

# Deepsky Beauties:

## June 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.*

This month we'll make a tour along three constellations: Lyra, Hercules and Ursa Minor.

Lyra, the lyre, belonged, according to the Greek mythology, to the musician Orpheus. After his death, one through his lyre into a river. Zeus sent an eagle to return the lyre and he gave both a place in the night sky.

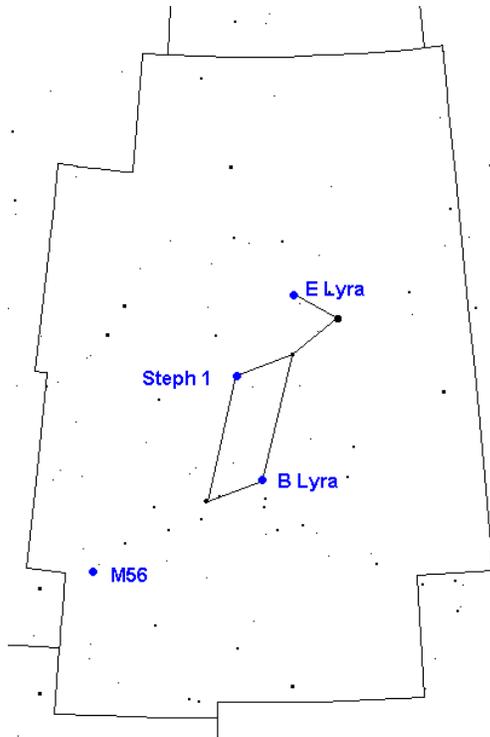
There are a lot of beautiful deep sky objects to find in Lyra, including **Epsilon Lyra** (Struve 2470 and 2474). With binoculars, Epsilon Lyra is easy to split into two separate stars. Through telescopes you notice that both stars can be split again whereby four stars become visible. The components of Struve 2470 are blue / white, while both components of Struve 2474 are yellow.

Also the star **Shellak** (Beta Lyra) is a multiple, but also variable star. The system consists of a blue / white dwarf star and a white star. Both components are located so close to one other that their outermost gas layer is pulled to each other. The two stars revolve around each other, whereby the magnitude of Shellak varies from 3.4 to 4.4 over a period of nearly 13 days. Because both components are so close to each other, they can't be split through telescopes. However, there is a third

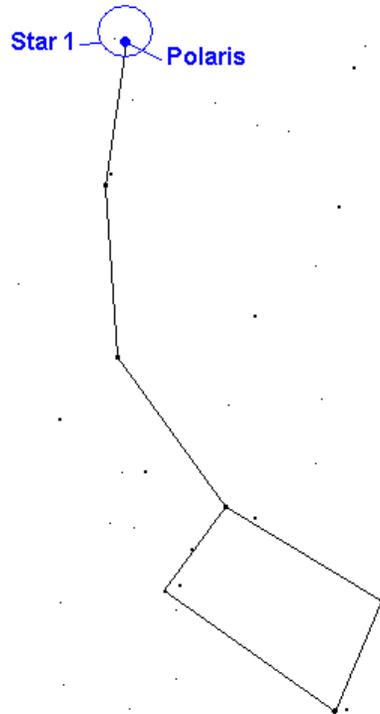
component of magnitude 7.2, which is located at a distance of 45.7". This is good visible through binoculars. A fourth component of magnitude 9.9 is located at 86" distant.

We move on with the open star cluster **Stephenson 1**. This loose cluster is really a beauty to observe through binoculars or telescopes with a large field of view and a low magnification. Steph 1 is located between the stars Delta 1 and 2, which are part of the cluster. Delta 1 has a blue / white color, while Delta 2 is orange. Between and next to this prominent stars swarm a lot of fainter stars. Expanding your magnification brings out even more members of the cluster.

The last object in Lyra we observe this month is the globular cluster **Messier 56**. This object is located in a rich star field. Through the smaller telescopes you will see M56 as a fuzzy, unresolved ball. The bright core feathers out to an irregular edge. Through telescopes with at least an opening of 20 cm, the cluster is visible as a knot. The stars near the cluster's border can be resolved. Also in the core you can see a hazy cloud with some resolved stars.



diameter of 35', shaped by stars of magnitude 7 and 8. Polaris forms the diamond in this nice ring.



Let's take a look at Ursa Minor. This constellation represents a baby bear with an unusual long tail. In one of the myths concerning Ursa Minor, the seven stars that shape this constellation represents seven sisters: Hesperides, the daughters of Atlas. However, in most myths the stars figure a small bear. The last star of this constellation is Polaris, the northern star.

**Polaris** is perhaps the well-known star in the night sky. In contrast of what most people think, this star is not the brightest star. Unique of Polaris is its location: it always points north. It's easy to find as the last star that shapes Ursa Minor or you can extend the two front stars of Ursa Major five times. Polaris is a beautiful double star. The main star is a large, yellow star; its companion is a smaller, fainter white star at a distance of 18".

