



The Binocular Sky

No. 91
June 2019

Newsletter

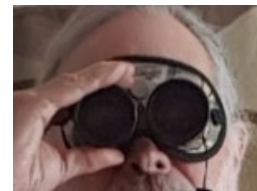
Introduction



Welcome, especially to new readers, to June's **Binocular Sky** Newsletter. My intention in writing this monthly offering is to highlight some of the binocular targets for the coming month. It is primarily targeted at binocular observers (although many small telescope observers use it as well) in the UK, but should have some usefulness for observers anywhere north of Latitude 30°N and possibly even further south.

Even in southern Britain, we will not have astronomical darkness until mid-July (although we do have a few hours of astronomical twilight) so observing opportunities are necessarily limited.

The binocular planets, Uranus and Neptune are coming back into view (albeit difficult, especially early in the month), and we still have Asteroid 1 (Ceres) available to users of small binoculars.

This month we have a mini-review of a useful little accessory, the *Bino Bandit* (p 9).



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The Deep Sky

(Hyperlinks will take you to finder charts and more information about the object.)

In the northern sky we can see [NGC 457 \(The Owl Cluster\)](#), [NGC 663](#) in Cassiopeia and the [Perseus Double Cluster](#). One of the finest and best-placed open clusters available in the evening this month is [Melotte 111](#), the cluster that gives Coma Berenices its name. More open clusters are becoming visible in the south-eastern sky as the Ophiuchus region rises. These include [Melotte186](#), [NGC 6633](#) and [IC4665](#), all of which are easily visible in 50mm binoculars.

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.

While you are in the region of Ophiuchus, see if you can find [Barnard's Star](#). This has the largest known [proper motion](#) of any star. Although it is visible in 50mm binoculars from a dark site, it is considerably easier in larger glasses and I recommend a minimum of 70mm.

In June, 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. Look out for the two galaxy trios in Leo ([M95/96/105](#) and [M65/66/NGC3628](#)) which are now moving into the western sky, and [Markarian's Chain](#) in Coma Berenices, which is very well placed as we enter astronomical twilight. If you have a big binocular, also observe the edge-on [NGC4565 \(Berenice's Hair Clip\)](#), which is next to [Melotte 111](#).

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 technology consisted of rocks, sticks and bones.

[M81 \(Bode's Nebula\)](#) and [M82 \(The Cigar Galaxy\)](#), both of which are easy in a 50mm binocular, are well-placed this month. 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 when you look at M82.

