



The Binocular Sky

No. 90
May 2019

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. There's a review of a chair that can make these sessions more comfortable.

We have a couple of Mira stars near maximum, for those of you who enjoy observing these stars.

The binocular planets, Uranus and Neptune are effectively out of our range until late summer mornings, but we do have Asteroid 1 (Ceres) available to users of small binoculars.

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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.

Towards midnight, or later, the open clusters in the summer Milky Way such as [IC 4665 \(the Summer Beehive\)](#), [Melotte 186 \(Poniatowski's Bull\)](#), and [M11 \(the Wild Duck cluster\)](#) are better placed.

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

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.

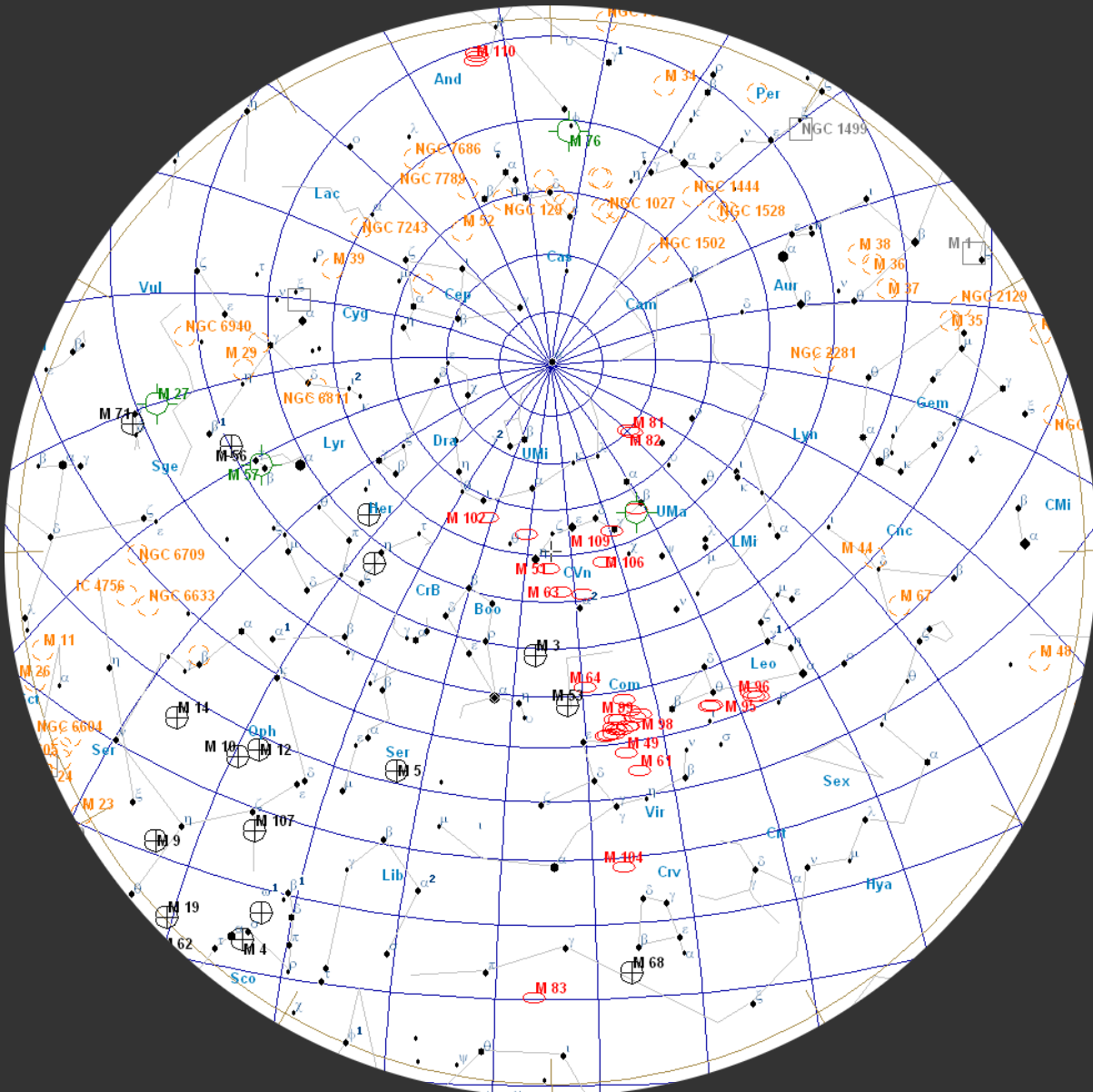
51°N

May 01, 23:00 UT

May 15, 22:00 UT

May 31, 21:00 UT

