Deepsky Beauties: July 2009

All objects in this article can be observed underneath a dark sky with telescopes with a maximum of 8 inch (20 cm). Most objects can already be observed with smaller scopes or binoculars.

While it won't get really dark this time of year, there are some nice constellations in the sky this month. In contrast of what most people think, if you focus on clusters and nebulae, it can be very rewarding to go out with your telescope.

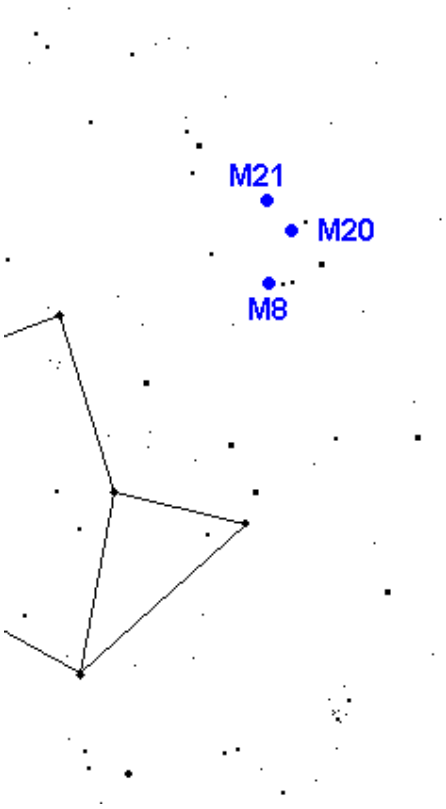
This July we go on Messier hunt in the constellations Sagittarius and Scorpius. This two summer constellations contains 19 Messier objects in total, which we will discuss some of.

In Greek mythology, Sagittarius the archer is shown as the centaur Chiron. According to the old myth, Chiron changed himself into half a man, half a horse, so he could escape from his jealous wife Rhea. Finally, Chiron was immortalized as the constellation Centaurus, which became later on Sagittarius. The arrow in this constellation points to Antares, the heart of the Scorpion.

Let's start with the **Lagoon Nebula** (M8). This is an open cluster with an emission nebula. M8 is a thankful object for every binocular or telescope. The cluster contains about 25 faint stars, spread over an area of about 10'. If you're standing on a dark observing site, it is possible to see the nebula through binoculars. It will be visible as an obvious, oval cloud with a bright core. Already through the smaller telescopes it is possible to see the dark lane of which this cluster thanks its name for. The lane goes from southeast to northwest.

Through small telescopes it is possible to see the **Trifid Nebula** (20) in the same field of view as M8. Also the Trifid has an open cluster within the nebula. This nebula is a beautiful object to observe through telescopes. There are three dark lanes within the round nebula whereby this object is split into three parts. The West side of the Trifid is the brightest part. Here you can see two striking stars. The northeast side is a bit fainter. Also in this part of the nebula you can see two prominent stars. The south side, where the cluster is located, is the faintest part. In the middle of the nebula there is a triple double star which can be split through telescopes. A UHC filter can help making the nebula more prominent. The Trifid is already visible through binoculars. The dark dust lanes are already visible through small telescopes.

If you observe the above objects with binoculars, perhaps you can see a third object in the same field of view. This is the open cluster **Messier 21**. This cluster contains about sixty stars which are located at a distance of 4.250 light years from earth. It's easy to notice that there are more stars in the clusters heart than near the edges. Observe this showpiece with binoculars or telescopes with a large field of view.



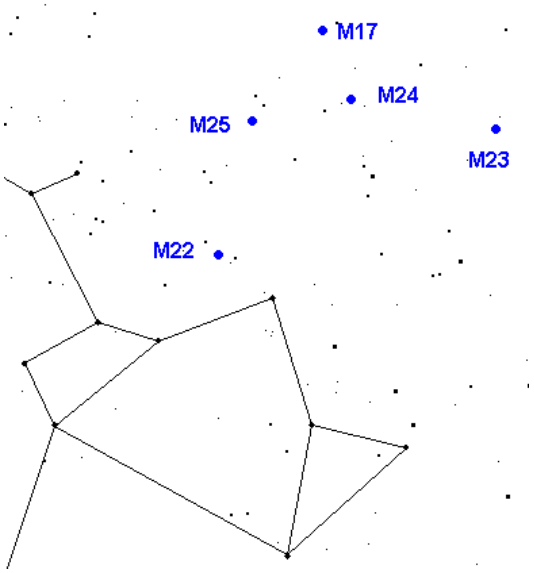
Let's continue with an object that knows many different appearances and names: **Messier 17**. Depending on several variables like the used telescope and magnification, location, filters etc, this object looks like a checkmark (Checkmark Nebula), a horseshoe (Horseshoe nebula) or a little duck (Swan Nebula). With good conditions with a middle sized telescope and an UHC filter, this nebula looks like a swan. Without filters, the faintest parts aren't visible whereby the nebula looks more like a checkmark or horseshoe. The larger the telescope, the more details you will see. M17 is already visible with binoculars from a dark observing site.