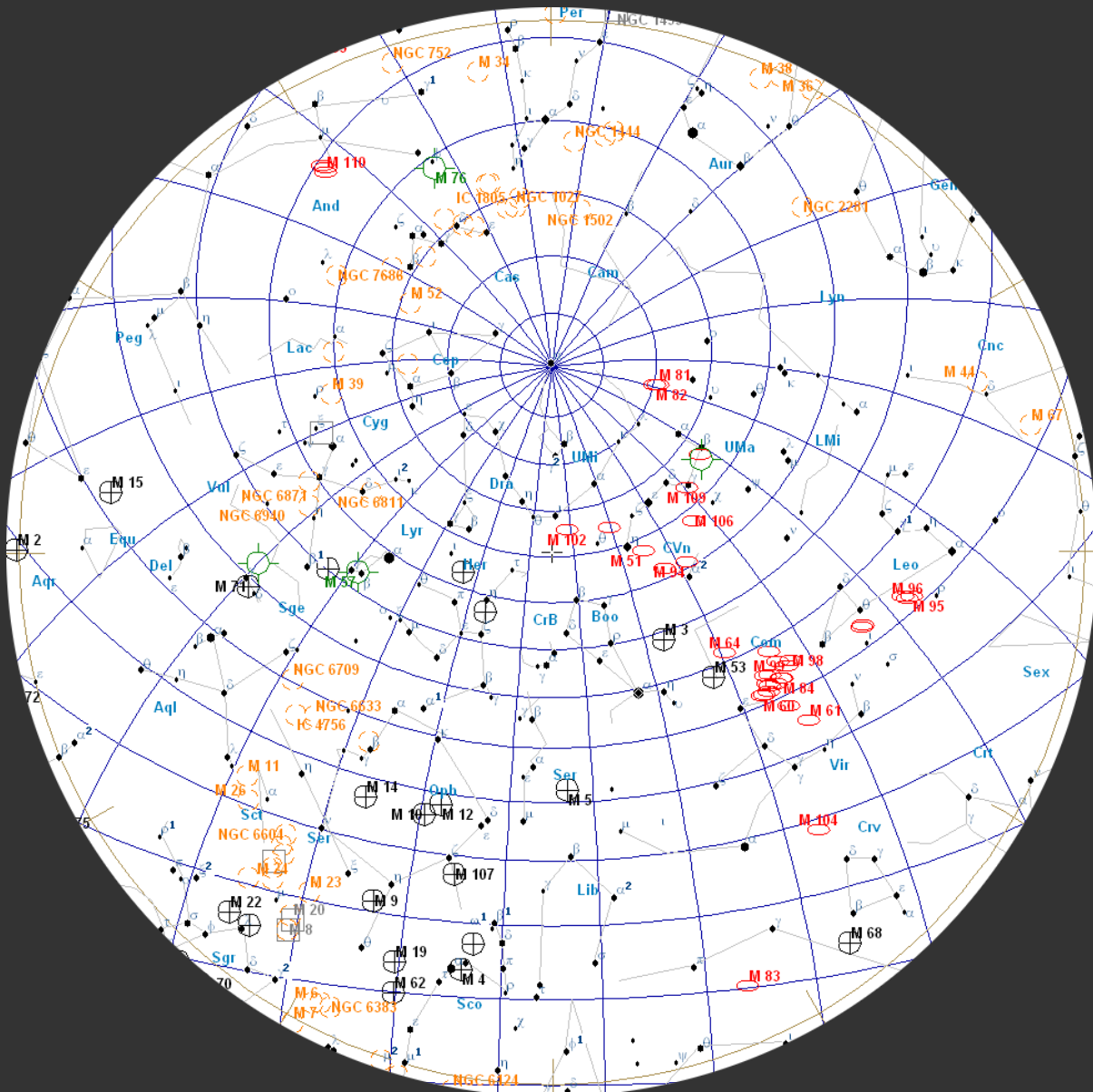
51°N

June 01, 23:00 UT

June 15, 22:00 UT

June 31, 21:00 UT

(chart is "clicky")



If you have good skies, try M51 (The Whirlpool) and M101 which, although it is a large object, is very difficult owing to its low surface brightness, although it is easier in say, 10x50 binoculars than an equivalent-priced small telescope.

The Canes Venatici globular cluster M3, is a good one to start with during a June evening's observing. Later in the evening, the two Hercules globulars, M92 and the very impressive, and very easy to find, M13 are at a better altitude for observation. Although M13 is clearly larger than M3, it is easier to resolve the outer stars of the latter one. Also visible this month is M5 in Serpens, which is one of the largest globular clusters known, being 165 light years in diameter and the very impressive and very easy to find M13 are at a better altitude for observation. Although M13 is clearly larger than M3, 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.

This month we can also see M5 in Serpens, which is one of the largest globular clusters known, being 165 light years in diameter. Its apparent size is nearly as large as the Moon.

If you have binoculars of at least 100mm aperture, see if you can find and identify NGC 6572, a planetary nebula in Ophiuchus. It looks stellar, even at 40x, but you can identify it by its colour; I see it as green (but apparently younger people can see it as blue – what do you see?).

Planetary Nebulae are short-lived (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 appearance of giant ghostly planets.

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

http://binocularsky.com/map_select.php

June Deep Sky Objects by Right Ascension

Object	Con	Type	Mag	RA (hhmmss)	Dec (ddmmss)
NGC 457 (the ET Cluster, the Owl Cluster)	Cas	oc	6.4	011932	581727
NGC 663	Cas	oc	7.1	014601	611406
NGC 884 and NGC 869 (the Perseus Double Cluster)	Per	oc	5.3	022107	570802
M81 (NGC 3031)	UMa	gal	7.8	095533	690401
M82 (NGC 3034)	UMa	gal	9.2	095554	694059
M95 (NGC 3351)	Leo	gal	10.6	104357	114211
M96 (NGC 3368)	Leo	gal	10.1	104645	114912
M105 (NGC 3379)	Leo	gal	10.5	104749	123449
M65 (NGC 3623)	Leo	gal	10.1	111855	130526
M66 (NGC 3627)	Leo	gal	9.7	112015	125924
Melotte 111	Com	oc	1.8	122430	260122
Markarian's Chain	Vir	gal	9.9	122611	125647
NGC 4565 (Berenice's Hair Clip)	Com	gal	9.9	123620	255914
M51 (NGC 5194, the Whirlpool Galaxy)	CVn	gal	8.9	132952	471144
M3 (NGC 5272)	CVn	gc	6.2	134211	282233
M101 (NGC 5457)	UMa	gal	7.7	140312	542057
M5 (NGC 5904)	Ser	gc	5.7	151833	020459
M13 (NGC 6205, the Great Hercules Globular Cluster)	Her	gc	5.8	164141	362738
M92 (NGC 6341)	Her	gc	6.4	171707	430812
IC 4665 (The Summer Beehive)	Oph	oc	4.2	174618	054300
Barnard's Star	Oph	st	9.5	175749	044136
Melotte 186	Oph	oc	3.0	180030	025356
NGC 6572	Oph	pn	9.0	181206	065113
NGC 6633	Oph	oc	4.6	182715	063030

