



# The Binocular Sky

No. 140  
August 2023



# Newsletter

## Introduction

Welcome, especially to our new subscribers, to August's **Binocular Sky** Newsletter. As most of you know, my intention here 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 almost all the objects can be seen from anywhere north of latitude 30°N and many of the even further south.

Astronomical darkness, albeit short-lived, has now returned for most of the UK – the observing season proper approaches! It also means we have a few more lunar occultations of bright stars than we've had for the last few months.

The binocular planets, ice giants **Uranus** and **Neptune**, are part of the planetary grouping in the morning sky and asteroid **Flora** becomes an object for small binoculars this month.

If you would like to receive the newsletter automatically each month, please complete and submit the [subscription form](#). You can get "between the newsletters" alerts, etc. via  and .

## The Deep Sky

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

As the sky darkens at twilight, in the north are [NGC 457](#) (the Owl Cluster) and [NGC 663](#) in Cassiopeia, the [Perseus Double Cluster](#), and [Stock 2](#) (the Muscleman Cluster). Also visible in Cassiopeia is the “[Eddie’s Coaster](#)” asterism, a lovely curve of stars that is not particularly apparent on star charts or images, but which is obvious in 10x50 binoculars. It is named for the late Eddie Carpenter, the West Country amateur who discovered it and has been delighting people with it for many years.

More open Clusters are visible in the southern sky in the region of Ophiuchus. These include [Melotte 186](#), [NGC 6633](#), [IC 4665](#) and [M11](#), The [Wild Duck Cluster](#), all of which are easily visible in 50mm binoculars. [M11](#), which is a cluster of over a thousand stars, benefits enormously from larger apertures and the higher magnification that permits more stars, including the “V”-shaped grouping that gives it its common name, to be revealed.

[IC 4665](#) benefits enormously from larger apertures and the higher magnification that permits more stars to be revealed. You should seek out a particularly attractive curved of bright white stars that forms part of the “Hi” asterism (inverted in binoculars from the Northern Hemisphere) that welcomes you to this part of the summer sky.

Even further to the south, culminating at around local midnight, is a group of open clusters in Serpens and Sagittarius that includes [M16](#) (the Eagle Nebula), [M17](#) (the Swan or Omega Nebula), [M23](#), [M24](#) (the [Sagittarius Star Cloud](#) – the densest accumulation of stars you will see with binoculars anywhere in our galaxy), and [M25](#).

*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’re in this region of the sky, the denser part of the Milky Way that forms the *Scutum Star Cloud* as a backdrop to [M25](#) is also worth