If you observe Polaris with binoculars or a telescope with a low magnification, than aim you're aperture a little more south. You will notice a prominent group of stars. This is the asterism **The Engagement Ring** (star 1). This is a circle with a

We continue our June tour with the constellation Hercules. According to the Greek mythology, his mother, Alcmena, (granddaughter of Perseus and Andromeda) was married to Amphitryon, but she fell in love with Zeus and the two became lovers. Finally Alcmena got pregnant and gave birth to twin sons: Hercules, son of Zeus, and Iphicles, son of Amphitryon. Hera, Zeus' wife was furious at Zeus, and since Hercules was the tangible proof of his unfaithfulness, Hera decided that Hercules had to die. She sends two snakes at Hercules while he was sleeping in his crib. But Hera didn't realize that Hercules got the strength of his father and he killed both snakes barehanded. Eventually, Hercules grew up and led a difficult life. He married Deineira which he loved very much. Unfortunately she accidentally poisoned Hercules.

The gods fell pity with the young man and gave him a place in the night sky.

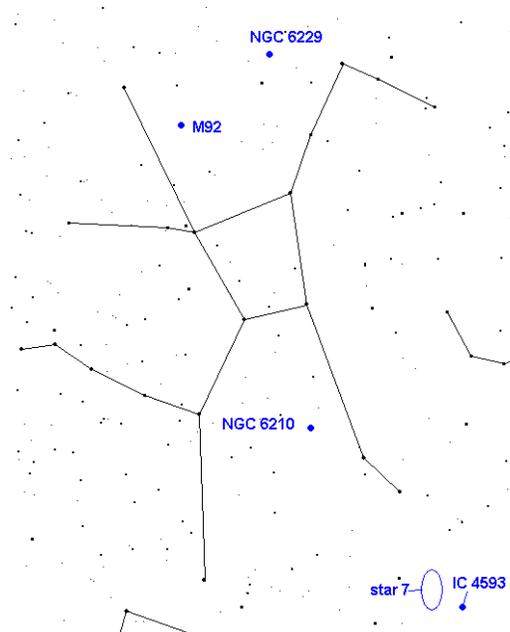
We begin with a nice asterism in Hercules. **Zig Zag** (star 7) is a star group of about 12 stars that winds up and down. The asterism is easy to recognize. Observe it with a low magnification so the object fits in your field of view.

Our next stop is at the planetary nebula **IC 4593**. This nebula is located 9' north of an 8.5 magnitude double star with a 9.5 magnitude companion at a distance of 7" SSW of the main star. The planetary nebula itself is fairly faint, but has an obvious, blue color and a thickened core. Observe IC 4593 with (middle) large telescopes. An OIII filter will bring out more details.

The next target on our list is another planetary nebula: **NGC 6210**, nicknamed The Turtle Planetary Nebula. The nebula forms a triangle, along with a yellow star of magnitude 7.5 and a 9.5 magnitude star. There is an oval shaped nebula visible with a bright blue/greenish color. A nice object to search for!

The most famous globular cluster in Hercules is the Hercules Globular Cluster, or M13. Another, less famous globular is **NGC 6229**. Through middle large telescopes, this object looks like an unresolved ball with a diameter of 1'. The core is obvious more compact than the edges of the cluster. The object forms a triangle together with two relatively bright stars ENE and ESE.

We end our tour with a globular that deserves more attention, but is overshadowed by its big brother M13: **Messier 92**. This cluster is significantly smaller, but not less pretty! Already through small telescopes (about 7 cm) M92 is a real pearl in the sky. The core is bright, the edges a little fainter. I saw repeatedly a greenish color in this cluster. Its good visible that this cluster contains more stars than big brother M13.



Have fun observing these objects!

Demelza Ramakers (May 31, 2009)

Constellation	Object	Type	Magnitude	Size/sep	RA	Dec.
Lyra	E Lyra	Double star	$\Sigma$ 2470: 4.7	$\Sigma$ 2470 13.4"	19h08m40s	34°46'
			$\Sigma$ 2474: 4.6	$\Sigma$ 2474 16.2"	19h09m05s	34°36'
Lyra	B Lyra	Multiple star	3.4 / 4.4		18h50m05s	33°21'
Lyra	Steph 1	Open cluster	3.8	20'	18h53m30s	36°55'
Lyra	M56	Glob. cluster	8.3	5' x 5'	19h16m35s	30°11'
Ursa Minor	Polaris	Double star	2.0	18"	02h31m49s	89°16'
Ursa Minor	STAR 1	Asterism		35'	02h32m00s	89°00'
Hercules	STAR 7	Asterism		100' x 15'	16h18m00s	13°00'
Hercules	IC 4593	Plan. nebula	10.7	13" x 13"	16h11m44s	12°04'
Hercules	NGC 6210	Plan. nebula	9.8	16.2" x 16.2"	16h44m29s	23°48'
Hercules	NGC 6229	Glob. cluster	9.4	3.8' x 3.8'	16h46m59s	47°32'
Hercules	M92	Glob. cluster	6.4	12.2' x 12.2'	17h17m07s	43°08'