Deepsky Beauties December 2010

Since this December there will appear a new Deepsky Beauties each month with nice and interesting objects that you can find at the night sky. All objects in this article can be observed underneath a dark sky with telescopes with a maximum of 8 inch (20cm). Most objects can already be observed with smaller telescopes or binoculars.

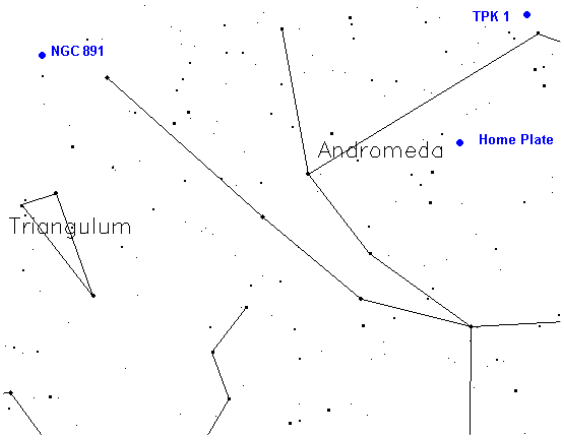
This month I've changed the layout and added some sketches of the Polish astronomer Hevelius. This gives the Deepsky Beauties series an own and recognizable aspect.

I'm always open for ideas and suggestions. If you have a comment or question, you can mail me through the contact form on my website or you could leave a message in my guestbook (see bottom of this page).

Let's start this December with a few nice objects in constellation Andromeda. At a distance of 30 million light years from Earth the galaxy **NGC 891** is located. Through small and middle sized telescopes we see this galaxy as an oblong stripe. Through larger scopes you can spot the dark dust lane that runs through the galaxy. NGC 891 can be a tough object to spot. Therefore observe this galaxy from a dark site without any light pollution. Than it mustn't be hard to find this object with a telescope of at least 15cm.

Than we continue with a couple of asterisms, starting with **TPK 1**. 1.1˚ NNW of Lambda (λ) Andromedae you'll find the asterism TPK. It's called after the discoverers Teutsch, Patchick en Kronberger. The object has the rough shape of a trapezium, lying in an area of 1/4˚ large. At higher magnifications there are many faint stars visible, whereby this asterism looks like an open cluster.

Another nice asterism is **The Home Plate**. The Home Plate is a beautiful target for binoculars. There are 5 stars of magnitude 6.7 to 6.9 visible in the shape of a pentagon. You can find this asterism 1.2˚ wsw of 23 Andromedae. Observe it with a binocular or small telescope.

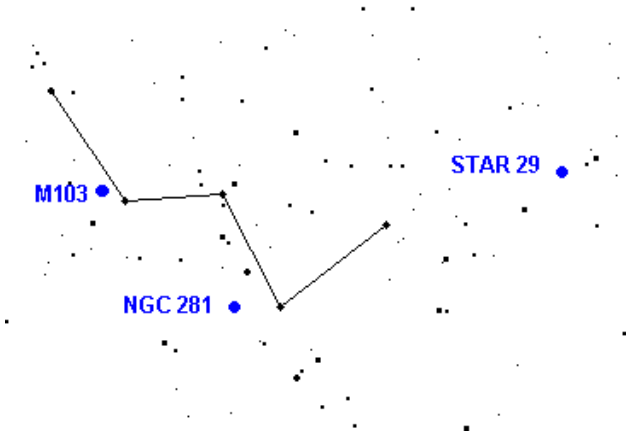


We'll move on with the queen of the night sky: Cassiopeia. Here we'll find another fine asterism, that's definitely worth a visit: **Lucky 7** (STAR 29).

Lucky 7 is a large and bright asterism in the shape of the number 7. It's located at the border of Cepheus and Cassiopeia. The asterism counts about 13 stars of magnitude 5 to 7. Lucky 7 contains the stars 1 and 2 Cas. A nice target for binoculars!

Than we'll hop to the open cluster **Messier 103**. This object is easy to find and recognize through binoculars. We'll see a nebulous area in the shape of a fan. Through telescopes you can see the individual stars that are part of this cluster, but it can be a bit hard to recognize M103 through larger equipment because the cluster lies in a large starry region where there are a lot more clusters located. Besides that, M103 is a loose cluster and doesn't contain too much stars.
The double star Struve 131 is the most prominent feature in the open cluster M103, but curiously the double star is not an official member of the cluster. The stars are of magnitude 7.3 and 10.5 and are separated with a distance of 14 arc seconds. To find M103 you go to the star Delta Cassiopeiae. Go a half degree North and one degree East. Et voila! There it is!
By the way: M103 is the last Messier object that is catalogued by Charles Messier himself.

The last object in Cassiopeia that we pay attention to this month is the emission nebula NGC 281. Because of its likeness with the little figure of a computer game, this nebula is also called the **Pacman Nebula**. The nebula is visible with telescopes from a dark observing site. Without filters the Pacman Nebula is nicely visible around a relatively bright star, but with a UHC- or OIII filter it is much more prominent. Than you'll see the nebula as a crescent with a distinct bite out of the shape: Pacman's mouth. The bright star Burnham 1 shapes its eye. Observe this nebula underneath a dark sky.



We continue with the constellation Cepheus where we will find a nice asterism: **STAR 11**. This object does not have a prominent shape, but it's a piece of the Milky Way inside the quadrangle of Cepheus. The stars 19, 20, 25, ξ en v Cephei are part of this asterism. Because of its large size (3 x 1,5 degrees) this object is best observed with binoculars.