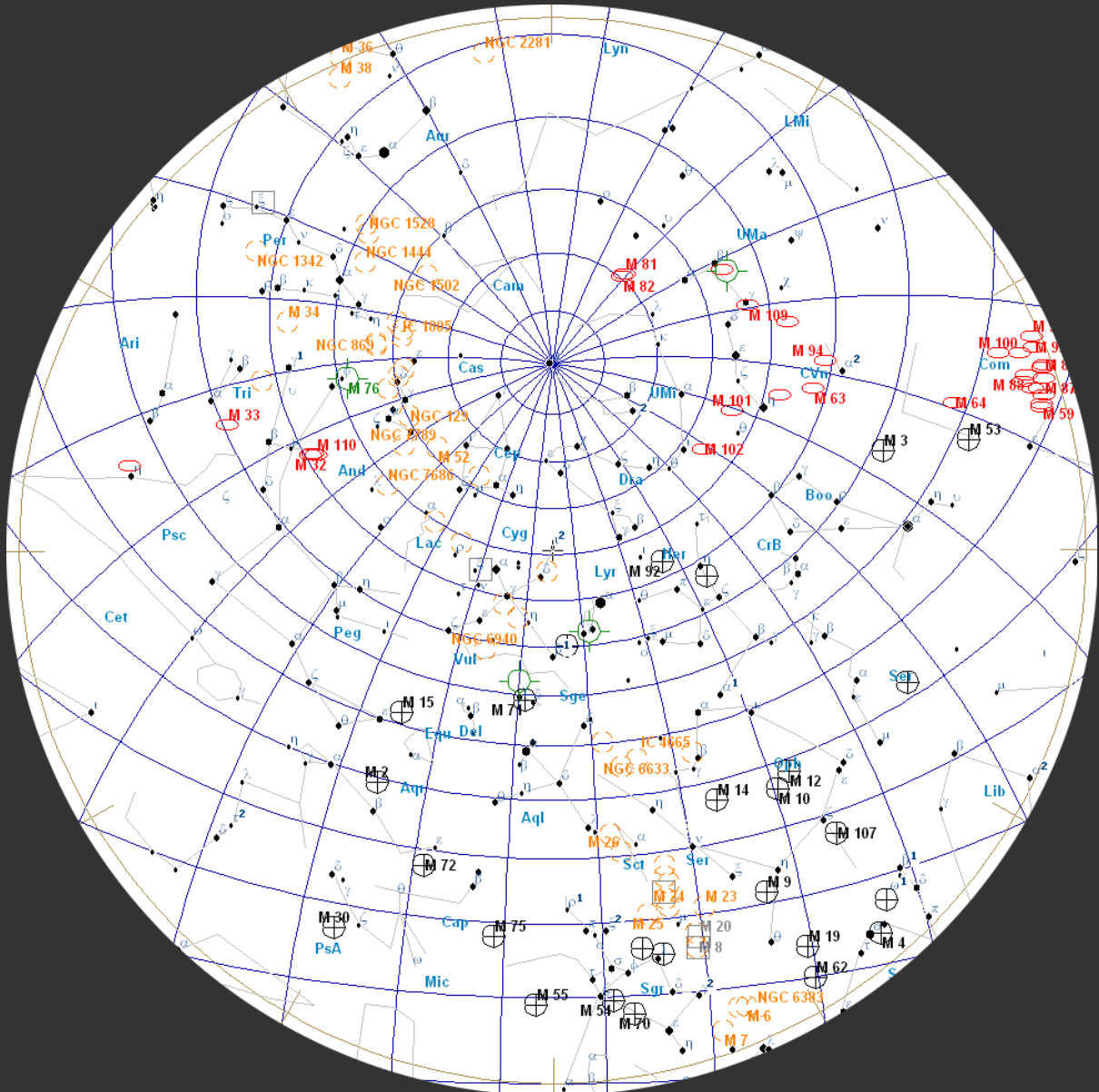
51°N

August 01, 23:00 UT

August 15, 22:00 UT

August 31, 21:00 UT

(chart is "clicky")



enjoying. Also, see if you can find Barnard's Star in Ophiuchus. 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 August, 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, try M51 (The Whirlpool) and M101 which, although it is a large object, is very difficult owing to its low surface brightness. The Great Andromeda Galaxy, M31, is also rising into the sky to a reasonable altitude this month. It is large and bright enough to be able to withstand quite a lot of light pollution 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 technology consisted of rocks, sticks and bones.*

The two Hercules globular clusters, 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, I find it to be easier to resolve the outer stars of the latter one (needs big binos).

*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.*

While you're in Hercules, using 70mm or larger binocs, see if you can find an asterism (informal group of stars) that was introduced by, and named for, the prolific American amateur astronomer, Phil Harrington in his catalogue: Hrr 7. Find *Kajam* ( $\omega$  Her) and pan 2° W to a golden 8<sup>th</sup> mag star which is part of a 1.3°-long chain of fainter stars that runs approximately north-south. Phil sees a zigzag, but others have seen a dragon, a long-tailed tadpole, and a flower. What do you see?

Also visible this month is 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 a Full Moon. At a reasonable altitude from the beginning

of the month are the very bright M15, M2 (which looks almost stellar at 10x50) and NGC 6934. This last cluster is very easy to see and is excellent for demonstrating how globular clusters respond to transparency. In apertures of around 70mm and upwards, almost all of them look larger as the sky becomes more transparent. NGC 6934 displays this to the greatest extent of any globular on which I have tested the phenomenon.