Another great object in Sagittarius is the globular cluster **Messier 22**. M22 is the third brightest globular in the sky. With binoculars the globular is easy to detect and visible as a round cloud with a bright core. Through telescopes you can resolve the fist stars, but you need a large telescope to resolve the object totally. A nice Messier object!

Our next target is the open cluster **Messier 23**. The cluster has over 100 members, spread over a large area. The unresolved glow of the Milky Way shines through the cluster which gives M23 an extra dimension. Observe this object with binoculars or telescopes with a low magnification and large field of view.

The **Sagittarius Star Cloud** (M24) isn't a separate object, but a bright area of about 1,5 degrees with countless stars. Within this cloud are a few other objects like star clusters and nebulae. The easiest objects are the open cluster NGC 6033 and the dark nebulae B1913 and B1919. This entirely area is part of the Sagittarius Arm, one of the spiral arms of our Milky Way. Because M24 is so large, it is best observed with binoculars.

West of the Sagittarius Star Cloud we find the open cluster **Messier 25**. This young cluster is oblong and has the shape of an hourglass. In the centre of M25 we see a thickening of stars. Amongst the brightest stars you'll notice a few nice double stars. Also this cluster is already visible through binoculars.

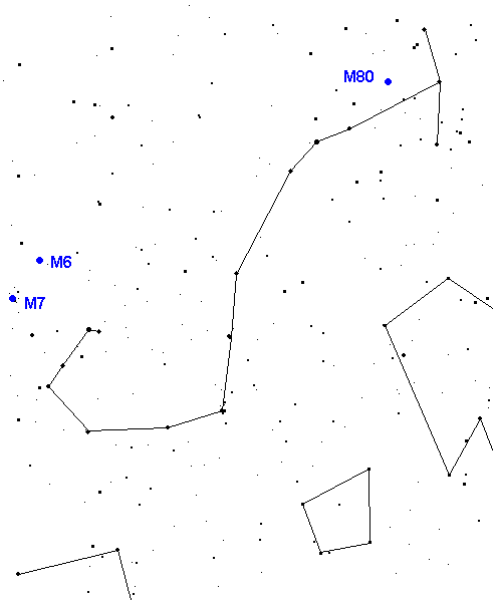


We move on with Scorpius, the scorpion. According to the ancient Greek mythology, Orion fell in love with Apollo's sister: Arthemis. Apollo disapproved the love between the two and he send a large scorpion after Orion. Orion fled into the sea to get rid of the monster.
Meanwhile Apollo told Arthemis that the man she saw in the sea was a criminal, and he betted that she couldn't hit the dot in the distance with her bow and arrow. Arthemis aimed at the dot and shoot Orion dead. When she found out who she had murdered, she was inconsolable and she promised that she would never fall in love again. Arthemis immortalized both Orion and the scorpion as constellations. Orion will be on the run for the scorpion forever.

One of the most prominent objects in the Scorpion is the **Butterfly Cluster**, or Messier 6. This member of the Messier list is a large open cluster. The cluster is already visible with the unaided eye on dark nights as a faint cloud. Through telescopes, this object is really a beauty! Several bright stars shape a butterfly shape. Through and next to this shape you can notice many fainter stars.

Something below Messier 6 we find the **Ptolemaes Cluster** (M7). This is another large open cluster that can be seen with the unaided eye on dark nights with a clear view to the south. The glow of the Milky Way shines through the cluster. Notice the countless faint stars next to the brighter, more prominent members of this cluster. Observe M7 with binoculars or telescopes with a large field of view.

Finally we aim our telescopes to the globular cluster **Messier 80**, which is located at a distance of 36.000 light years from earth. This small globular looks like a round nebula with a bright core. Through the middle large telescopes it is possible to resolve the stars at the edges. You need a large telescope (about 30cm) to resolve the globular entirely.



Have fun observing these summer beauties!

Demelza Ramakers (*June, 30 2009)*

Constellation	Object	Type	Magnitude	Size/sep	RA	Dec.
Sagittarius	M8	OC & nebula*	5.0	45' x 30'	19h03m41s	-24°23'
Sagittarius	M20	OC & nebula*	6.3	28' x 28'	18h02m42s	-22°58'
Sagittarius	M21	Open cluster	5.9	13' x 13'	18h04m13s	-22°29'
Sagittarius	M17	OC & nebula*	6.0	11' x 11'	18h20m48s	-16°11'
Sagittarius	M22	Glob. cluster	5.1	17' x 17'	18h36m24s	-23°54'
Sagittarius	M23	Open cluster	5.5	27' x 27'	17h57m05s	-18°59'
Sagittarius	M24	Star cloud	4.6	90' x 90'	18h17m00s	-18°29'
Sagittarius	M25	Open cluster	4.6	29' x 29'	18h31m47s	-19°07'
Scorpius	M6	Open cluster	4.0	20' x 20'	17h40m21s	-21°15'
Scorpius	M7	Open cluster	3.0	80' x 80'	17h53m51s	-34°48'
Scorpius	M80	Glob. cluster	7.0	5.1' x 5.1'	16h17m02s	-22°59'

OC = Open cluster