Crewkerne & District Astronomical Society

Sky Notes : July 2014

All timings are Universal Time. (G.M.T.)
Note : Add 1 hour for B.S.T

Moon's Phases

First Quarter	July	05d. 11h. 39m.	
Full	"	12d. 11h. 25m	
Last Quarter	"	19d. 02h. 08m.	
New	"	26d. 22h. 42m.	
Moon at perigee (nearest to Earth)		July 13d. 08h.	Diam. 33' 20"
Moon at apogee (furthest from Earth.		" 28d. 03h.	" 29' 23"

The Planets

Mercury : A morning object all month. At the start it rises at 03.20, 20 minutes before dawn and at the end at 03.30, just under an hour before the Sun. It reaches greatest W. elongation (21°) on the 12th. when.it will rise at 02.40, 1 hour & 10 minutes before the Sun. Beginning the month from a stationary point in S.E. Taurus, it enters Gemini around the 10th. and ends it 7° S.S.E. of 1st. mag. star Pollux, Beta Geminorum. A total travel of 32° eastwards. Mid month it will be mag. +0.6, diam. 7.5", elongation 20° W. and rising at 02.40, 1hour & 20 minutes before dawn.

Venus : Continues to be a morning object, (until October !) On the 1st. it rises at 02.00, 1¼ hours before dawn, and on the 31st. at 02.20, 2 hours before the Sun. It moves 40° E. during the month, starting in Taurus, just N. of the Hyades open cluster and a few degrees N.E of the 1st. mag. star Aldebaran, Alpha Tauri. Around the 18th. it will cross into Gemini and it ends the month on the northern border of Canis Minor, some 11° N.W. of Procyon, !st. mag. star Alpha Can. Minoris. Mid month it will be mag. –3.8, 11.4" diam., elong. 27° W. and rising at 02.00.

Mars : Remains an evening object, but getting earlier. At the start of the month it sets at midnight, and by the end at 22.15, 2¼ hours after sunset. Still in Virgo, it travels 12° S.E during the month. On the 12th./13th. it will pass 1.4° N. of 1st. mag. star Spica, Alpha Virginis. Mid month it will be mag. +0.2, 8.6" diam., elong. 91° E. and setting at 23.10. On the 6th. at 01.00 Mars will lie 0.2° S. of the 9 day old Moon. An occultation will be visible from western U.S.A., S. America and the Pacific.

Jupiter : With solar conjunction occuring on the 24th.,it is barely visible this month. On the 1st. it sets at 21.20, an hour after sunset, on the 22nd. at sunset (20.10), and on the 31st. it rises just before 04.00, 25 minutes before dawn. Starting the month in eastern Gemini, it moves E.S.E. to enter Cancer around the 7th. During the month it moves 7° E.S.E. Mid month it will be mag. –1.8, 31.5" diam., elong. 7°E. and setting at 20.30, 20 minutes after sunset.

Saturn : A good evening object, but getting earlier. At the beginning of the month it sets just after 01.00 and by the end just after 23.00. Remaining in Libra, it starts 3.3° N.E. of mag. 2.7 star Alpha (9) Librae. It travels 3 arc minutes W. to a stationary point on the 21st., then turns back 1 arc minute E. to the end of the month. Mid month it will be mag. +0.2, disc diam. 17.5", rings 39.8" (inclined at 21.1°), elong. 114°E. and setting at 00.10. On the 8th. at 02.00 Saturn will lie 0.4° N. of the F.Q. Moon. An occultation will be visible from the southern Pacific Ocean
Titan, mag. 8. and elong. 180". Greatest E. elong. on July 8th.. & 24th. Greatest W. elong on July 16th. & 30th.

Uranus : Now a late evening / morning object. On the 1st.it rises just before midnight and by the 31st. at 22.00. Still in southern Pisces near the border with Cetus, it starts 1¼° W. of the 6th. mag. star 73 Piscium. It travels 0.2° N.E. to a stationary point on the 22nd., then starts to move back S.W. Mid month it will be mag. 5.9, 3.5" diam., elong. 96° W. and rising at 23.00.

Neptune : A late evening object, at the start of the month rising at 22.50, and by the end at 21.00. Remaining in western Aquarius, it starts 2° N.E. of the mag. 4.8 star Alpha (57) Aqu. and moves ½° S.W. during the month.
Mid month it will be mag. 7.9, 2.3" diam., elong. 135° W. and rising at 22.00.

Minor Planets / Asteroids

1 Ceres and 4 Vesta are in the news again. From the 29th. June to the 12th. July they are less than ½° apart, and on the 5th., Ceres wil lie only 10 arc minutes N. of Vesta. This is a line of sight effect, their actual orbits don't clash. Ceres will be 2.33 A.U. from the Earth, and Vesta 1.82 A.U. On the 5th. they will be 1½° S.W. of the 3rd. mag. star Zeta (79) Virginis, at R.A. 13h. 32m., Dec. 2° S. Theywill also lie !0° N. of Spica, 1st. mag star Alpha Virginis. Ceres will be mag. 8.4 and Vesta mag. 7.1

Pluto (134340) : It reaches opposition on July 4th., so now gets its annual mention. It remains in Sagittarius all year. From June 1st it moves 2° W (& slightly S.) to a stationary point on the 23rd.Sept., then moves back E. to the end of the year. At opposition it will lie some 6° N. of the 'Teapot's' handle and just W. of the'Teaspoon' at R.A.18h.51m.20s., Dec. 20° 18m. S. It will also be 8 minutes E. of a very close pair of stars of mags. 7.14 & 7.37, the brighter one being S.A.O. 187349. The 'brightest' star in the area is 5.2 mag. Zeta (29) Sag. (S.A.O. 187324). On the 4th. it will be just under ½° W. of Pluto which will pass 2.5 minutes S.of it on the 22nd. At opposition Pluto will be mag. 14.3 and 32.65 A.U. from the Sun & 31.67 A.U. from the Earth. At least a 10" or 12" telescope will be needed to see it. Unfortunately the situation is getting worse. It was at perihelion (nearest to the Sun) in 1988, and its orbital period of 248 years brings it to aphelion in 2112. In the meantime its getting fainter and further South. Its orbit is highly eccentric, taking it within the orbit of Neptune, and is also inclined at 17° to the plane of the ecliptic. Its diameter of 2,390 km.is 70% the size of our Moon and has a mass 20% of it.
Pluto has at least 3 known satellites, the largest, Charon has a diameter of 1,200 km. and mag.17.3 was discovered in 1978. Nix, at 88 km. diam. & 23.4 mag and Hydra 72 km. diam. & mag.22.9, were found in 2009.
The NASA space craft 'New Horizons'is due to go into orbit around Pluto in 2015.

Meteors

Delta Aquarids : July 15 – August 20. Two maxima and radiants. First on July 29th. 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 favourable, 3 days old, setting at 20.31
The second on August 6th. 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, 10 days old, setting at 00.50 on the 7th.

Arthur Davis June 2014