The easiest planetary nebula from the UK, M27, the Dumbbell Nebula – although I insist that it looks more like an apple core or a diabolo than a dumbbell! – is visible in the evening skies in even 30mm binoculars. At the other extreme, if you have binoculars of at least 100mm aperture, see if you can find and identify NGC 6572, a planetary nebula in Ophiuchus. Even in large glasses it looks stellar, but it has the distinction of being possibly the greenest object in the sky (but some see it as blue).

*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.*

There are two other objects which, owing to their southerly declination, are best observed this month. They are the two bright emission nebulae, M20 (the Trifid) and the larger, brighter and easier M8 (the Lagoon). They are only about a degree and a half apart, so they will fit into the same field of view of even quite large binoculars.

For interactive maps of Deep Sky Objects visible from 51°N, you can visit: [http://binocularsky.com/map\\_select.php](http://binocularsky.com/map_select.php)

### August Deep Sky Objects by Right Ascension

Object	Con	Type	Mag	RA (hhmmss)	Dec (ddmmss)
M31 (the Great Andromeda Galaxy)	And	gal	4.3	004244	411608
Eddie's Coaster	Cas	ast	7.0	010129	634005
NGC 457 (the ET Cluster, the Owl Cluster)	Cas	oc	6.4	011932	581727
NGC 663	Cas	oc	7.1	014601	611406
Stock 2 (the Musclemans Cluster)	Cas	oc	4.4	021434	591358
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
M51 (NGC 5194, the Whirlpool Galaxy)	CVn	gal	8.9	132952	471144
M101 (NGC 5457)	UMa	gal	7.7	140312	542057
M5 (NGC 5904)	Ser	gc	5.7	151833	020459
Harrington 7	Her	ast	9.0	161652	132255
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
M23 (NGC 6494)	Sgr	oc	5.5	175700	-190100
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
M24	Sgr	oc	4.6	181826	-182421
M16 (NGC 6611, the Eagle Nebula)	Ser	oc	6.0	181848	-134749
M17 (NGC 6618, the Omega Nebula or Swan Nebula)	Sgr	en	6.0	182048	-161059
NGC 6633	Oph	oc	4.6	182715	063030
M25 (IC 4725)	Sgr	oc	4.6	183146	-190654
M11 (NGC 6705, Wild Duck Cluster)	Sct	oc	5.8	185106	-061600
M27 (NGC 6853, the Dumbbell Nebula, the Apple)	Vul	pn	7.6	195936	224318
NGC 6934	Del	gc	8.8	203411	072415
M15 (NGC 7078)	Peg	gc	6.2	212958	121003

### Double Stars

Binocular Double Stars for August			
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
δ Cep	4.1, 6.1	F5, A0	41
γ Her	3.7, 9.4	F0, K	43
d 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
n 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

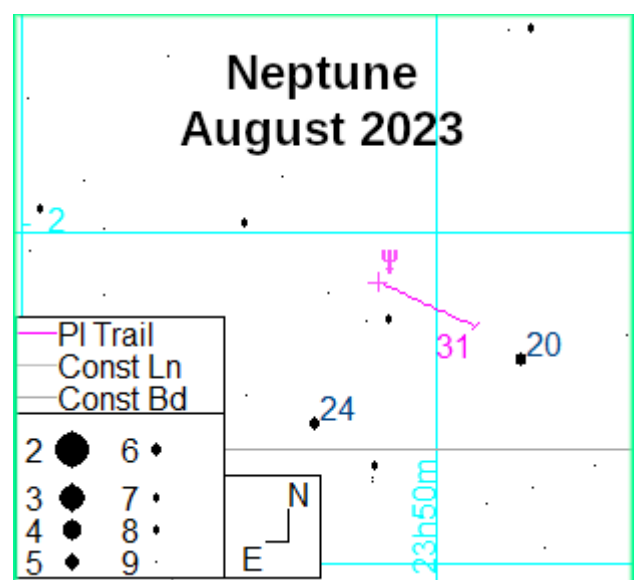
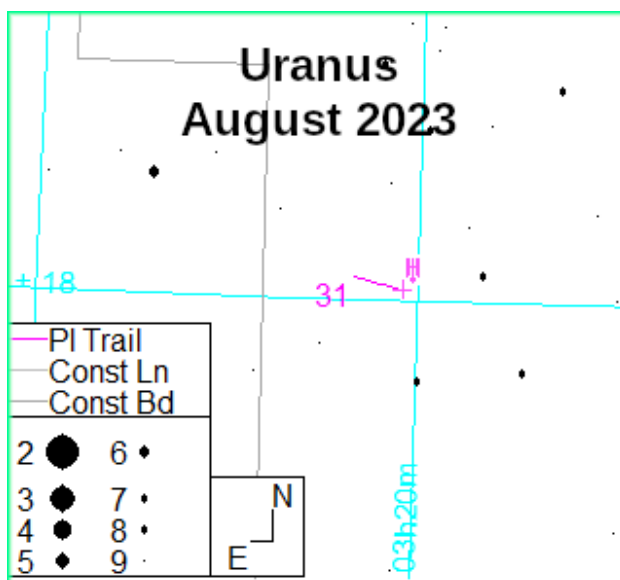
## Variable Stars

