

# Crewkerne & District Astronomical Society

## Sky Notes : July 2012

All timings are Universal Time. ( Add one hour for B.S.T.).

### Moon's Phases

Full	July	03d. 18h. 52m.
Last Quarter	"	11d. 01h. 48m.
New	"	19d. 04h. 24m.
First Quarter	"	26d. 08h. 56m.

Moon at perigee (nearest to Earth)	July	01d. 18h.	Diam. 32' 58"
Moon at apogee (furthest from Earth)	"	13d. 17h.	" 29' 32"
Moon at perigee	"	29d. 09h.	" 32' 32"

### The Planets

**Mercury** : An evening object in Cancer all month. It travels 7° S.E. to reach a stationary point on the 14<sup>th</sup>., and then turns back N.W., moving 6° by the end of the month. Best seen at the start of the month, with greatest E. elongation (26°) on the 1<sup>st</sup>., reducing to 0° on the 28<sup>th</sup>. when at inferior conjunction with the Sun. Around the 3<sup>rd</sup>. & 4<sup>th</sup>. it will pass 2½° S. of the open star cluster M44. On the 1<sup>st</sup>. it will set at 21.40. over an hour after the Sun, at mag. +0.5 and 8.1" diam. Mid month it will be mag. +1.8, 10.4" diam., elong. 20° E. and setting at 20.30, less than ½ hour after sunset.

**Venus** : Following conjunction last month, is a morning object until next year. In eastern Taurus, it moves 17° E during the month. On the 12<sup>th</sup>. it will achieve its greatest illuminated extent this year, at mag. -4.4. On the 19<sup>th</sup>. it will pass 1° N. of 1<sup>st</sup>. mag. Aldebaran, Alpha Tauri.. It will then be mag.- 4.3, 34" diam., elong. 42° W.. and rising at 01.30. At the very end of the month it passes 3° S. of M1, the Crab Nebula . .

**Mars** : Remains an early evening object, travelling S.E. in Virgo all month, a distance of over 16°. Mid month. it will be mag. +0.1, 6.2" diam., elong. 72° E and setting at 22.30, 2½ hours after sunset.

**Jupiter** : A morning object all month, but by the very end of the month it rises at midnight, becoming nominally a late evening object. Moving some 6° E. in western Taurus during the month, it ends lying 4½° N. of 1<sup>st</sup>. mag. star Aldebaran, Alpha Tauri. Mid month it will be mag. -2.1, 35" diam., elong. 47° W., and rising at 00.45.

**Saturn** : Like Mars, it is an evening object travelling S.E. in Virgo, but much slower, covering only 1° and remaining around 5° N.E. of 1<sup>st</sup>. mag. Spica, Alpha Virginis. At the end of the month it will be 7° E. of Mars. Mid month it will be mag. +0.8, disc diam. 17", rings 38.9" (inclined at 12.8°), elong. 90° E. and setting at 23.10.

Titan, mag. 8.6 and elong. 175". Greatest E. elong. on July 3 & 19; greatest W. elong. on July 11 & 27..

**Uranus** : Now a late evening object, moving a few arc minutes N.E. in Pisces, near the border with Cetus., to reach a stationary point on the 13<sup>th</sup>., then moves back a few arc minutes S.W. to the end of the month. On the 13<sup>th</sup>. it will be mag. 5.8, 3.6" diam., elong. 105° W., and rising at 22.45.

**Neptune** : Also a late evening object. . In S.W. Aquarius, near the border with Capricornus. During the month it travels 0.6° S.W. Mid month it will be mag. 7.8, 2.3" diam., elong. 140° W, and rising at 21.40..

### Meteors

**Delta Aquarids** : July 15 - August 20. There are two maxima & two radiant. The first on July 28<sup>th</sup>. Radiant at R.A.22h. 36m., Dec. 17°S., 14° N.N.W. of Formalhaut, mag. 1.1 Alpha Pisces Australis. Culmination at 02.00, altitude 22°. Zenith Hourly Rate 20. Moon fairly unfavourable, 2 days after F.Q., setting around midnight. The second on August 6<sup>th</sup>. Radiant at R.A. 23h.04m., Dec, +02°, 13° S. of mag. 2.6 Alpha Peg.. Culmination at 02.00, altitude 41°. Z.H.R. 10. Moon unfavourable, 3 days after Full, rising at 21.00.

### Deep Sky Objects

**M8 (NGC 6523) The Lagoon Nebula** : A gaseous emission nebula in Sagittarius with a cluster of stars (NGC 6530) in its centre. The cluster was discovered by John Flamsteed in 1680. The nebula was discovered in 1747 by Guillaume Le Gentil, and observed and listed by Charles Messier in 1764. It was given the title 'Lagoon' by Agnes Clerke in 1890. The nebula is around 4,300 L.Y. away with a diameter of 100 L.Y. The star cluster which powers it is reckoned to be 2 million years old. It has an apparent size of 90' x 40' and an integrated mag. of 4.5. It can be seen with the naked eye under reasonable observing conditions and is great in binoculars or a small telescope. Unfortunately, from our latitude, its southerly declination of -24° means that it is never more than 15° above our southern horizon.

In 1946 many small dark globules of obscuring matter were detected by Bart J. Bok at Harvard observatory. These dense clouds of material have diameters around 0.01 L.Y. and will eventually contract to form stars. Other examples have been observed in other nebulae, and now rejoice in the title 'Bok Globules'..

M8 lies 5½° W.N.W. of mag. 2.8 'Kaus Borealis', Lambda (22) Sag., the top star of the Sagittarius "Teapot" and 4° S.W. of mag. 3.9 Mu (13) Sag.

R.A. 18h. 03.8m., Dec. -24° 18'.

**M20 (NGC 6314) The Trifid Nebula** : A gaseous and reflection nebula in Sagittarius. In June 1764, Messier discovered a "cluster of stars, a little above the Ecliptic, between the bow of the Archer & the right foot of Ophiuchus" The discovery of M20 has been attributed to Le Gentil in the past, but his notes actually referred to M8. William Herschel was the first to recognise the nebula. He noted "Three nebulae, faintly joined, form a triangle. In the middle is a double star" His son, John Herschel, gave it the name " Trifid" due to the dark dust lanes splitting it up. It is also noted for its two nebulous clouds, one of which emits red light energised by embedded stars and the other blue light reflected from them. M20 lies some 2,700 L.Y. away, with a diameter of around 20 L.Y. and an age of 7 million years. It is a very young star-forming region in an earlier evolutionary stage than that of the Orion Nebula. Apparent size is 20' diam. and integrated magnitude 7. M20 lies 1½° North of M8.

R.A. 18h.02.5m., Dec. -23° 02'.