



# The Binocular Sky



February  
2015

# Newsletter

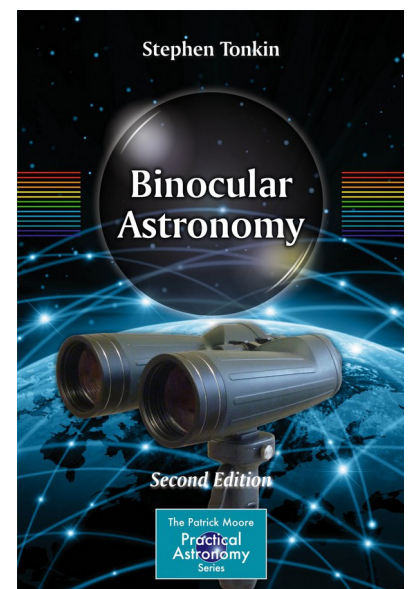
## Introduction

Welcome to the ***Binocular Sky*** Newsletter of February 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 ( $\zeta$  Ori) is the multiple star  $\sigma$  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.

For interactive maps of Deep Sky Objects visible from 51°N, please visit:

[http://binocularsky.com/map\\_select.php](http://binocularsky.com/map_select.php)

## Variable Stars

<b>Mira-type stars near predicted maximum (mag &lt; +7.5)</b>		
<b>Star</b>	<b>Mag Range</b>	<b>Period (days)</b>
R Hya	4.5-9.5	389
R Lep	5.5-11.7	427

<b>Selection of binocular variables (mag &lt; +7.5)</b>			
<b>Star</b>	<b>Mag Range</b>	<b>Period</b>	<b>Type</b>
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

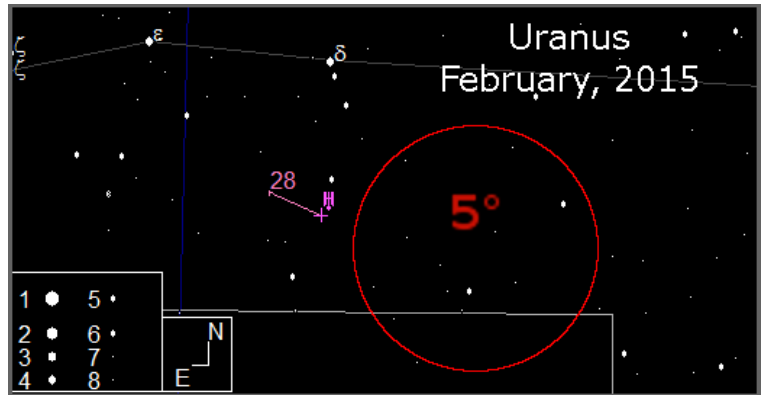
<b>Binocular Double Stars for February</b>			
<b>Star</b>	<b>Magnitudes</b>	<b>Spectral Types</b>	<b>Separation (arcsec)</b>
$\alpha$ Leo	1.4, 8.1	B8, G	176
7 Leo	6.3, 9.3	A0, F8	41
$\tau$ Leo	5.0, 7.4	K0, G5	89
$\delta$ Cep	4.1, 6.1	F5, A0	41
56 And	5.7, 5.9	K0, K2	128
$\Sigma$ 1 And	7.1, 7.3	G5, G5	47
14 Ari	5.0, 7.9	F0, F2	106
62 Eri	5.4, 8.9	B9, B8	67
$\tau$ Tau	4.3, 7.0	B5, A0	63
$\nu$ Gem	4.1, 8.0	B5, A0	113
$\zeta$ Gem	4.0, 7.6	G0, G	101
$\iota$ Cnc	4.0, 6.0	G5, A5	31
$\pi$ -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 easy to observe during the evening, shining at magnitude +5.9 and just over  $3^\circ$  south  $\delta$  Psc.



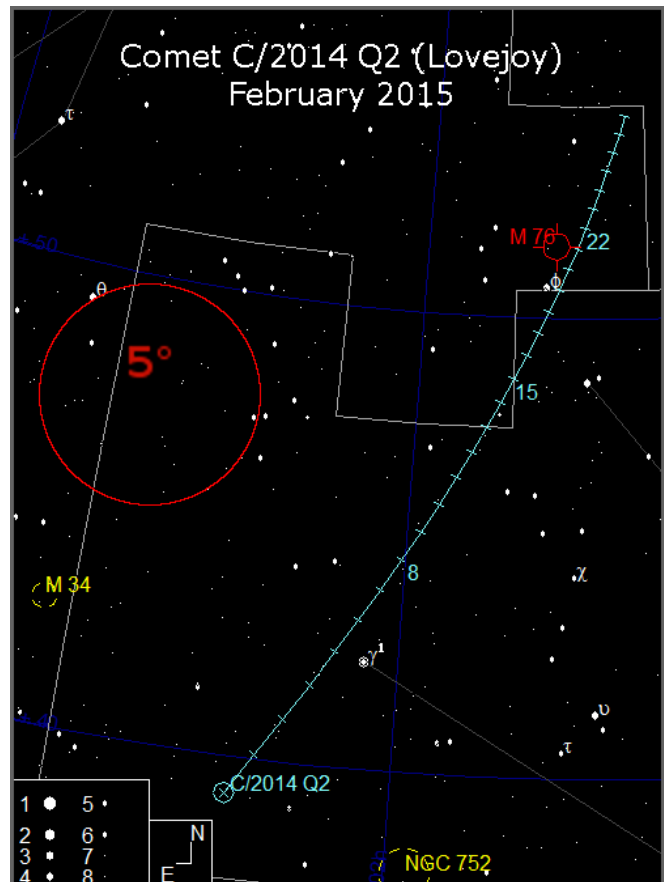
**Neptune** sets during evening twilight and is not observable in binoculars this month

## Comets

**Comet C/2014 Q2 (Lovejoy)** is now circumpolar and should be an easy binocular object all month as it moves through Andromeda and Perseus.

## The Moon

- Feb 03 Full Moon
- Feb 12 Last Quarter
- Feb 18 New Moon
- Feb 25 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, February 2015, 50.9°N, 1.8°W					
Date	Time	Type	Star	Mag	PA (°)
Feb 01	18:21	D	λ Gem	3.6	113
Feb 02	03:55	D	68 Gem	5.3	124
Feb 02	19:50	D	SAO 97628	6.2	106
Feb 06	03:54	R	35 Sex	6.2	343
Feb 07	00:44	R	79 Leo	5.4	297
Feb 08	02:18	R	SAO 138637	6.7	276
Feb 14	06:24	R	SAO 160474	6.5	231
Feb 22	21:48	D	UZ Psc	6.6	093
Feb 23	18:25	D	SAO 93006	7.0	135
Feb 23	23:26	D	38 Ari	5.2	064
Feb 25	19:56	M	SAO 93938	6.9	354
Feb 26	23:17	M	115 Tau	5.4	003
Feb 27	19:23	D	SAO 95419	5.9	044
Feb 27	23:45	D	SAO 95572	6.3	034

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*

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