



The Binocular Sky

May
2018

Newsletter

Introduction



Welcome to May's **Binocular Sky** Newsletter. For those who are new to it, the intention of this monthly offering is to highlight some of the binocular targets for the coming month. It is primarily targeted at binocular observers (although I know that many small-scope 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.

The nights are getting shorter: even in southern Britain, the duration of astronomical darkness decreases from about 4 hours to none at all during the month; for this reason, observing opportunities are becoming limited.

That said, there's still a lot to see, even in twilight skies and, as binocular observers with our combination of maximum portability and minimal set-up time, we are well suited to take advantage of what there is.

Highlights this month include Asteroid 4 (Vesta), which is brightening nicely.

My habit of leaving everything to the last minute has some benefits: just as I was about to go to press, reports of a possible binocular-visible nova in Perseus reached me from a reader (thanks, Alberto!). Just hoping that I'm not jumping the gun with a false alarm. See page 7 for a finder chart.

If you would like to receive this 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.)

The [trio of open clusters](#) in Auriga and [M35](#) in Gemini are still visible low in the West as twilight darkens. While you are looking at [M35](#), also see if you can identify two smaller open clusters, [NGC 2158](#), which is half a degree to the SE, and the somewhat more difficult [IC 2157](#), which is a degree to the ESE. Also in the West, but slightly higher are [M44](#) ([Praesepe](#)) and [M67](#), two fine open clusters in Cancer. [M67](#) is interesting from an astrophysics perspective, as it contains numerous Sun-like stars, so their study aids our understanding of our own star.

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.

Also visible in the North are [NGC 457](#) ([The Owl Cluster](#)) and [NGC 663](#) in Cassiopeia and the [Perseus Double Cluster](#). The finest and best-placed open cluster available this month is [Melotte 111](#), the cluster that gives Coma Berenices its name.

In May, 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](#). Also 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.

