



The Binocular Sky

February
2016



Newsletter

Introduction

Welcome to the **Binocular Sky** Newsletter for February 2016.

The intention of this monthly offering is to highlight some of the binocular targets for the coming month. It is primarily targeted at observers in the UK, but should have some usefulness for observers anywhere north of Latitude 30°N and possibly even further south.

Solar-system charts are usually clickable and will take you to a larger chart that may be more useful as well as being downloadable to your computer or mobile device.

If you would like me to email this newsletter to you 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 [Pleiades \(M45\)](#) and the [Great Orion Nebula \(M42\)](#) culminate in the early evening, 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. Also high are [M44 \(Praesepe\)](#) and [M67](#), two fine open clusters in Cancer. Lower in the southern sky are more open clusters [M46](#), [M47](#) and, near Sirius, [M41](#).

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.

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.

While you are observing in the region of the Orion Nebula, take the time to study R Leporis (Hind's Crimson Star), which is a candidate for the reddest star in the heavens. To the north of that, just to the SE of Alnitak (ζ Ori) is the multiple star σ Orionis.

If you are up around midnight (or later) it is worth looking out for the galaxy trios in Leo (M95/96/105 and M65/66/NGC3628) and Markarian's Chain in Coma Berenices. 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.

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 were still Australopithecines!

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
RX Lep	5.4-7.4	Irreg	Irregular
TW Peg	7.0-9.2	ca. 90d	Semi-regular
U Cep	6.8-9.2	2.5d (increasing)	Eclipsing binary
T Cep	6.0-10.3	388d	Mira
SS Cep	6.7-7.8	ca. 190d	Semi-regular
RZ Cas	6.2-7.7	1.195d	Eclipsing binary

Double Stars

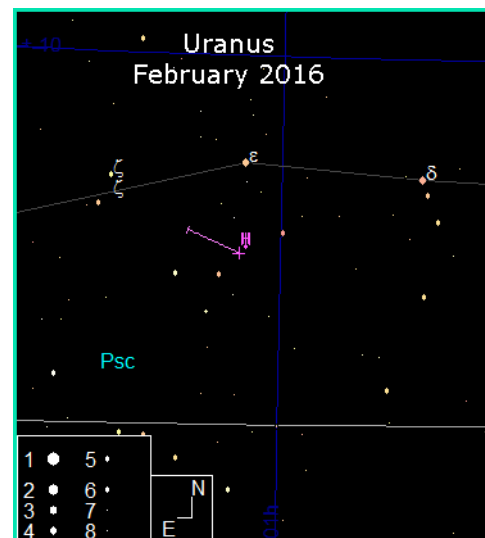
Binocular Double Stars for February			
Star	Magnitudes	Spectral Types	Separation (arcsec)
α Leo	1.4, 8.1	B8, G	176
7 Leo	6.3, 9.3	A0, F8	41
τ Leo	5.0, 7.4	K0, G5	89
δ Cep	4.1, 6.1	F5, A0	41
56 And	5.7, 5.9	K0, K2	128
Σ 1 And	7.1, 7.3	G5, G5	47
14 Ari	5.0, 7.9	F0, F2	106
62 Eri	5.4, 8.9	B9, B8	67
τ Tau	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
π -1 Umi	6.6, 7.2	G5, G5	31

The Solar System

Planets

Uranus shines at mag. +5.9 just S of ϵ Psc; it sets soon after 11:00 at the beginning of the month and two hours earlier by month end. Its position changes by about a degree throughout the month as it moves towards ζ Psc.

Neptune is now lost in the horizon murk at the end of evening astronomical twilight.



