The Binocular Sky Newsletter

January 2015

Introduction

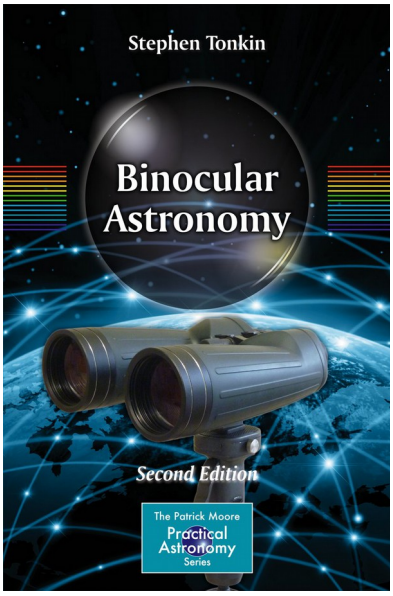
Welcome to the ***Binocular Sky*** Newsletter of January 2015. If this particular way of marking the passage of time is significant to you, may I wish you a Happy New Year and a fruitful 2015.

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 clickable and will take you to a (usually) larger chart that may be more useful as well as being downloadable to your computer or smartphone.

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 .

If you would like to support this Newsletter, the simplest way is to purchase my book, Binocular Astronomy. Please click on the image for more information.



The Deep Sky *(Hyperlinks take you to charts and more information)*

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 near maximum and 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.

Variable Stars

Mira-type stars near predicted maximum (mag < +7.5)		
Star	**Mag Range**	**Period (days)**
R Hya	4.5-9.5	389
R Lep	5.5-11.7	427

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
U Cep	6.8-9.2	2.5d (increasing)	Eclipsing binary
SS Cep	6.7-7.8	ca. 190d	Semi-regular
RZ Cas	6.2-7.7	1.195d	Eclipsing binary

Double Stars

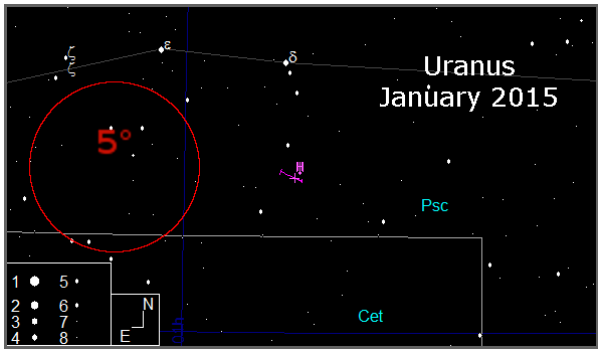
Binocular Double Stars for January			
Star	**Magnitudes**	**Spectral Types**	**Separation (arcsec)**
δ Cep	4.1, 6.1	F5, A0	41
56 And	5.7, 5.9	K0, K2	128
ΣI 1 And	7.1, 7.3	G5, G5	47
14 Ari	5.0, 7.9	F0, F2	106
62 Eri	5.4, 8.9	B9, B8	67
τ Tau	4.3, 7.0	B5, A0	63
ν Gem	4.1, 8.0	B5, A0	113
ζ Gem	4.0, 7.6	G0, G	101
ι Cnc	4.0, 6.0	G5, A5	31
p-1 Umi	6.6, 7.2	G5, G5	31

The Solar System

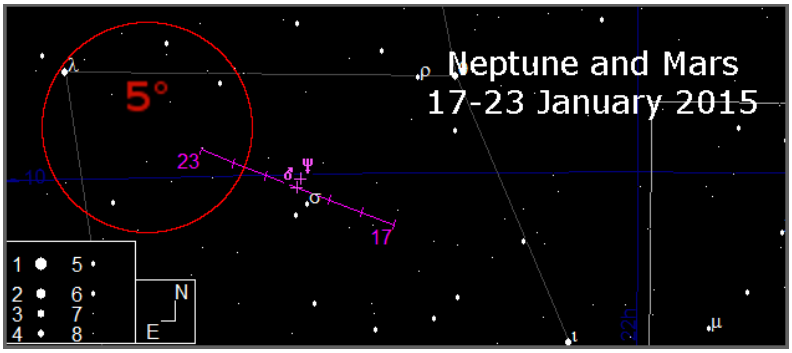
(The charts in this section are "clicky")