*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!*

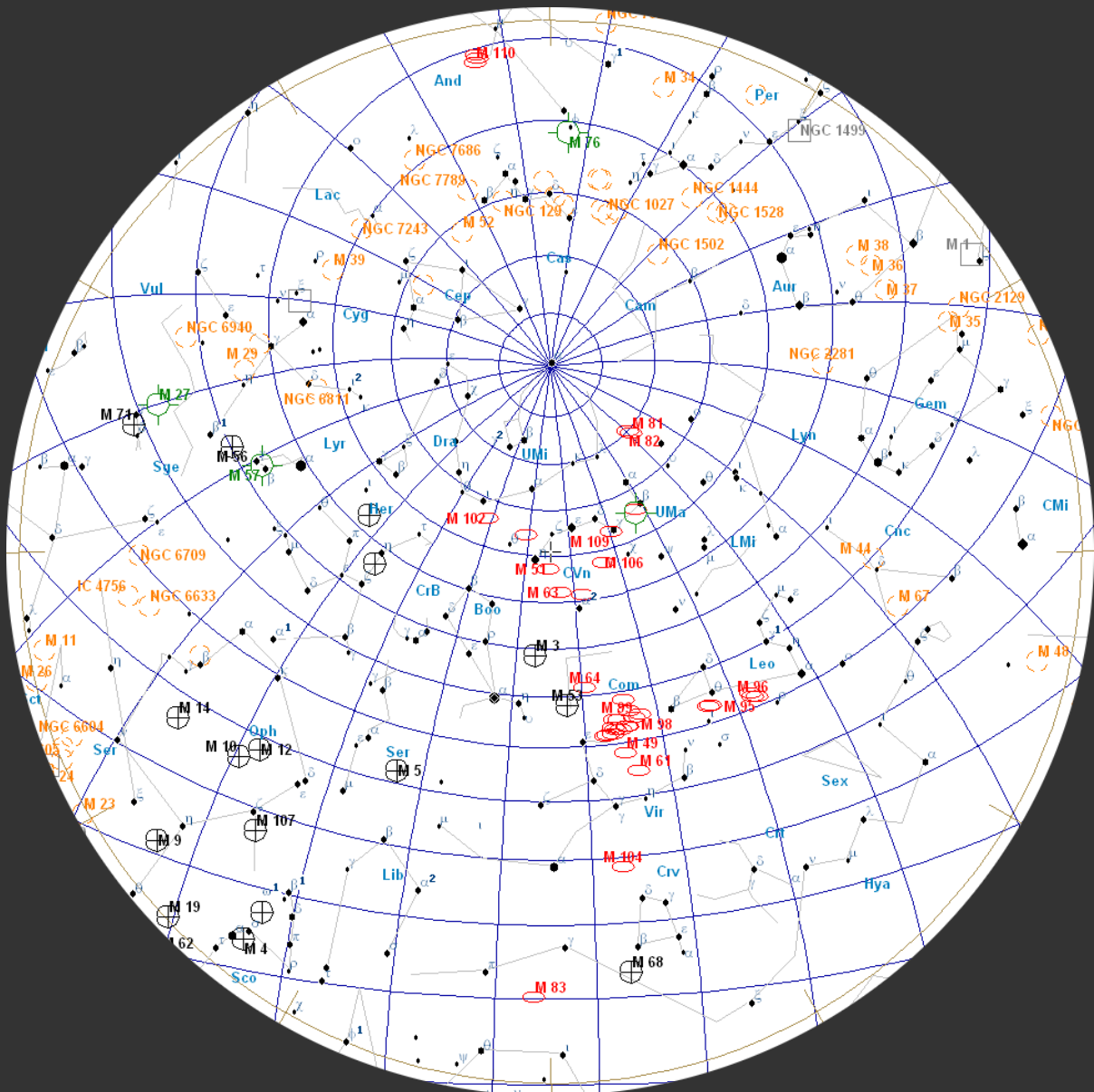
51°N

May 01, 23:00 UT

May 15, 22:00 UT

May 31, 21:00 UT

(chart is "clicky")



Of the globular clusters, M3 is a good one to start with during a May 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 becoming visible in May evenings is M5 in Serpens.

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.

If you have binoculars of at least 100mm aperture, see if you can find and identify NGC 4361, a planetary nebula in Corvus. It is a difficult object because it is low in the sky, even from southern Britain.

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.

May 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
M38 (NGC 1912)	Aur	oc	6.4	052842	355117
M36 (NGC 1960)	Aur	oc	6.0	053617	340826
M37 (NGC 2099)	Aur	oc	5.6	055218	323310
M35 (NGC 2168)	Gem	oc	5.1	060900	242100
M44 (NGC 2632, Praesepe, the Beehive Cluster)	Cnc	oc	3.1	083957	194020
M67 (NGC 2682)	Cnc	oc	6.9	085124	114900
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
NGC 4361	Crv	pn	10.3	122430	-184705
Markarian's Chain	Vir	gal	9.9	122611	125647
NGC 4565 (Berenice's Hair Clip)	Com	gal	9.9	123620	255914
M63 (NGC 5055, the Sunflower Galaxy)	CVn	gal	8.6	131549	420159
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

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

http://binocularsky.com/map_select.php

Variable Stars

Selection of binocular variables (mag < +7.5)			
Star	Mag Range	Period	Type
AA Cam	7.5-8.8	Irreg	Irregular
Y Lyn	7.2-7.8	110d	Semi-regular
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

Mira-type stars near predicted maximum (mag < +7.5)		
Star	Mag Range	Period (days)
R Cyg	7.5-13.9	426
U Ori	6.3-12.0	368

NB: U Ori is a twilight-only object, and hence quite tricky.

