



The Binocular Sky

No. 137
May 2023

Newsletter

Introduction



Welcome to May's **Binocular Sky** Newsletter.

As regular readers will know, my intention is to highlight some of the binocular targets for the coming month. This is primarily intended for visual astronomers, with binoculars or small telescopes, in the UK, but it should have some utility for observers anywhere north of Latitude 30°S and possibly even further south (if you are further south, please let me know!)

In the Solar System, we have lost the ice giants, Uranus and Neptune, into the solar glare, but there are some other planetary events that binoculars will help with.

In the deep sky, the "realm of galaxies" is now very convenient for evening observation and the more southerly zodiacal constellations are becoming visible in the pre-dawn.

I hope it helps you get the best out of these rapidly shortening nights.

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The Deep Sky

(Hyperlinks will take you to finder charts and more information on the objects.)

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.

[NGC 457](#) ([The Owl Cluster](#)) and [NGC 663](#) in Cassiopeia and the [Perseus Double Cluster](#) are also visible in the north. 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.

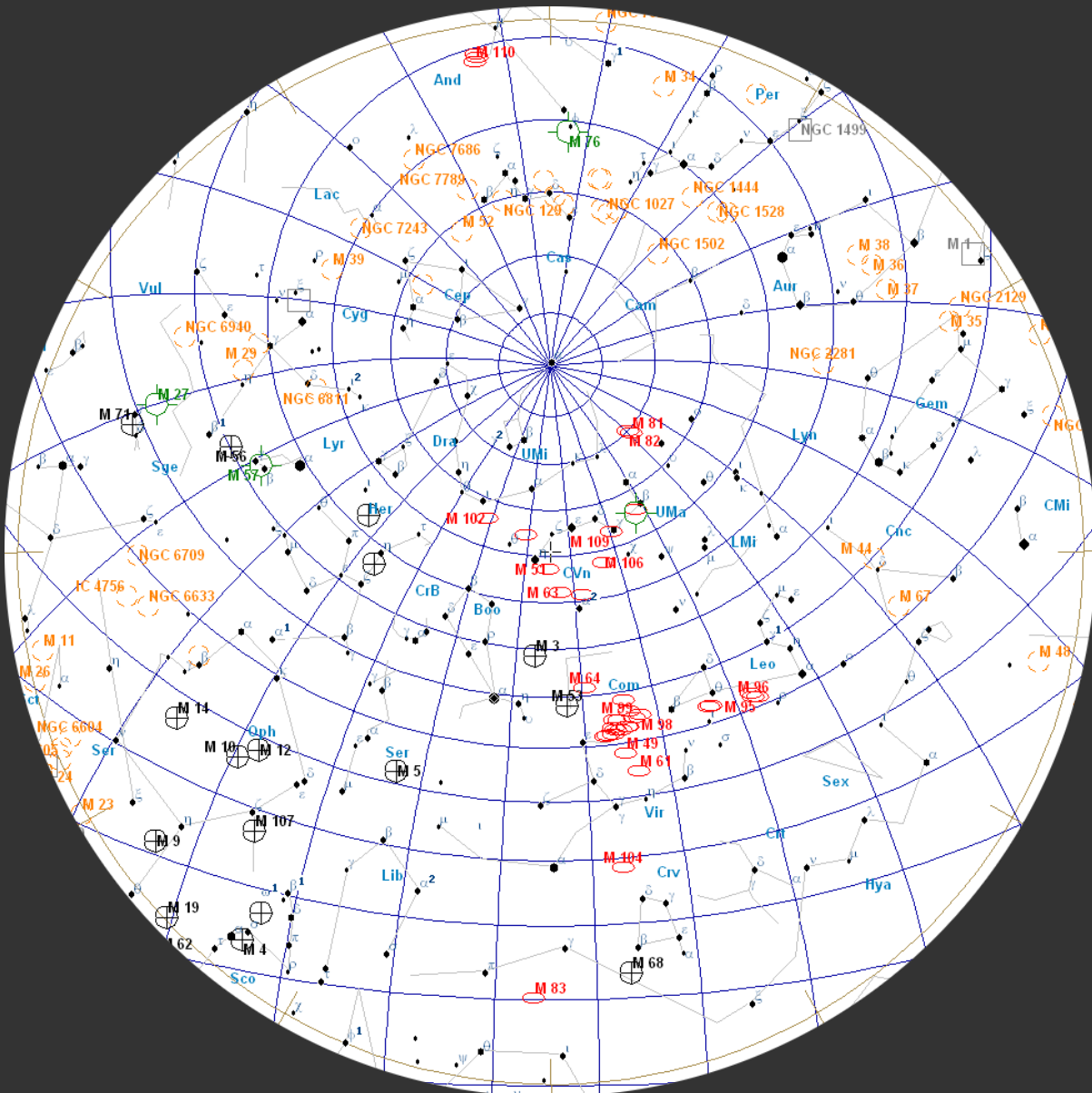
51°N

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 and, therefore, lower

contrast against the background sky.

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 M92, it is easier to resolve the outer stars of the latter one. M5 and M53 are also well placed in May evenings and, later in the night the Ophiuchus globulars become easier. You can use the same averted vision "trick" suggested for M81 & M82 with M10 and M12 to enhance the distinctly brighter core of M10.

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 nebula 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, you can visit: https://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
M53 (NGC 5024)	Com	gc	7.6	131255	181010
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
M12 (NGC6218)	Oph	gc	6.6	164714	-015649
M10 (NGC 6245)	Oph	gc	6.6	165708	-040556
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

Mira-type stars near predicted maximum (mag < +7.5)		
Star	Mag Range	Period (days)
U Ori	4.8-13	377
R Aql	5.5-12	270.5
R Ser	5.2-14.4	356.4

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

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

The Solar System

The Moon

May 05	Full Moon
May 12	Last Quarter
May 19	New Moon
May 27	First Quarter

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 the Cusp Angle is negative.

Lunar Occultations May 2022 50.9°N 1.8°W						
Date	Time (UT)	Phase	Star	Spectral Type	Magnitude	Cusp Angle
May 3	00:37:10	D	HIP 61578	F5	7.0	40N
May 26	23:37:33	D	HIP 49445	F2	6.4	61S
May 30	01:05:09	D	eta Vir	A2	3.9	30S

Planets

The binocular planets, **Uranus** and **Neptune**, are not visible this month, but there are a few planetary events that binoculars may help with.

17th: a 7% illuminated crescent Moon rises about 4.7° to the right of Jupiter an hour before sunrise.

23rd: Venus is 1.7° from the lunar limb at 10:49 UT. This should be naked-eye visible, but binoculars will help if the sky is hazy.

29th: Mercury is at greatest western elongation, but the ecliptic is very shallow to the horizon in the northern hemisphere, so this will not be an easy observation, despite it being 24° from the Sun.

Public Outreach & Talks

If you're at any of these, do come and say hello (or give me a virtual "wave" if it's on Zoom). Dates are UT. "Z" = Zoom. "H" = Hybrid

May 4 th	Trudoxhill PC	The Right Light at Night
May 15 th	West of London AS	Two Eyes Are better Than One
May 19 th	Fordingbridge AS	How Old Is It?

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

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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