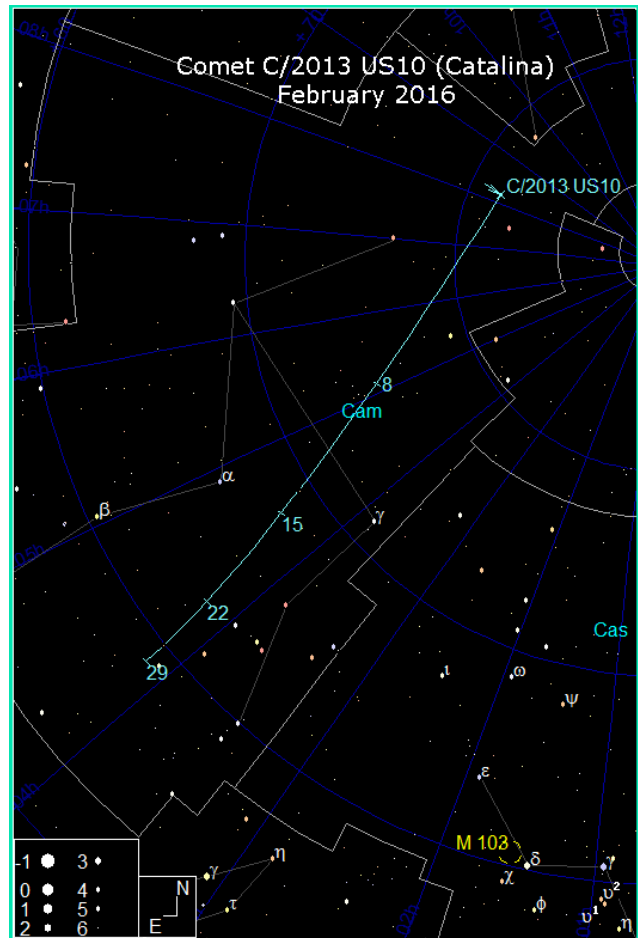
Comets

Comet 2013 US10 (Catalina) is now a magnitude +6.5 circumpolar object. It is expected to fade by about two magnitudes during the month, becoming increasingly difficult in small binoculars.

(Clicking on/tapping the image on the right will link to a higher resolution chart)

Meteor Showers

There are no major meteor showers this month.



Asteroid Occultations

OccultWatcher predicts the following occultations of stars brighter than mag +7.5 with tracks falling on the UK (Path and Details from UKOCL):