Double Stars

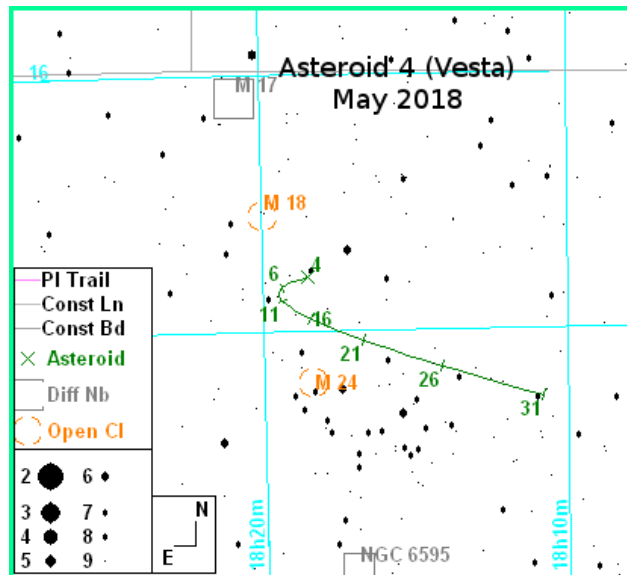
Binocular Double Stars for May			
Star	Magnitudes	Spectral Types	Separation (arcsec)
67 Oph	4.0, 8.1	B5, A	54
ρ Oph	5.0, 7.3, 7.5	B5, A, B3	151, 157
53 Oph	5.7, 7.4	A2, F	41
δ Cep	4.1, 6.1	F5, A0	41
γ Her	3.7, 9.4	F0, K	43
ν Boo	5.0, 5.0	K5, A2	628
DN & 65 UMa	6.7, 7.0,	A3, B9	63
π -1 Umi	6.6, 7.2	G5, G5	31
ν Dra	4.9, 4.9	A5, A5	62
39 Dra	5.1, 7.9	A2, F8	89

The Solar System

Neptune is theoretically visible at mag. +7.9, but even at the end of the month is it very low down at the onset of nautical twilight, so is not really worth getting out of bed (or staying up) for.

Uranus is unavailable until mid-June.

Asteroid 4 (Vesta) is low down in Sagittarius, but brightens from mag +6.5 to 5.8 during the month, so is good for binocular observation.
(chart is "clicky")



Comets

There are no comets suitable for small to medium binoculars this month.

Meteor Showers

The η Aquarids, which rarely produce bright meteors, are already active but their peak on the night of the 4th/5th will suffer maximum disruption from a waning gibbous Moon. Another shower that, this year, is one that is primarily for meteor aficionados.

Asteroid Occultations

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

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**). There is nominally a grazing occultation of *57 Ori* on the 17th, but this takes place during civil twilight and, as the star is 6th magnitude, it's not really a realistic observing opportunity for typical binocular observers.