Variable Stars

Selection of binocular variables (mag < +7.5)			
Star	Mag Range	Period	Type
U Cep	6.8-9.2	2.5d (increasing)	Eclipsing binary
V1010 Oph	6.1-7	0.66d	Eclipsing binary
RR Lyr	7.06-8.12	0.57d	RR Lyr
TX UMa	7.0-8.8	3.06d	Eclipsing binary
AF Cyg	6.4-8.4	92.5	Semi-regular
ZZ Boo	6.7-7.4	4.99d	Eclipsing binary
U Sge	6.5-9.3	3.38d	Eclipsing binary
U Vul	6.7-7.5	7.99d	Cepheid
SU Cyg	6.4-7.2	3.84d	Cepheid
X Cyg	5.9-6.9	16.39d	Cepheid

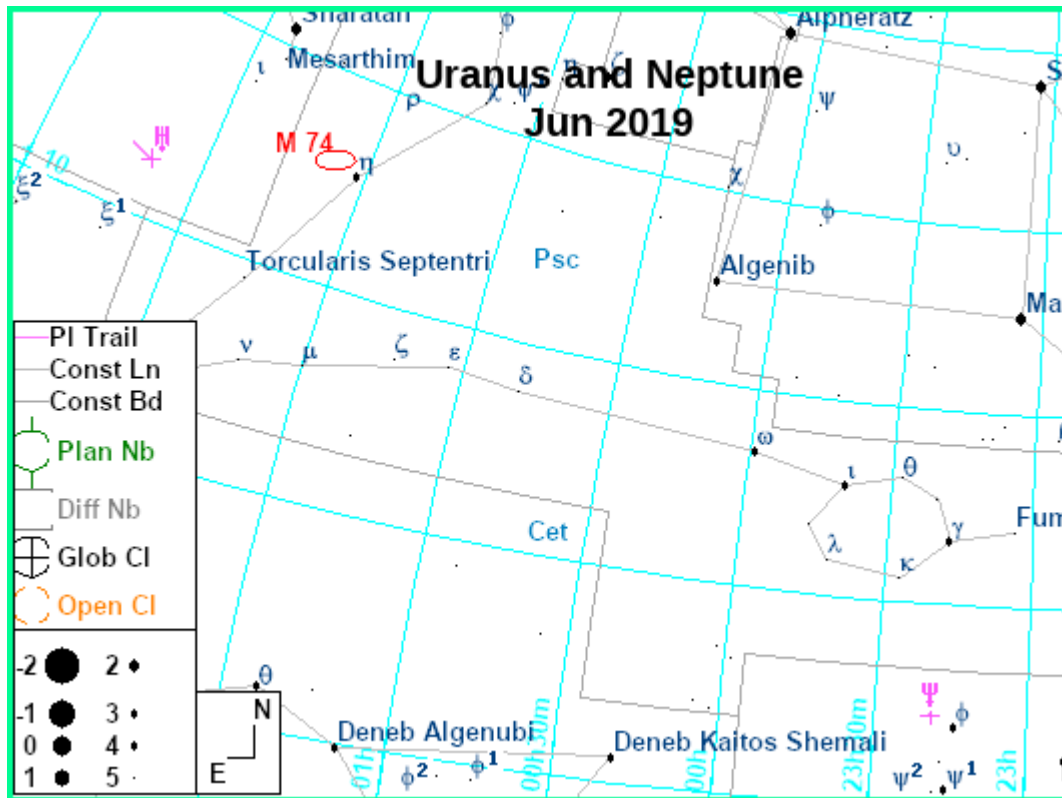
Mira-type stars near predicted maximum (mag < +7.5)		
Star	Mag Range	Period (days)
R Aqr	5.2-12.4	387
R Ser	5.2-14.6	356.4

