



The Binocular Sky

No. 135
March 2023

Newsletter

Introduction

Welcome to March'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!)

At the last dark of the Moon, I finished a weekend of events for Cranborne Chase AONB International Dark Sky Reserve **StarFest** – advocating for responsible outdoor lighting at night (ROLAN) is slow work, but it's heartening that more people are beginning to realise that it's an issue that needs addressing. I will give a presentation, **The Right Light at Night**, to any group that wants to know more; details [here](#).

In the Solar System, **Uranus** is still available in the evening – just – but will be a difficult observation by the end of the month.

Occultation watchers on a track from Islay to Winchelsea have a graze to look forward to in the early hours of the 2nd.

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 on the objects.)

One of the most noticeable things about the night sky in March is how rapidly the nights shorten as we approach the equinox. Take the opportunity of a last look at some of those winter favourites before they are lost to us for several months. The [Pleiades \(M45\)](#) and the [Great Orion Nebula \(M42\)](#) culminate before Civil Twilight ends, as do the [trio of open clusters](#) in Auriga, and M35 in Gemini. 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 slightly more difficult IC 2157, which is a degree to the ESE. The two Messier objects in Cancer, [M44 \(Praesepe\)](#) and [M67](#), both fine open clusters, are well placed in the evening. Note how the brighter stars in both of these clusters are concentrated near the middle. This is due to a phenomenon called mass segregation: gravitational interactions between heavy and light stars cause the latter to move faster, and hence further, from the centre of the cluster. Lower in the southern sky are more open clusters [M46](#), [M47](#) and, near Sirius, [M41](#).

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.

In the north, the rather indistinct open cluster, [NGC1502](#), is brought to prominence by an asterism, that is named [Kemble's Cascade](#), in honour of Fr. Lucian Kemble, a Canadian amateur astronomer and Franciscan friar, who discovered it with a 7x35 binocular. He described as *"a beautiful cascade of faint stars tumbling from the northwest down to the open cluster NGC 1502."* It is one of the most pleasing objects in small and medium binoculars, although the imagination of it being a ribbon waterfall plunging into a splash-pool needs some gravity-defying modification because, in spring evenings, the waterfall flows upwards!

One of the best objects for small binoculars is [Melotte 111](#), the cluster that gives *Coma Berenices* its name. In Greek mythology, it is the hair of Queen Berenice, and the Romans saw it as the veil dropped by Thisbē in

Although The Great Andromeda Galaxy, M31 and M33 (The Pinwheel), are sinking lower into the evening twilight, they are still observable this month. M31 is still a naked eye object in moderately dark skies. It is large and bright enough to be able to withstand quite a lot of light pollution (which makes it available to urban observers). M33 has a low surface-brightness and benefits from lower magnification. This generally makes it easier to see in, say, a 10x50 binocular than in many "starter" telescopes. High in the northern sky, the Ursa Major pair of Bode's Nebula (M81) and the Cigar Galaxy (M82) are conveniently placed for most of the night. Later in the evening, look out for the galaxy trios in Leo (M95/96/105 and M65/66/NGC3628) and Markarian's Chain in Coma Berenices rising in the west, although they are not at their best until after midnight. If you have a big binocular, also observe the edge-on NGC4565 (Berenice's Hair Clip), which is next to Melotte 111, the cluster that gives Coma its name. A galaxy in this region that is often ignored, owing to the lack of nearby bright stars, is NGC 3521, which is bright enough to be sometimes visible with averted vision in a 10x50, although I suggest a minimum of 70mm for ease of observation. It is considerably larger than any of the M95/96/105 trio and is as bright as M96.

If you have binoculars of 70mm aperture or (preferably) greater, see if you can find and identify The Ghost of Jupiter (NGC 3242), a planetary nebula in Hydra. It is a difficult object because it is low in the sky, even from southern Britain.