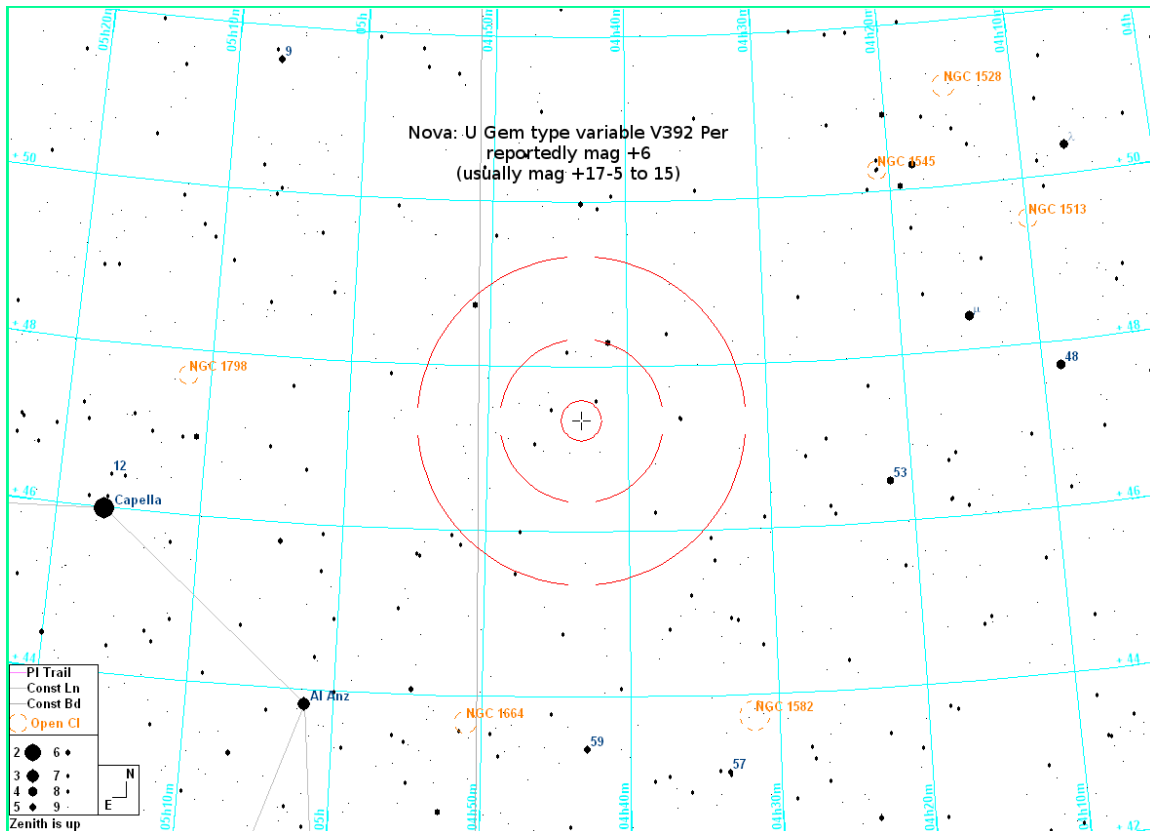
The Moon

May 08	Last Quarter
May 15	New Moon
May 22	First Quarter
May 29	Full Moon

Lunar Occultations, May 2018, 50.9°N, 1.8°W							
Date	Time	Phase	Star	Spectrum	Magnitude	Cusp Angle	Position Angle
08 May	02:54:08	R	iota Cap	G8	4.3	22N	320
19 May	22:54:19	D	HIP 39535	B9	6.2	55N	67
26 May	23:15:10	D	HIP 69823	K0	6.6	25N	51

Stop Press: Possible Nova in Perseus

Just as I was going to press, I received notification of a possible bright (mag +6.2) nova in Perseus, possibly V392 Per (which is usually mag +15-17.5). You can see more details [here](#). Here is a finder chart for V392 Per (click on it for a higher resolution version). The rings are for Telrad: 0.5°, 2°, and 4°.



(chart is "clicky")

Public Outreach & Talks

During May I will be at the following public event; please do come and say "Hello" if you attend:

11th: Plymouth AS **Binocular Astronomy** (Talk)

Later in the year, in August at Builth Wells, Powys, I will be offering a *Binocular Astronomy Workshop* as part of the **SolarSphere festival**:

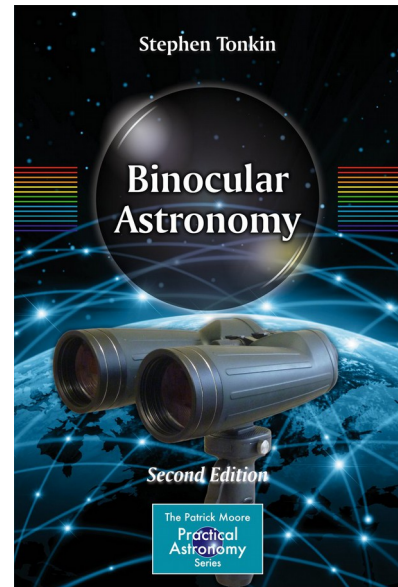


For those who like to mix music, camping and astronomy, **Solarsphere** boasts a good dark site (with a "red light only" camping option for observers), decent showers/loos, good craic, and is very family-friendly.

I'll also be giving a talk (*Pseudoastronomy – Planet X, Zetans and Lost Civilisations*).

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 my book, [Binocular Astronomy](#):
Click on the image for more information
- Make a purchase via the affiliate links in the [Binocular Sky shopfront](#)
- Donate to my [Binoculars for Astronomical Outreach](#) crowdfunder.



Wishing you Clear Dark Skies,

Steve Tonkin

for

[The Binocular Sky](#)

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 David Levy's *Observing Variable Stars*
Occultation data derived with Dave Herald's *Occult*

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