



The Binocular Sky

October
2012

Newsletter

Introduction

Welcome to the October 2012 *Binocular Sky* Newsletter . The intention of this monthly offering is to highlight some of the binocular targets for the coming month. It is primarily targeted at observers in the UK, but should have some usefulness for observers anywhere north of Latitude 30°N. For this Newsletter to be a useful tool, it needs to have the information that **YOU** want in it; therefore please do not be shy about making requests – if I can accommodate your wishes, I shall do so. There is a printer-friendly version: <http://binocularsky.com/newsletter/201209p.pdf>

The Deep Sky (Yellow text is hyperlinked to charts and more information.)

As the sky darkens at twilight, in the North are [NGC 457 \(the Owl Cluster\)](#) and [NGC 633](#) in Cassiopeia and the [Perseus Double Cluster](#). To the East of them lie [M34](#) in Perseus and the often-overlooked [NGC 752](#) in Andromeda. More open Clusters are still visible in the south-western sky in the region of Ophiuchus. These include [Melotte 186](#), [NGC 6633](#) and [M11, The Wild Duck Cluster](#), all of which are easily visible in 50mm binoculars. Rising in the north-east are the Auriga clusters, [M36](#), [M37](#) and [M38](#). To the south of them, the [Pleiades](#) and [Hyades](#) make a welcome return to evening skies. Also look out for the nearby [NGC1647](#).

The Deep Sky (contd)

Open (also called 'Galactic') Clusters are loosely packed groups of stars that are gravitationally bound together; they may contain from a few dozen to a few thousand stars which recently formed in the galactic disk.

In October, we are able to look out of the plane of the Galaxy during the evening. This makes more globular clusters and galaxies available for observation. Very well placed this month are **M81 (*Bode's Nebula*)** and **M82 (*The Cigar Galaxy*)**, both of which are easy in a 50mm binocular. These can be used as a good demonstration of averted vision: if you have them both in the same field of view, you may see that the core of M81 becomes more apparent if you look at M82. If you have good skies in the early evening, try **M51 (*The Whirlpool*)** and **M101** which, although it is a large object, is very difficult owing to its low surface brightness. The same can be said of **M33 (*The Pinwheel*)**, which is now very well placed for observation. Because they are of such low surface-brightness, they benefit from low magnification. This generally makes them easier to see in, say, a 10x50 binocular than in many "starter" telescopes. The ***Great Andromeda Galaxy, M31***, is easily visible this month. It is large and bright enough to be able to withstand quite a lot of light pollution (making it available to urban observers) although, obviously, it benefits from a dark transparent sky.

Galaxies are gravitationally bound "island universes" of hundreds of billions of stars at enormous distances. The light that we see from M31, for example, left that galaxy around the time our ancestors of the genus *Homo* were just evolving!

The Deep Sky (contd)

The two Hercules globulars, **M92** and the very impressive, and very easy to find, **M13** are at a very good altitude for observation. Although M13 is clearly larger than M92, it is easier to resolve the outer stars of the latter one.

Globular clusters are tightly-bound, and hence approximately spherical, clusters of tens, or even hundreds, of thousands of stars that orbit in a halo around almost all large galaxies that have been observed. They are important for two reasons: Firstly, they contain some of the oldest stars in the galaxy, so studying them helps us understand the evolution of stars. Secondly, they are useful as “standard candles” in establishing a distance scale of the Universe, based on the assumption that the brightest stars in any globular cluster will be approximately the same brightness and that the brightest globulars in a galaxy will be approximately the same brightness.

The easiest planetary nebula, **M27 (the Dumbbell Nebula)** – although I insist that it looks more like an apple core than a dumbbell!!) – is visible in the evening skies in even 30mm binoculars. The **Helix Nebula, NGC 7393** is now about as well-placed as it gets for observation from Britain before midnight.

Planetary Nebulae are short-lived (generally a few tens of thousands of years) masses of gas and plasma that result from the death of some stars. They have nothing to do with planets, but get their name from the fact that, in early telescopes, they had the disc-like appearance of planets.

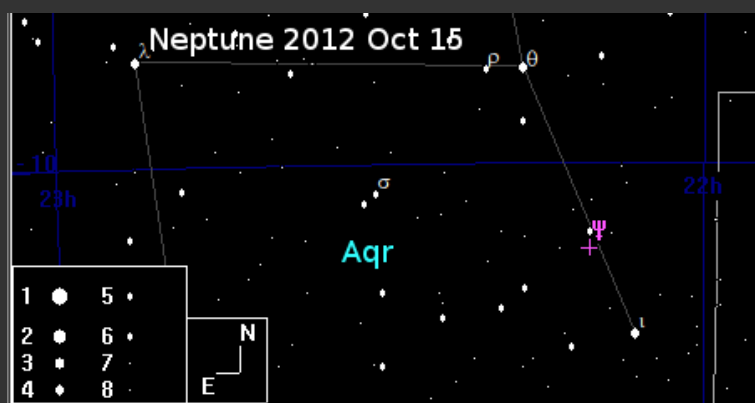
The Deep Sky (contd)

For interactive maps of Deep Sky Objects visible from 51°N, please visit:

http://binocularsky.com/map_select.php

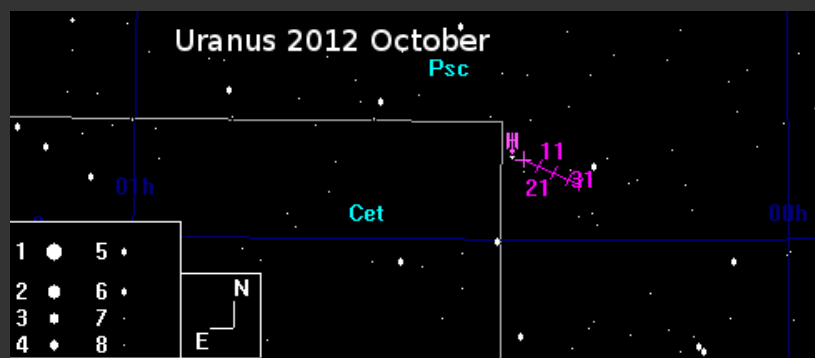
Planets

Of the two binocular planets, **Neptune** transits soon after the end of twilight by mid-month, so make it one of your first targets for an evening's observing. It is close to the 5th magnitude **38 Aqr**, which is



approximately at the south-western apex of an equilateral triangle that has **σ** and **θ Aqr** as its other apexes.

Uranus rises about an hour later, on the boundary of Cetus and Pisces. It is considerably brighter than Neptune and transits at about 10



degrees higher altitude, making it much easier to observe, even in very small binoculars.

The Moon

Oct 08 Last Quarter

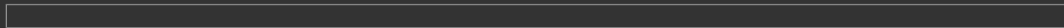
Oct 15 New Moon

Oct 22 First Quarter

Oct 29 Full Moon

Wishing you Clear Dark Skies,

Steve Tonkin for *The Binocular Sky*



Acknowledgments:

The charts in this newsletter were prepared with Guide v9.0 from <http://projectpluto.com>

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