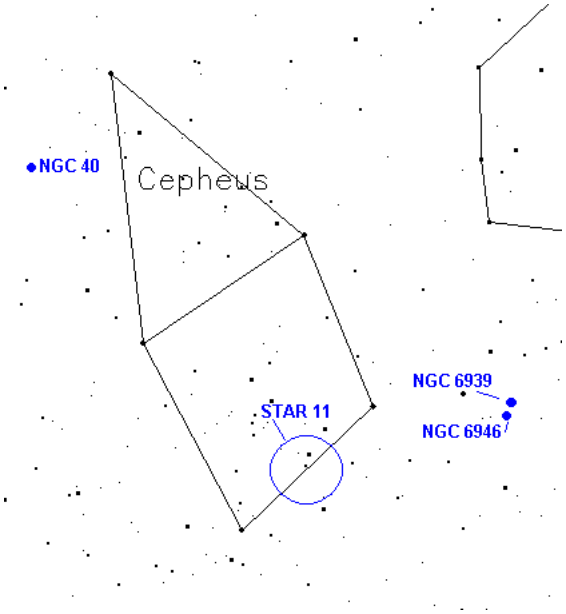
A nice duo to look for with telescopes is the open cluster **NGC 6939** and the spiral galaxy **NGC 6946**.

NGC 6946 is located at the border between Cepheus and Cygnus. The galaxy is also known as **The Fireworks** Galaxy because of the large number of supernova's and because there is a lot of star formation within the galaxy. It can be a little hard to find NGC 6946, because of its low surface brightness. This makes that just a little light pollution can be enough to make the galaxy invisible through our telescopes. Make sure you observe this object with good conditions and a telescope larger than 10cm. Than it mustn't be a problem to see the galaxy. You can find the galaxy at about 2 degrees southwest of the star Eta Cephei.

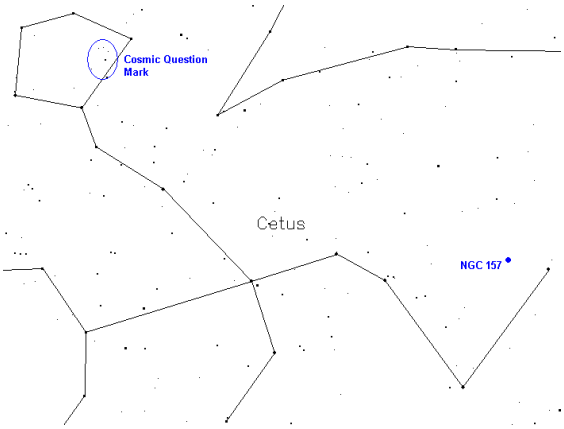
40' northwest of the galaxy we'll find a second object: **NGC 6939**. This is a nice open cluster with an irregular shape. Depending on the used aperture there are 5 to 20 loose stars visible, the remaining stars stay unresolved with average size telescopes.

On the north side of the cluster we see three striking stars in the shape of a triangle. I saw a cane shape myself. The upper side of the cane pointes to the spiral galaxy.

A but further we'll see the planetary nebula **NGC 40**. It is not too hard to find it, because it shapes a triangle with two relatively bright stars. NGC 40 is already visible with small telescopes, provided that you're observing underneath good conditions. You'll notice a small, faint cloud with in its middle the central star. An uhc-filter makes the nebula more prominent, but the central star will be fainter. This is definitely a lovely object to observe!



We'll move on with constellation Cetus, the whale. Here we'll find a nice asterism: **The Cosmic Question Mark**. This is a pretty big asterism in the shape of a mirrored question mark. It is best visible trough finder scopes, binoculars or small telescopes with a low magnification. There are 5 stars that form Cetus head. Take the lowest star and the star most right and draw a line between these stars. You can find the Question Mark left from this line at approximately 2/3e from the lowest star. We'll finish this month with a real challenge: the barred spiral galaxy **NGC 157**. We can find it between two bright stars: one north of the object and the other one south of the galaxy. NGC 157 is oval shaped; its core is just visible at high magnifications. Observe this object with a 20cm telescope or larger from a dark site.



Have fun searching and observing these objects!

Demelza Ramakers (November 24, 2010)
http://www.everyoneweb.com/observingthenightsky/

Constell.	Object	Type	Magn.	Size/sep	RA	Dec.
Andromeda	NGC 891	Galaxy	9.9	13.1' x 2.8'	02h22m33s	04°21'
Andromeda	TPK 1	Asterism		23' x 11'	23h39.3	47°31'
Andromeda	Home Plate	Asterism		44' x 31'	00h07.5m	40°35'
Cassiopeia	STAR 29	Asterism		125' x 70'	23h03m	59°30'
Cassiopeia	M103	Open cluster	7.4	6.0' x 6.0'	01h33m22s	60°39'
Cassiopeia	NGC 281	Nebula		17.0' x 15'	00h52m48s	56°36'
Cepheus	STAR 11	Asterism		3° x 1,5°	21h48m	61°00
Cygnus	NGC 6946	Galaxy	8.9	11.2' x 9.8'	20h34m52s	60°09'
Cepheus	NGC 6939	Open cluster	7.9	8.0' x 8.0'	20h31m30s	60°40'
Cepheus	NGC 40	Plan. nebula	10.7	0.8' x 0.8'	00h13m01s	72°31'
Cetus	Cosmic Question Mark	Asterism	-	2.1° x 0.7°	02h36m	06°42'
Cetus	NGC 157	Galaxy	10.2	4.1' x 2.7'	00h34m46s	-08°24'