Double Stars

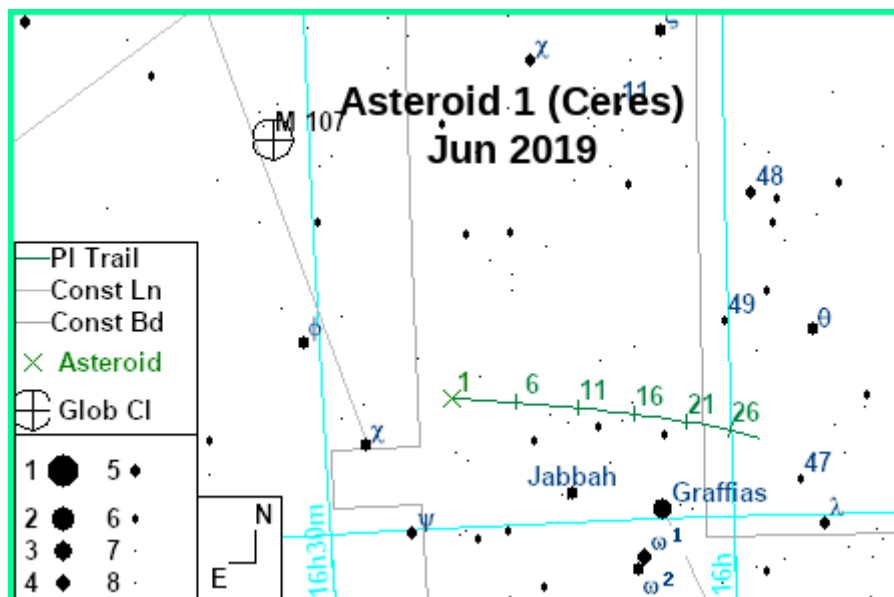
Binocular Double Stars for June			
Star	Magnitudes	Spectral Types	Separation (arcsec)
67 Oph	4.0, 8.1	B5, A	54
ρ Oph	5.0, 7.3, 7.5	B5, A, B3	151, 157
53 Oph	5.7, 7.4	A2, F	41
γ Her	3.7, 9.4	F0, K	43
δ Boo	3.5, 7.8	K0, G0	105
μ Boo	4.3, 7	F0, K0	109
ι Boo	4.0, 8.1	A5, A2	38
ν Boo	5.0, 5.0	K5, A2	628
DN & 65 UMa	6.7, 7.0,	A3, B9	63
π -1 UMi	6.6, 7.2	G5, G5	31
δ Cep	4.1, 6.1	F5, A0	41

The Solar System

The binocular planets, the ice giants **Uranus** and **Neptune**, are theoretically visible in dawn nautical twilight at the beginning of the month, and become slightly less difficult (although not easy, owing to their low altitudes) as June progresses.



Asteroid 1 (Ceres) culminates before midnight at the beginning of the month, but gets gradually more difficult as it fades from mag +7.0 to +7.8 by month end.



Asteroid Occultations

There are no predicted asteroid occultations of stars mag +7.5 or brighter, observable from the UK, this month.

The Moon

June 03	New Moon
June 10	First Quarter
June 17	Full Moon
June 25	Last Quarter

Lunar Occultations

Data are for my location and may vary by several minutes for other UK locations. The types are **(D)**isappearance, **(R)**eappearance and **(Gr)**aze; they are all dark-limb events unless there is a **(B)**.

Lunar Occultations, May 2019, 50.9°N, 1.8°W							
Date	Time	Phase	Star	Spectral Type	Magnitude	Cusp Angle	Position Angle
Jun 07	21:13:16	D	80 Cnc	A0	6.9	47N	63
Jun 25	01:02:57	R	33 Psc	K1	4.6	63N	273
Jun 26	02:28:28	R	20 Cet	M0	4.8	44S	201

Public Outreach & Talks

This month I will be at the following public events; please do come and say "Hello" if you're there.

11 th :	Civil Service Pensioners Alliance (Bournemouth)	Star Tales (storytelling)
14 th :	<u>Hampshire Astronomy Group</u>	Ten Ways the Universe Tries to Kill You (lecture)
23 rd :	<u>Hengisbury Head Visitor Centre</u>	Solar Observing (public outreach)
28 th :	<u>Vectis AS</u>	Time and Calendars (lecture)

It's also worth preparing for the UK's original (& still the best) Astronomy and Music festival.



