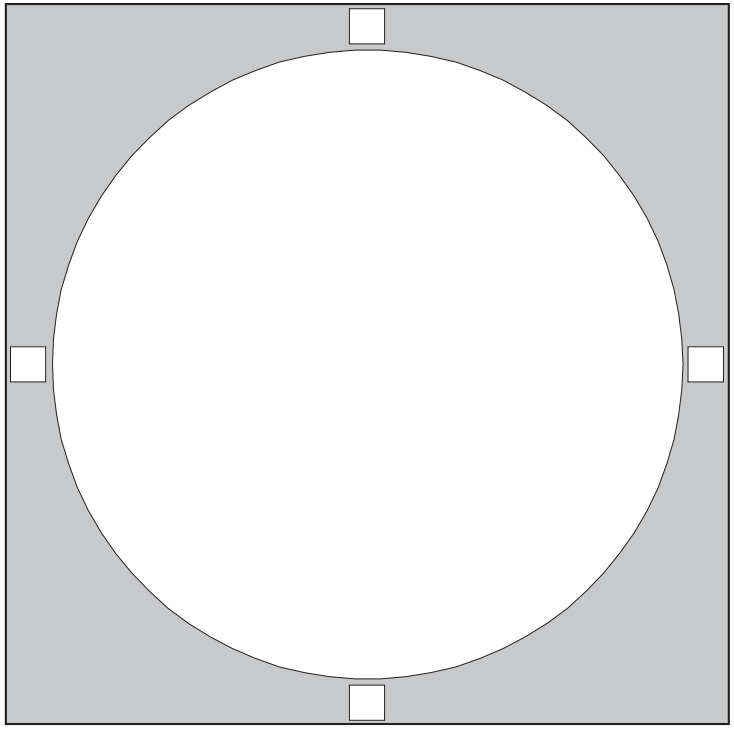
RASC Messier Objects - M62

Messier Object	**M62**		
NGC	**6266**		
Constellation	**Ophiuchus**		
Type	**Globular Cluster**		
Magnitude	**6.7**		
Distance (Kilo light-years)	**22.5**		
RA	**17 01.2**		
Dec	**-30:07**		
Size	**14.1'**		
UM I	UM II	**375,376**	**164**
SA	**22**		
Remarks	**asymmetrical; in rich field**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



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