If you missed it last month, take this opportunity to appreciate Herschel's Garnet Star, μ Cep, which is at a comfortable elevation early in the evening. The wide field of medium-sized binoculars enables you to hold it in the same field as Alderamin (a Cep), so you can appreciate the colour difference.

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.

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.

Lastly, if you enjoy colourful star-fields, take a look around the “back” of Leo, where there are some very pretty groups of stars within the rectangle bounded by β , δ , θ , and *93 Leonis* and, later this month, the region just to the south of *σ Virginis*.

For interactive maps of Deep Sky Objects visible from 51°N, you can visit: https://binocularsky.com/map_select.php

March Deep Sky Objects by Right Ascension

Object	Con	Type	Mag	RA (hhmmss)	Dec (ddmmss)
M45 (the Pleiades)	Tau	oc	1.6	034729	240619
Kemble's Cascade	Cam	ast	9.0	035752	630711
R Leporis (Hind's Crimson Star)	Lep	vs	8.2	045936	-144821
M38 (NGC 1912)	Aur	oc	6.4	052842	355117
M42 (NGC 1976, The Great Orion Nebula)	Ori	en	4.0	053517	-052325
M36 (NGC 1960)	Aur	oc	6.0	053617	340826
σ Orionis	Ori	ms	3.8	053845	-023553
M37 (NGC 2099)	Aur	oc	5.6	055218	323310
M35 (NGC 2168)	Gem	oc	5.1	060900	242100
M41 (NGC 2287)	CMA	oc	4.5	064559	-204515
M47 (NGC 2422)	Pup	oc	4.4	073634	-142846
M46 (NGC 2437)	Pup	oc	6.1	074146	-144836
M44 (NGC 2632, Praesepe, the Beehive Cluster)	Cnc	oc	3.1	083957	194020
M67 (NGC 2682)	Cnc	oc	6.9	085124	114900
NGC 3242 (the Ghost of Jupiter)	Hya	pn	8.6	102446	-183833
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
NGC 3521	Leo	gal	10.0	110548	-000215
M65 (NGC 3623)	Leo	gal	10.1	111855	130526
M66 (NGC 3627)	Leo	gal	9.7	112015	125924
Leo star fields	Leo	stars	>5.5	113000	174500
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
μ Cep (Herschel's Garnet Star)	Cep	vs	4.0	214330	584648

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
AR Cep	7.0-7.9	116	Semi-regular
RX Cep	7.2-8.2	55	Semi-regular
TX Psc	4.8-5.2	-	Irregular
RR Lyr	7.06-8.12	0.57d	RR Lyr
TX UMa	7.0-8.8	3.06d	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
TW Peg	7.0-9.2	90, 956	Semi-regular

Double Stars

Binocular Double Stars for March			
Star	Magnitudes	Spectral Types	Separation (arcsec)
α Leo	1.4, 8.1	B8, G	176
7 Leo	6.3, 9.3	A0, F8	41
τ Leo	5.0, 7.4	K0, G5	89
δ Cep	4.1, 6.1	F5, A0	41
62 Eri	5.4, 8.9	B9, B8	67
τ Tau	4.3, 7.0	B5, A0	63
ν Gem	4.1, 8.0	B5, A0	113
ζ Gem	4.0, 7.6	G0, G	101
ι Cnc	4.0, 6.0	G5, A5	31
65 Uma	6.7, 7.0	A3, B9	63
α Cvn	2.9, 5.5	A0, F0	17.5

The Solar System

The Moon

March 07	Full Moon
March 15	Last Quarter
March 21	New Moon
March 29	First Quarter