(chart is "clicky")



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.

You'll see from the chart that the globular clusters are becoming better placed in the evening. Of these, 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. M5 in Serpens is also becoming visible in May evenings.

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. Another planetary that is a challenge is NGC 6572 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.

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

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
IC 4665 (The Summer Beehive)	Oph	oc	4.2	174618	054300
Melotte 186 (Poniatowski's Bull)	Oph	oc	3.0	180030	025356
NGC 6572	Oph	pn	9.0	181206	065113
M11 (NGC 6705, Wild Duck Cluster)	Sct	oc	5.8	185106	-061600

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

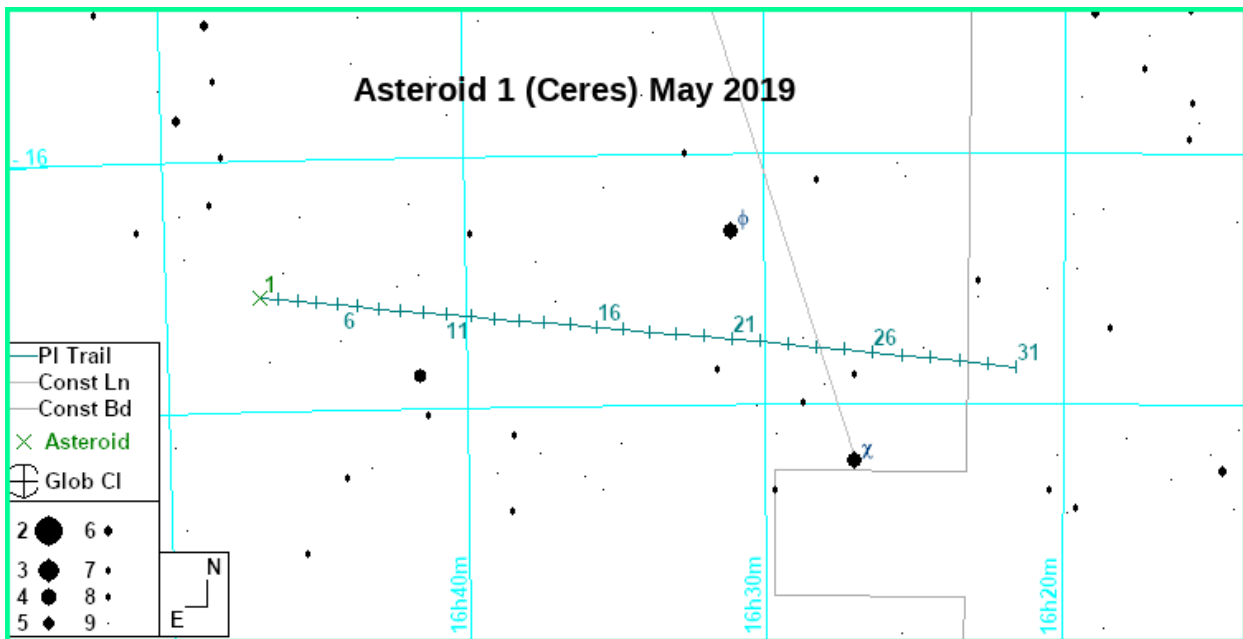
Mira-type stars near predicted maximum (mag < +7.5)		
Star	Mag Range	Period (days)
R Aql	5.5-11.5	270.5
R Ser	5.2-14.6	356.4

