



The Binocular Sky

No. 102
May 2020

Newsletter



Introduction

I hope May's **Binocular Sky** Newsletter finds you in good health in these unusual times. 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 be pretty useful for observers anywhere north of Latitude 30°N and I know we have some subscribers south of the equator.

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 (local lockdown rules permitting, of course) and minimal set-up time, we are well suited to take advantage of what there is.

I think it was David Levy who opined that comets are like cats: *They have tails and do what they want*. True to form, the over-hyped **C/2019 Y4 (ATLAS)** disintegrated and faded, but we have a new kid on the block in the form of **C/2020 F8 (SWAN)** (page 7), discovered on a SOHO image and named for the **Solar Wind ANisotropies** camera that took the image.

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.)

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

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.

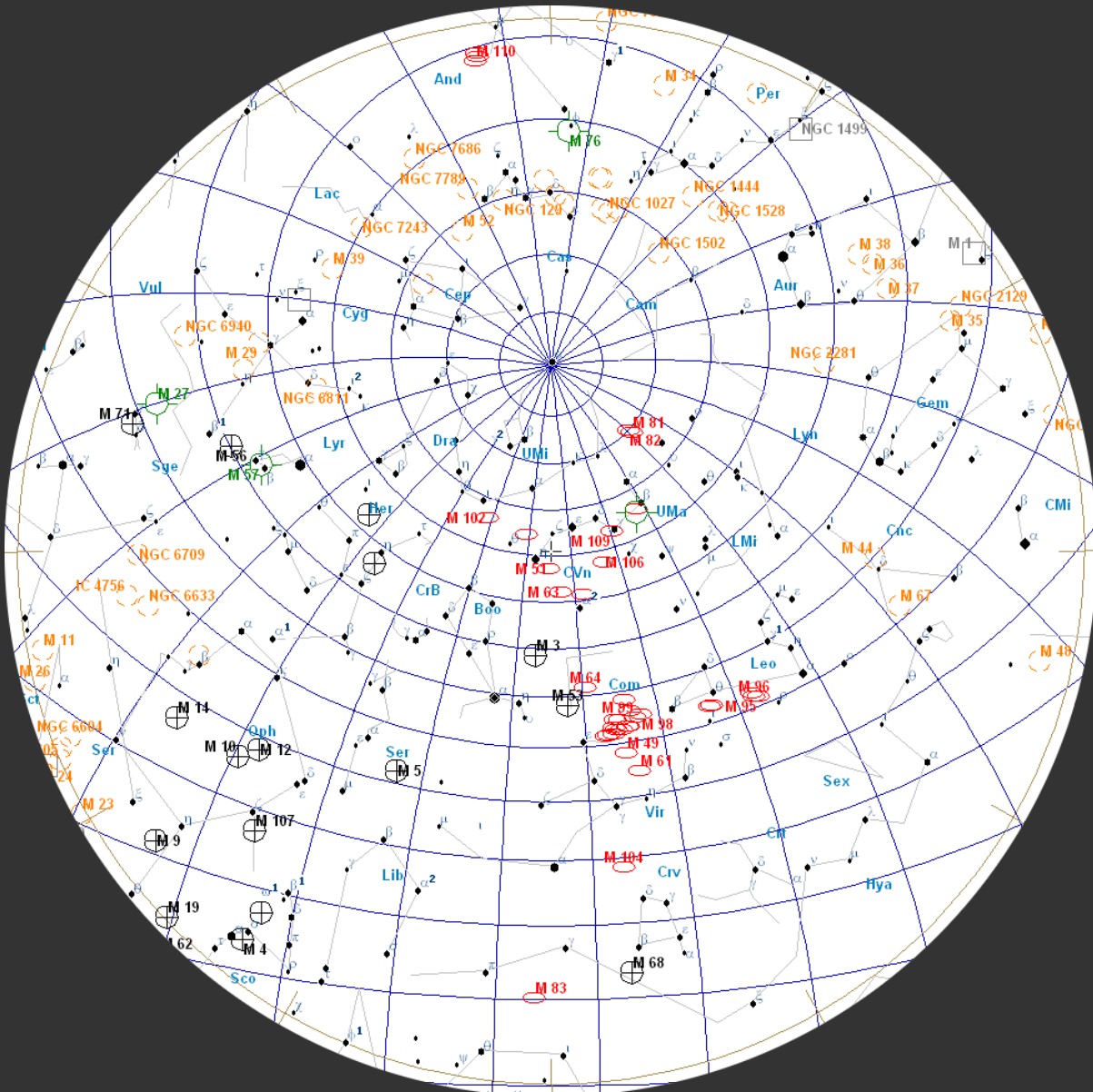
51°N

May 01, 23:00 UT

May 15, 22:00 UT

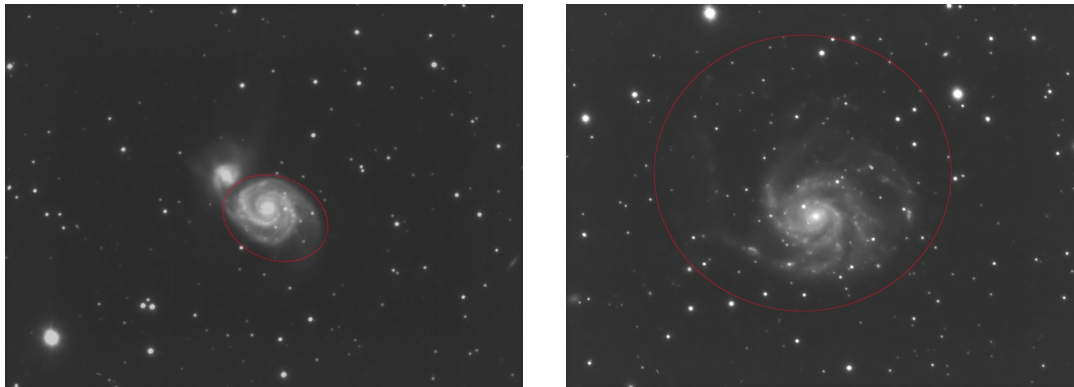
May 31, 21:00 UT

(chart is "clicky")



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 and, therefore, lower contrast against the background sky. These images of the two galaxies were taken with exactly the same camera settings and processed in exactly the same way; the red ellipses give the approximate extent of the galaxies and you can see how much fainter overall M101(right hand image) is:



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.

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.

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.

For interactive maps of Deep Sky Objects visible from 51°N, you can 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)
W And	6.7-14.6	397
U Ori	4.8-13.0	377
R Ser	5.2-14.4	356