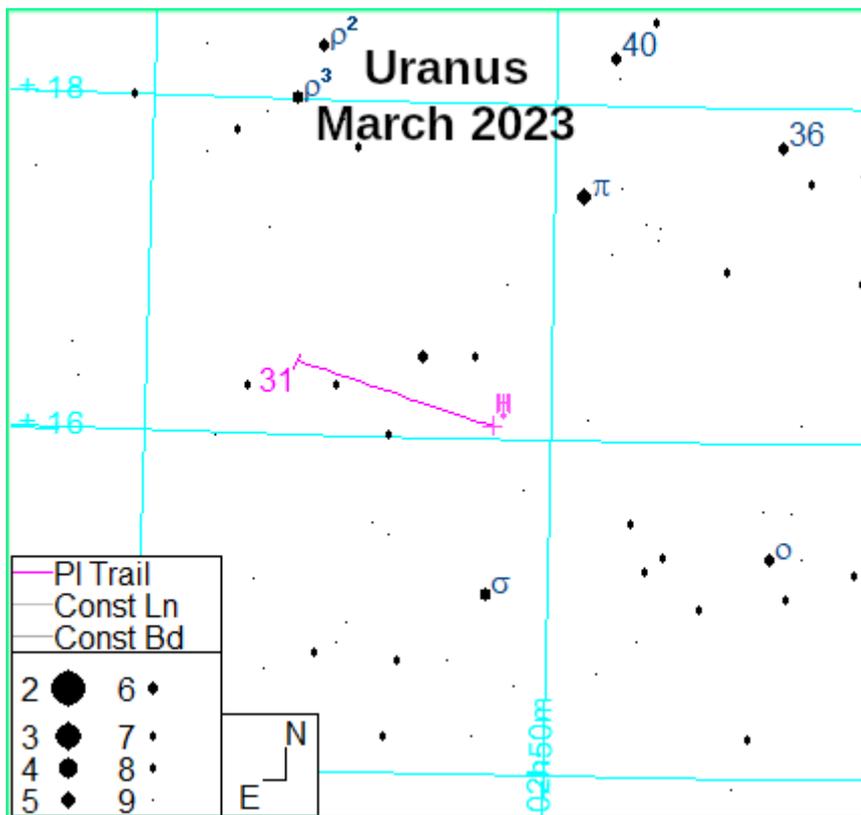
Lunar Occultations

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. The highlight is the grazing occultation of HIP 32689 on the 2nd. The graze track runs from Islay to East Sussex.

Lunar Occultations March 2023 50.9°N 1.8°W						
Date	Time (UT)	Phase	Star	Spectrum	Magnitude	Cusp Angle
Mar 2	02:19:36	Gr	HIP 32689	A2	6.7	3.2N
Mar 3	02:58:30	D	76 Gem	K5	5.3	44N
Mar 5	03:06:27	D	HIP 46155	G7	6.5	55N
Mar 13	02:35:59	R	HD 139202	A1	7.0	49N
Mar 15	04:01:29	R	NSV 23046	K5	6.8	41N
Mar 25	21:27:56	D	HIP 17026 Tat	A*	6.5	34S
Mar 29	18:11:15	D	47 Gem	A4	5.8	37S
Mar 29	18:58:10	D	NSV 3453	F8	6.6	35N
Mar 29	19:02:21	R	47 Gem	A4	5.8	-37S
Mar 29	21:30:54	D	HIP 35253	G7	6.5	58S
Mar 29	22:47:56	D	HIP 35494	G8	7.0	56N
Mar 31	03:04:03	D	Iam Cnc	B9	5.9	86S

Planets

Uranus (mag +5.8) is now fading slightly and is only visible as an early evening object in Aries, so it's best observed as soon as the sky is dark enough. It starts the month between η and σ *Arietis*; and moves 1.2 degrees eastwards during the month. It's much brighter than any of the field stars except those already mentioned, so is easy to identify.



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.

Mar 9 th	StarQuest AC	Time and Calendars
Mar 10 th	6d Handley Social Group	The Cranborne Chase IDSR
Mar 16 th	Swallowcliffe Parish Meeting	The Right Light at Night
Mar 23 rd	Cornwall AS	Ten Ways the Universe Tries to Kill You (Z)
Mar 28 th	Birmingham AS	The Right Light at Night (Z)

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, 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.**
- Make a small PayPal donation to newsletter@binocularsky.com

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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