Selection of Binocular Variables (mag < +7.5)			
Star	Mag Range	Period	Type
U Cep	6.8-9.2	2.5d (increasing)	Eclipsing binary
EK Cep	8.2-9.5	4.3d	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
ZZ Boo	6.7-7.4	4.99d	Eclipsing binary
R Sge	8.0-10.4	71d, 1112 d	RV Tau
U Sge	6.5-9.3	3.38d	Eclipsing binary
DY Vul	8.4-9.7	–	Irregular
U Vul	6.7-7.5	7.99d	Cepheid
X Cyg	5.9-6.9	16.39d	Cepheid
SU Cyg	6.4-7.2	3.84d	Cepheid
AF Cyg	6.4-8.4	92.5	Semi-regular

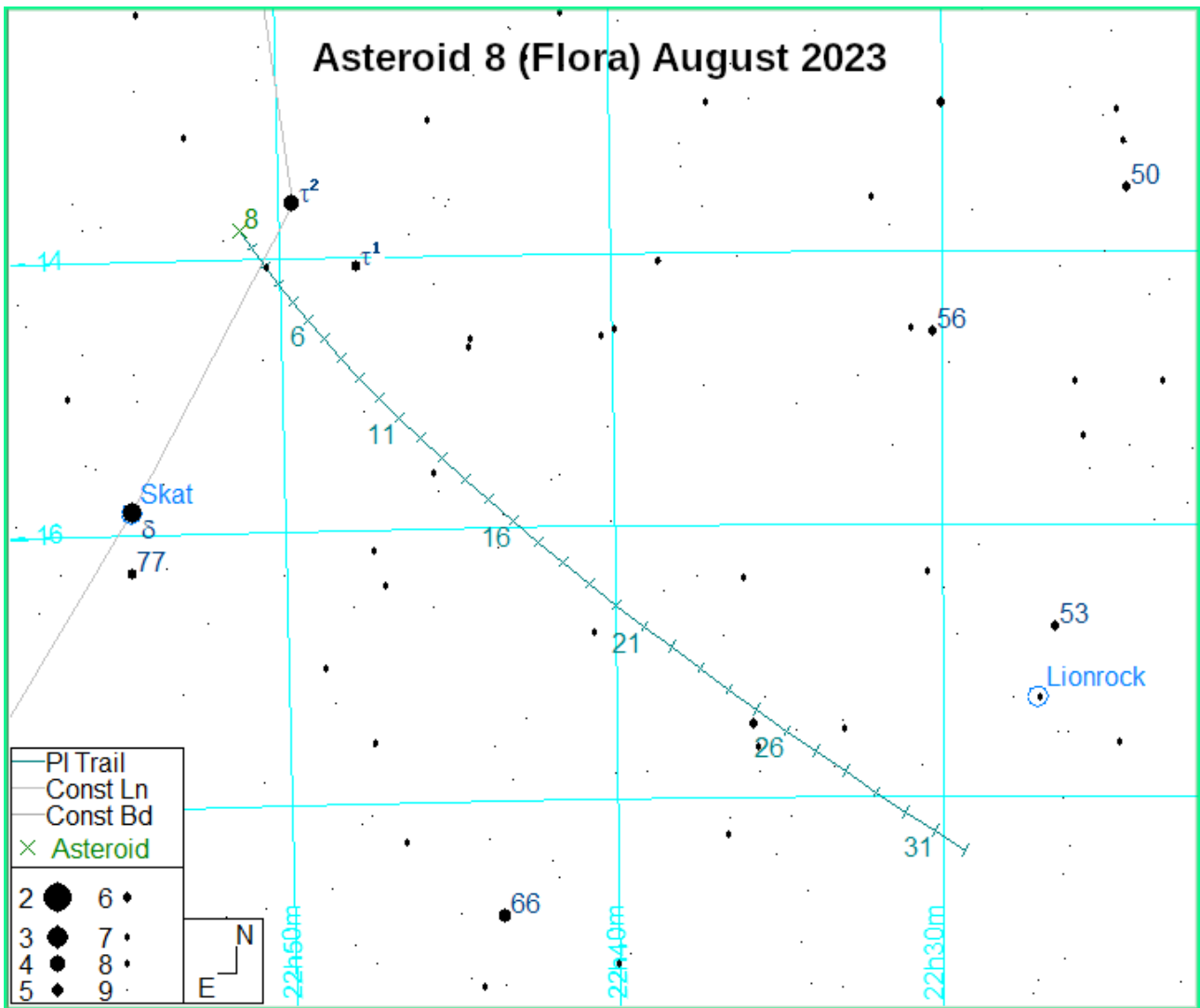
## The Solar System

*(Clicking on the charts in this section will take you to higher resolution ones)*

The ice giants **Uranus** (mag +5.8) and **Neptune** (mag +7.8), are best observed after midnight. They become gradually easier as August progresses



**Asteroid 8 (Flora)** is also coming within range of small to medium binoculars. It brightens from mag +9.2 to mag + 8.5 during the month and will continue to brighten into September.





## The Moon

August 01	Full Moon
August 08	Last Quarter
August 16	New Moon
August 24	First Quarter
August 31	Full Moon

## Lunar Occultations

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

Lunar Occultations, August 2023, 50.9°N, 1.8°W						
Date	Time	Phase	Star	Spectral Type	Magnitude	Cusp Angle
Aug 5	00:49:02	D	27 Psc	G9	4.9	-25N
Aug 5	01:32:49	R	27 Psc	G9	4.9	55N