04 Feb 23:19UT Asteroid 75364 occults mag +6.3 1UT 580-157973
(Southern UK & Eire): [Path Details](#)

22 Feb 01:11UT Asteroid 38871 occults mag +6.5 1UT 599-170098
(CentralScotland): [Path Details](#)

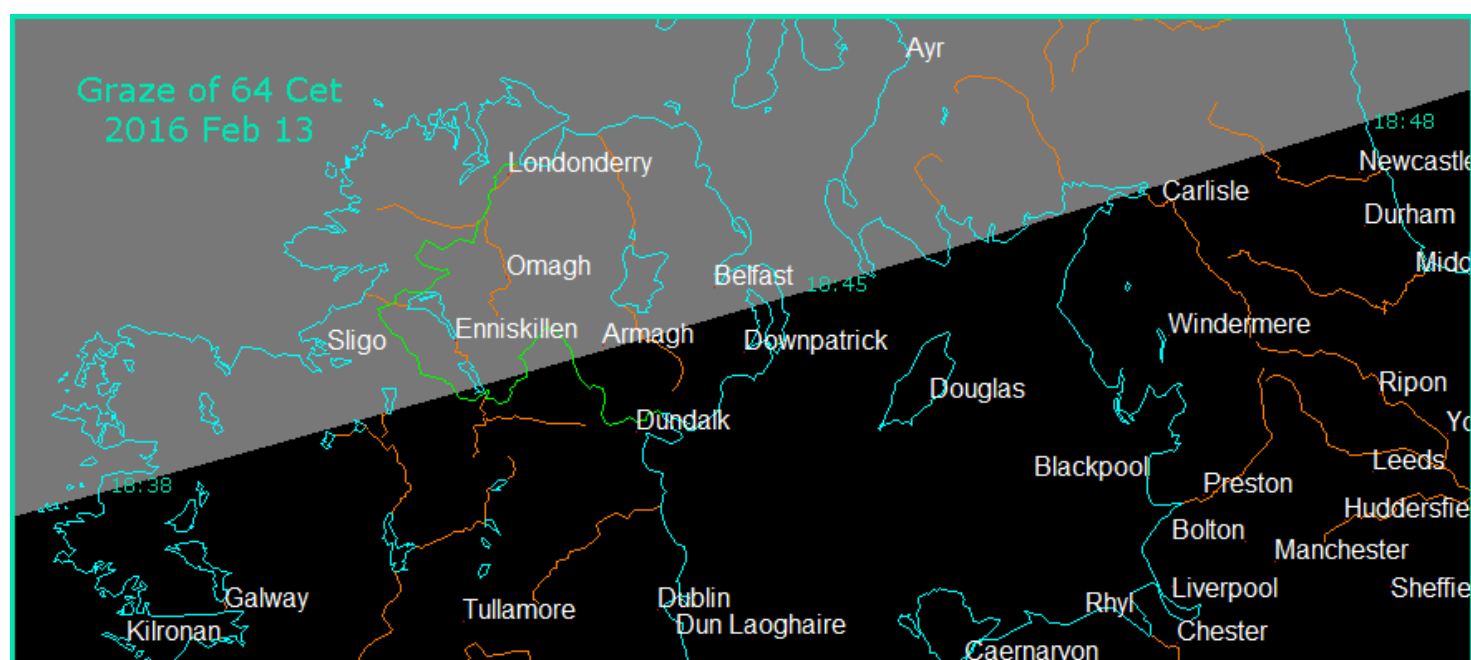
Lunar Occultations

There are several occultations of stars brighter than mag +7.5 visible from the UK this month. Times and Position Angles are for my location (approx: 50.9N, 1.8W) and will vary by up to 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)**. The highlight is the

graze of 64 Cet on the 13th. From this month, I am including the cusp angle on the table, as this may be more useful to visual observers

Lunar Occultations, Feb 2016, 50.9°N, 1.8°W

Date	Time	Phase	Star	Spectrum	Magnitude	Cusp Angle	Position Angle
Feb 01	03:42:39	R	HIP 71873	K0	6.8	81N	296
Feb 03	04:37:47	R	HIP 80240	F0	7	33N	338
Feb 13	18:48:52	Gr	64 Cet	G0	5.6	0.5S	
Feb 13	19:27:03	D	ξ-1 Cet	G8	4.4	44S	118
Feb 15	20:09:11	D	HIP 19261	F3	6	47S	122
Feb 16	00:12:29	D	48 Tau	F5	6.3	49S	120
Feb 16	01:49:13	D	γ Tau	G8	3.7	85S	84
Feb 19	22:47:42	D	1 Cnc	K3	5.8	72S	112
Feb 23	03:35:59	R	48 Leo	G8	5.1	82N	325
Feb 26	03:27:39	R	HIP 62915	K0	6.5	65N	316
Feb 29	04:17:56	R	HIP 74581	M2	6.8	74S	268



The Moon

Feb 01	Last Quarter
Feb 08	New Moon
Feb 15	First Quarter
Feb 22	Full Moon

Equipment Mini-Review

Manufacturer's Specification

Weight (g)	1550
Field of View (°)	6.5
Eye Relief (mm)	20
IPD (mm)	56-74
Waterproof	Yes
Prism Type	Porro
UK Guarantee	1 year
Origin	China
Body Material	Magnesium Alloy
Armour Type	Rubber, full
Nitrogen Filled	Yes
Prism Material	BAK-4
Prism Coating	Multi-coated
Lens Coating	Fully multi-coated
Eyecup Type	Fold down



Helios Stellar II 10x50

Last month we looked at the [Helios Stellar-II 15x70](http://www.thebinocularshop.com/helios-stellar-ii-15x70-mm-wp-binoculars/ref/binosky/). This month we look at its smaller sibling, the <http://www.thebinocularshop.com/helios-stellar-ii-50mm-wp-binoculars/ref/binosky/>.