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

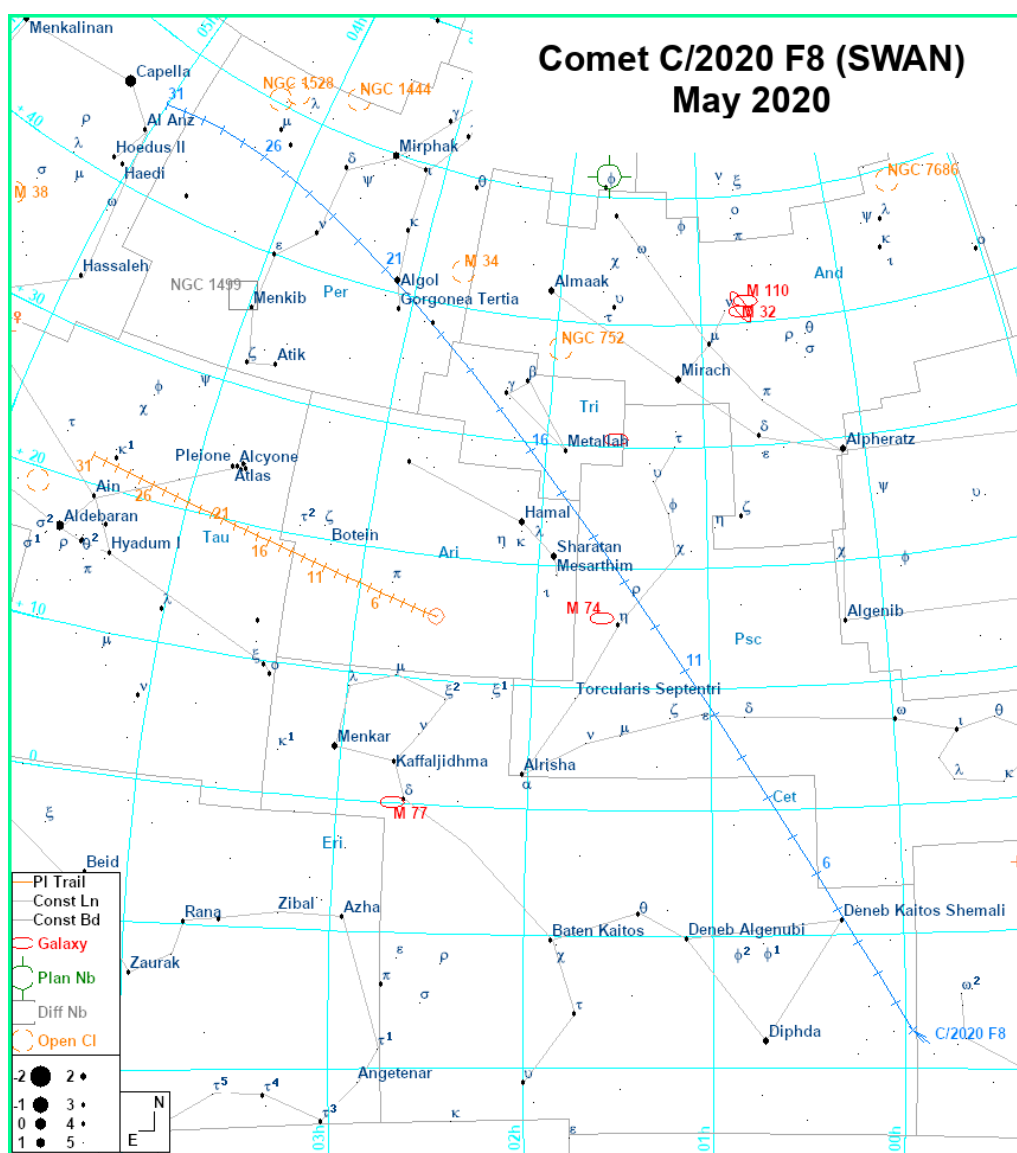
The Solar System

(Clicking on the charts below will take you to higher resolution ones)

Comets

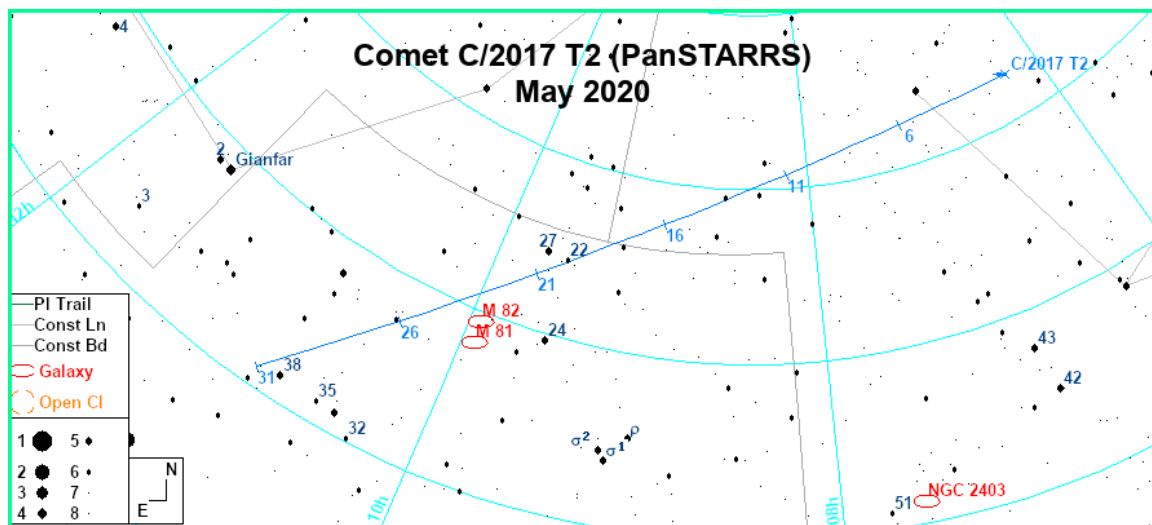
A month ago, we were getting excited about **Comet C/2019 Y4 (ATLAS)**, but its nucleus disintegrated and, along with it, our hopes for a naked-eye spectacle.