Aug 5	02:42:25	D	29 Psc	B7	5.1	-36N
Aug 5	03:37:56	R	29 Psc	B7	5.1	69N
Aug 6	02:19:43	R	HIP 3992	K0	6.4	77N
Aug 9	01:29:31	R	HIP 15838	K5	6.8	33S
Aug 10	00:34:05	R	HIP 15838	K0	6.8	69N
Aug 11	01:57:47	R	HIP 24252	G5	6.8	42N
Aug 28	21:53:15	D	HIP 101384	A0	6.4	85N
Aug 29	21:38:25	D	38 Cap	F7	6.7	86N
Aug 29	22:00:25	D	37 Cap	F5	5.7	44N

## Public Outreach & Talks

None this month – taking August off!

### Zoom/Webex/Teams Talks?

I regularly give talks, on *Binocular Astronomy* and numerous other astronomical topics. I'd be happy to do this – including locations anywhere in the world on Zoom, Webex or Teams – if that is of interest.

**If you would like a talk for your society/group,**

**[Click here for current talks.](#)**

The **Binocular Sky Newsletter** will always be free to anyone who wants it.

Wishing you Clear Dark Skies,

**Steve Tonkin**

for

**The Binocular Sky**

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**Acknowledgements:**

The charts in this newsletter were prepared with Guide v9.0 from <http://projectpluto.com> or [Stellarium](#) under [GNU Public License](#), incorporating Milky Way panorama ©Axel Mellinger

Variable star data based on *The International Variable Star Index*

Occultation data derived with Dave Herald's *Occult*

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