Like the 15x70, the 10x50 bears a superficial resemblance to the *United Optics BA8 10 x70*, which is branded as *Helios Apollo*, *Oberwerk Ultra*, *Garrett Signature*, and several others. At £90 less expensive than the BA8 (£70 less in the 7x50 version), there has been a lot of interest as to how it compares,.

The Stellar II is well-constructed. It has well-fitting, tethered objective caps. It is not internally stopped, so you get the full 50mm equivalent aperture. It is noticeably lighter and slightly smaller than the *Oberwerk*

Ultra. However, its coatings, although well-applied, are not as good and consequently control of stray light is not as good. It is also not as bright: I estimate it to be about 0.2 magnitudes less bright. I was pleasantly surprised by this binocular. Having recently compared the 70mm version to its BA8 counterpart and finding some significant differences, I was pleased to find that the 50mm versions are much more alike in optical quality. Its eye relief for spectacle wearers is significantly better than that of the *Oberwerk Ultra*.

It is very comfortable to use and, being nearly 500g (1 lb) lighter than the OU, it is far less tiring to hold. Its individual eyepiece focusing makes it suitable for astronomy. Unfortunately, it shares an irritating feature with its 70mm stable-mate: the very loose focus. It is far too easy to accidentally defocus it, although if you do need to fold the eyecups up or down, e.g. for use with spectacles or for different users, you will need to refocus anyway.

It is waterproof and nitrogen-filled so it will not suffer from internal condensation if you use it on humid nights. With the strap, it weighed 1190g which, although not "lightweight", made it easy to hold for long periods. It feels good and substantial in the hands. It has some very nice touches like the tethered, well-fitting objective caps and a decent padded neck-strap.

I also compared it to a *United Optics BW6 (Strathspey Marine)* 10x50, which retails at a similar price to the *Stellar II*. The *BW6* was slightly sharper but (owing to being internally stopped to an effective aperture of about 41mm) far less bright. It was also heavier.

The *Helios Stellar II* 10x50 is worth considering by someone who wants a full aperture, individual eyepiece focusing 10x50 without breaking the bank.

For the full review, please go to the [Binocular Sky Reviews](#) page.

Thanks to [The Binocular Shop](#), who provided the binoculars for review

Future reviews will include the *Lunt Magnesium 16x70*, the *Opticron WP Observation 16x80*, and compare current and older models of the *Helios Apollo 15x70*.

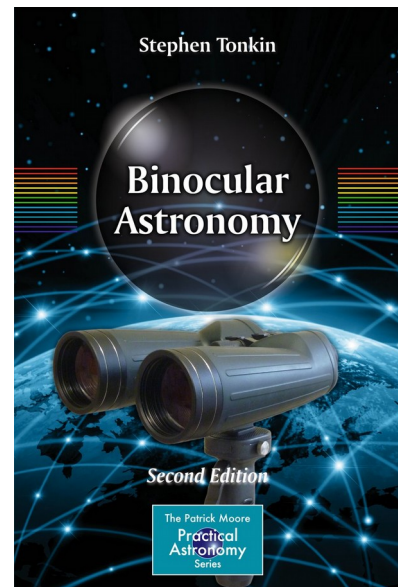
Public Outreach & Talks

During January I will be active at the following events, where I would be delighted to meet any readers of this newsletter who attend:

- 8th: *Public Observing* at Kingston Deverell Village Hall – I shall be supporting my friend Bob Mizon who is leading the Cranborne Chase AONB Dark Skies initiative. Booking not necessary; just turn up.
- 12th: *Public Observing*; 18:00-20:00, with Fordingbridge Astronomers at Blashford Lakes Nature Reserve. Booking Essential.

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



Wishing you Clear Dark Skies,

Steve Tonkin

for

The Binocular Sky

Acknowledgments:

The charts in this newsletter were prepared with Guide v9.0 from <http://projectpluto.com>

Variable star data based on David Levy's [*Observing Variable Stars*](#)

Lunar occultation data derived with Dave Herald's [*Occult*](#)

Asteroid occultation data derived from Hristo Pavlov's [*OccultWatcher*](#)

Disclosure: Links to *Amazon* or *The Binocular Shop* may be affiliate links

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