Not to worry, the night sky giveth as well as taketh away, and we have the new **Comet C/2020 F8 (SWAN)**, which was discovered at the end of March.



It's pretty much a southern object at the moment, and transits in broad daylight, which is unfortunate. It is currently predicted to brighten to about mag +4, so even though it will be low in the sky from UK latitudes, it may become visible. Probably worth trying to spot it from about the 15th in the pre-dawn. It becomes circumpolar from the 19th, but stays low during darkness. I've included the apparent motion of the Sun in the chart, to give you an idea of their relative locations. Closest approach to Earth is on the 13th and perihelion is on the 27th.

We also still have **C/2017 T2 (PanSTARRS)** as it trundles its way faintly (mag +8.3-ish) through Camelopardalis and Ursa Major. For a few days either side of the 23rd, in a Moonless sky, it'll be in the same field as M81 and 82.



Meteor Showers

The Moon will interfere with the **η Aquarids**, which are predicted to peak at 21:00 UT on the the 5th, two days day before New Moon, so best to observe a few days before the peak. Even in southern Britain, the radiant merely skirts the horizon before astronomical twilight begins, so don't expect much! Those of you significantly further south may have better luck because it's active for the best part of 3 weeks (and strong for 3 days) either side of

the peak. The meteors are grains of dust that were left in the wake of Comet 1P/Halley. As these particles enter the atmosphere, they compress and heat the air in front of them. This heat causes the surface of the particle to ablate and ionise.

The η Aquarids are known for having very persistent ionisation trains and binoculars are useful for observing these as they linger in the sky for 30 seconds or more.

The Moon

May 07 Full Moon
 May 14 Last Quarter
 May 22 New Moon
 May 30 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 there is a **(B)**.

Lunar Occultations April 2020 50.9°N 1.8°W							
Date	Time (UT)	Phase	Star	Spectral Type	Magnitude	Position Angle	Cusp Angle
May 02	22:03:42	D	1578c	K0	6.9	219	55S
May 03	21:23:08	D	Nu Vir	M0	4.0	186	55N
May 03	22:17:17	R(B)	Nu Vir	M0	4.0	205	-47N

Public Outreach & Talks

All my “in person” public talks and outreach events for the next few months have been postponed or cancelled. However, I will be doing some “Zoom talks” during the month. If you’re at any of them, do give me a virtual “wave”:

April 30	Herefordshire AS	Pseudoastronomy: Hollow Moon and Flat Earth
May 07	East Sussex AS	Ten Ways the Universe Tries to Kill You
May 13	Dorking U3A	Time and Calendars
May 28	Mexborough and Swinton AS	Two Eyes are Better than One

Zoom Talks during “Lockdown”?

I regularly give talks, on *Binocular Astronomy* and numerous other astronomical topics. During the current “lockdown” in the UK, I’d be happy to do this on Zoom if that is of interest. For astronomy societies (and some other groups), I would not charge unless I incurred expenses (although I have never knowingly refused a donation made on my behalf to the [BAA Commission for Dark Skies](#)).

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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