Planets

Of the binocular planets, **Uranus** is becoming easier to observe during the evening, shinning at magnitude +5.8 and just over 3° south *δ Psc.* It is almost the same brightness as the star approx 1° to the north. Its position varies by only 41 arcminutes during during the month.



Neptune has become a very difficult object in the evening sky, shining at only mag +7.9 and being less than 15° above the horizon at the end of twilight (from 51° N). However, the 13 arcmin appulse with Mars on the 19th/20th may be observable if you have a good south-western horizon.

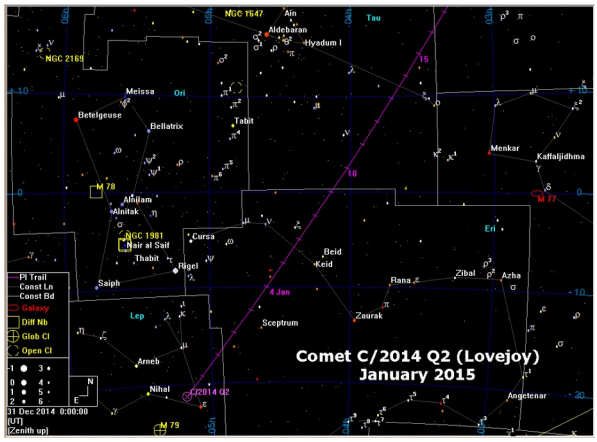


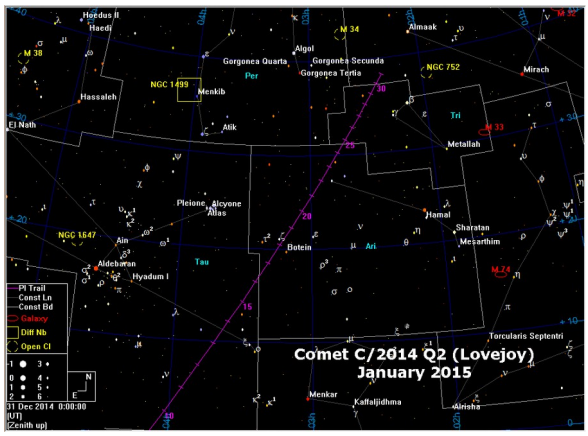
Meteor Showers

The **Quadrantids** (peak 3rd/4th) will be severely hampered by Moonlight, making it difficult or impossible to observe the development of ionisation trails.

Comets

Comet C/2014 Q2 Lovejoy is now an easy binocular object as it rises from Lepus, through Eridanus, Taurus, Aries, Triangulum, into Andromeda by the end of the month when it becomes circumpolar.





The Moon

Jan 05 Full Moon

Jan 13 Last Quarter

Jan 20 New Moon

Jan 27 First Quarter

Lunar Occultations

There are several occultations of stars brighter than mag +7.0 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 (**G**)raze.

Lunar Occultations, Jan 2015, 50.9°N, 1.8°W					
Date	**Time**	**Type**	**Star**	**Mag**	**PA (°)**
Jan 04	19:20	D	26 Gem	5.2	064
Jan 07	02:26	R	SAO 97913	6.3	240
Jan 08	20:54	R	π Leo	4.7	312
Jan 22	19:18	D	θ Aqr	4.2	052
Jan 25	19:23	D	73 Psc	6.0	108
Jan 31	02:30	D	130 Tau	5.5	122
Jan 31	21:58	D	20 Gem	6.9	068

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*

Occultation data derived with Dave Herald's *Occult*