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

The binocular planets, the ice giants **Uranus** and **Neptune**, cannot be satisfactorily observed with binoculars this month. However, early morning observers can catch **Asteroid 1 (Ceres)** in Ophiuchus, as long as you have a low enough southern horizon (it's only about 9° N of *Antares*). It gets easier as it brightens from mag +7.6 at the beginning of the month, to +6.9 at opposition on the 28th, then fades slightly to +7.0 on the 31st. On the 23rd, it passes 1° N of χ *Oph*.



Asteroid Occultations

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

The Moon

May 04	New Moon
May 12	First Quarter
May 18	Full Moon
May 26	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
May 07	21:28:40	D	HIP 25668	K0	7.3	52N
May 08	20:38:43	D	HIP 30588	G5	6.5	55N
May 09	21:09:58	D	HIP 36152	F6	6.5	44N
May 09	21:29:36	D	63 Gem	F5	5.3	59N
May 19	22:15:06	R	HIP 81745	F3	5.6	83N

Public Outreach & Talks

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

13 th :	Kings Lynn and District AS	Binocular Astronomy (lecture)
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It's also worth preparing for the UK's original (& still the best) Astronomy and Music festival.



Equipment Review

Hi-Gear 'Vermont' Folding Chair

Available from camping shops at about £30

My search for the "ideal" portable-ish setup continues. I imagine most of us would value a versatile, robust and comfortable reclining chair for a few hours of observation with hand-held binoculars.

The *Hi-Gear Vermont* has a steel frame, breathable synthetic mesh fabric seat and back, and moulded plastic arms. It weighs about 4.5 kg.

I bought this as a chair that would double for camping use, and for observing while on camping trips. Although it's OK outside the tent, it's a bit tall for inside, but I have found that it makes an excellent garden chair. Its



reclining back has five positions (locked by indents in the arms) that range from near vertical (ideal for use at the table) to an angle of about 40° above the horizontal, and incorporates a moveable pillow. There is no lower leg rest.

As a binocular chair, the recline angle is sufficient to

enable easy observation close to the zenith. I find that placing the pillow under my upper neck is ideal and makes high-elevation observing very comfortable, either with hand-held binos or with mounted ones. The lack of lower-leg rest is a minor irritant. It's sufficiently comfortable overall that I have dozed off to sleep on it. The frame tubes easily support a Manfrotto Magic Arm, if you want to use one of those to hold your binocular. (That'll be the subject of a future review.)

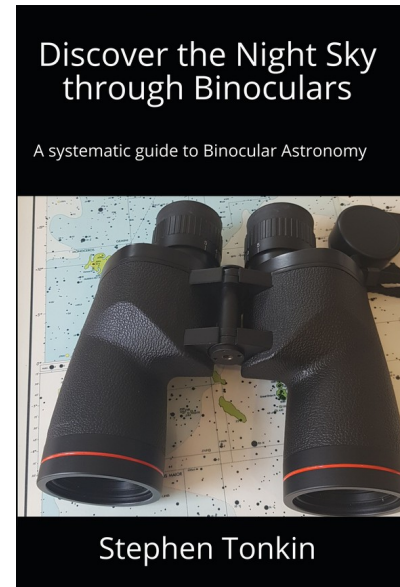
Where portability is concerned, it is light enough to be easily carried a few hundred metres if necessary, and folds up small enough to easily be stowed in the car, either behind a front seat or in the boot.

It's had several hundred hours of use since I bought it, and shows little sign of wear. The only niggles are the absence of a lower leg rest (but that would add to the weight) and that, for some reason, it is awkward to open from the folding position (possibly says more about the user than the product!).



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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