Equipment Reviews

I managed to time last month's review of the **Hi-Gear 'Vermont' Folding Chair** managed to be timed just as it was becoming unavailable. The **Vango Hampton Deluxe Reclining Chair** seems to be very similar and is a new model, so should be around for a while.

This month we look at the **Bino Bandit**.



The *Bino Bandit* is a cowl that fits over the eyepieces of your binoculars with the intention of shielding your eyes from unwanted light. It was developed for people interested in wildlife, and I first tried it on my “field” binoculars and was impressed with its effectiveness, ease of use, and comfort.



It's constructed of a supple neoprene-based fabric that has a plush black inner lining. The outside comes in a variety of “camo” options, including a dark grey one (“*Stealth Shadow*”) that I imagine will be the favourite for astronomers but, frankly, the outer colour makes no difference to its efficacy and, in the dark, no-one can see it anyway, so just get whatever is available.

It will fit over a wide variety of eyepiece diameters; the manufacturer reckons 32mm and up, and several people have opined that it would probably rip if it was stretched over anything as big as the Lunt/APM (46mm) binoculars' eyepieces. It doesn't.



The *Bino Bandit* is designed for centre-focus binoculars, so I was concerned that it might interfere with individual eyepiece focusing when it is in use. Whether it does or not depends on the binocular design. On my Lunt 16x70, 10x50 and Vixen 3.5x32, it doesn't. On my little Vixen 2.1x42 it does interfere but, since we tend not to refocus during an observing session, this is of little importance: just fold it down to focus.

The first thing I noticed about it in use is that it immediately confers an immersive experience, day or night.



I found that my attention was directed entirely on what was visible in the eyepiece and that peripheral goings-on were excluded. Its ability to shut out an eye-watering chill winter breeze is also a welcome feature, although this isn't entirely without a potential negative effect: when the eyepieces get very cold, the lack of air circulation can trap the air moistened by your eyes so that condensation occurs; this is easy to remedy by folding down one or both sides. (The same condensation can also occur with eyecups, so this isn't a "new" disadvantage.)

Another nice touch will appeal to those of us who find that untethered eyepiece caps get mislaid or dropped and/or that dangling tethered rainguard caps can become annoying: the side-flaps of the *Bino Bandit* buckle together to protect the eyepieces, when they are not in use, as a sort of makeshift rainguard. For protection from descending debris and dew, this is as effective as a tethered rainguard, but much less intrusive.



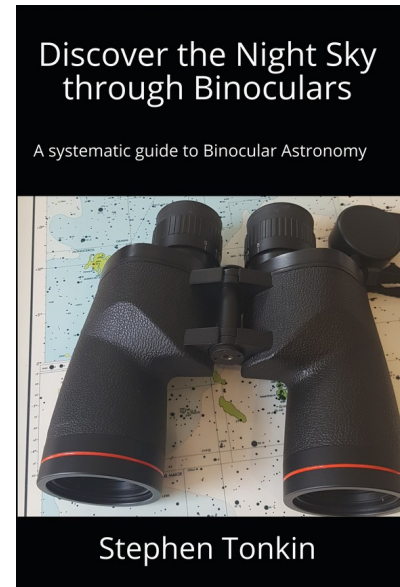
Its availability and price seems to vary quite a lot but, at the time of writing, the least expensive options seem to be [Vortex Optics](#) (£18) in the UK and [Amazon](#) (\$19.99) in the USA – but it will probably be worth looking around. (I did find it for only \$14.99 in the USA, but postage made it more expensive, especially to the UK, where it was quoted as \$69.99 by the cheapest method!)

The price does seem a lot for what it is, but it is a really useful little item and you can transfer it amongst binoculars. I haven't had it long enough to comment on its longevity, but there's not a lot to go wrong in normal use and neoprene-based fabrics are usually pretty resilient.

I like it and, as finances permit, I will be getting more so I don't need to swap them over.

The **Binocular Sky Newsletter** will always be free to anyone who wants it, but if you would like to support it, there are a number of options:

- Purchase one of my books, **Binocular Astronomy** or **Discover the Night Sky through Binoculars**. Click on the cover image for more information.
- Make a purchase via the affiliate links in the [Binocular Sky shopfront](#)
- Make a small [PayPal](#) donation to newsletter@binocularsky.com



Wishing you Clear Dark Skies,
Steve Tonkin
for
The Binocular Sky

Acknowledgements:

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Variable star data based on *The International Variable Star Index*
Occultation data derived with Dave Herald's *Occult*

Disclosure: Links to *Amazon* or *First Light Optics* may be affiliate links

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