

Crewkerne & District Astronomical Society

Sky Notes : May 2014

All timings are Universal Time. (G.M.T.)

Note : Add 1 hour for B.S.T

Moon's Phases

First Quarter	May	07d. 03h. 15m.		
Full	"	14d. 19h. 16m		
Last Quarter	"	21d. 12h. 59m.		
New	"	28d. 18h. 40m.		
Moon at apogee (furthest from Earth)	May	06d. 10h.	Diam. 29' 32"	
Moon at perigee (nearest to Earth)	"	18d. 12h.	" 32' 32"	

The Planets

Mercury : Now an early evening object, at the start of the month setting at 20.00, 40 minutes after sunset, and by the end at 21.50, 1¼ hours after the Sun. It reaches greatest E. elongation (23°) from the Sun this year on the 25th, when it sets just after 22.00. This month is its highest apparition this year. During the month it travels some 50° N.N.E. Starting in eastern Aries, it crosses into Taurus around the 5th. and ends the month right on the border with Gemini. On the 8th. it passes 3° N. of the Pleiades star cluster (M45), and on the 13th. 8° N. of Aldebaran, the 1st. mag. star Alpha Tauri.

Mid month it will be mag. -0.6, diam. 6.6", elongation 19° E. and setting at 21.45, 2 hours after sunset.

Venus : Continues to be a morning object (until October !). On the 1st. it rises at 03.30, 1 hour before dawn, and on the 31st. at 02.30, 1¼ hours before the Sun. It starts the month in southern Pisces, and moves N.E. to enter Aries around the 27th., covering some 35° during the month. On the 15th. Venus will pass 1½° S. of Uranus, but it will be 9,000 times brighter at mag. -4.0 against mag. +5.9. Then Venus's diam. will be 15.3", elong. 40° W. and rising at 03.00, an hour before dawn.

Mars : Following opposition last month, it is visible most of the night. At the beginning of the month setting just before 04.00, but by the end at 01.40. Continuing to lie in Virgo, it travels 3° N.W. to a stationary point on the 21st., then goes back 1° S.E. to the end of the month. On the 11th. it will lie 3° N. of the 12 day old Moon. Mid month it will be mag. -0.8, 13.1" diam., elong. 135° E. and setting just before 03.00.

Jupiter : An evening object, but getting earlier. At the start of the month it sets at 00.40, and at the end at 23.00. Still in eastern Gemini, it moves 6° E.S.E. during the month, ending it 8° S.W. of 1st.mag. star Pollux, Beta (78) Geminorum. Mid month it will be mag. -2.0, 34" diam., elong. 53° E. and setting at 23.45.

Saturn : Saturn reaches solar opposition on the 10th., when it will be above the horizon all the hours of darkness. On the 1st. it rises at 20.00, ¾ hour after sunset, and on the 31st. it sets at 03.10, 40 minutes before dawn. On the 10th. it will be due South at midnight, at an altitude of 24°. However, this is the highest it gets, and for the rest of the night is much lower, as it is for all the month. At opposition it will be mag. +0.1 (its brightest this year), disc diam. 18.7", rings 42.4" (inclined at 21.7°), and elong. 180°. Titan, mag. 8.3 and elong. 200". Greatest E. elong. on May 5th.. & 21st. Greatest W. elong on May 13th. & 29th.

Uranus : A late morning object. It rises just before 04.00, ½ hour before dawn, at the start of the month and just before 02.00 at the end. Remaining in southern Pisces, it moves 1½° N.E. during the month to lie 2° W. of 6th. mag. star 73 Piscium. As already mentioned, Uranus will be 1½° N. of Venus on the 15th. At that time it will be mag. 5.9, 3.4" diam., elong. 40° W. and rising just before 03.00, an hour before dawn.

Neptune : A morning object. It rises at 02.45 at the beginning of the month and at 00.45 by the end. It continues to travel N.E. in western Aquarius, moving only 0.3° during the month. At the end it lies 4° W.S.W. of 3.7 mag. star Lambda (73) Aqu. On the 22nd. at 04.00 it will be 5° S. of the L.Q. Moon. Mid month it will be mag. 7.9, 2.3" diam., elong. 78° W. and rising at 01.45.

Asteroids / Minor Planets / Dwarf Planets

1 Ceres & 4 Vesta : Following their oppositions last month they continue to move westwards, but start to turn southwards and by the middle of June are travelling south eastwards. At the start of May Ceres is mag. 7.2 and Vesta mag. 5.9. At the end Ceres will be mag. 7.8 and Vesta mag. 6.5. See the April Notes for other details and a chart.

Meteors

Eta Aquarids : April 24 – May 20. Maximum May 5/6th. Radiant at R.A. 22h. 20m., Dec. -1°, 20° S.W.. of 2nd.. mag. Alpha Peg, the S.W. corner of the square. Culmination at 07.30, altitude 38°. Zenith Hourly Rate 40. This shower was produced by Halley's Comet. Moon unfavourable, F.Q., setting at 00.45 on the 6th.

Deep Sky Objects

M100 (NGC 4321) : A nearly face-on spiral galaxy in southern Coma Berenices, discovered by Pierre Mechain in March 1781 and observed and listed by Charles Messier a month later. This was the last item in his published Catalogue. Subsequent numbers were given to objects that were found in notes of observations that he had made, but not published by him.

M100 is one of the largest spirals in the Coma / Virgo cluster of galaxies, comparable to our own Milky Way. Its spiral form was first detected by Lord Rosse at Birr in 1850. It has a mass of 200 billion Solar masses and a diameter of 107,000 L.Y. Its apparent size is 7.4 x 6.3 arc minutes and visual magnitude 9.3. In 1993 it was the first galaxy in the Coma / Virgo cluster to have Cepheid variable stars observed, by the Hubble Space Telescope. Twenty were resolved, with magnitudes ranging from 24 to 26. The data enabled an accurate distance of the galaxy from us to be calculated, which is 49.6 million L.Y. The first novae to be discovered in a spiral nebula were two found in 1917 by H.D. Curtis, both around mag. 14. Five supernovae have been observed since 1901.

The central part of M100 can be seen in 6 inch telescopes, but larger apertures and dark, clear skies are needed to see the spiral structure. To find it, start from Denebola, 2nd. mag. Beta (94) Leonis – the eastern end of the lion's tail. Go 6½° E. to 5th. mag. 6 Com.Ber. (passing the edge-on spiral galaxy M98 ½° W. of it). M100 lies 2° N.E. of 6 Com.Ber. R.A. 12h. 22.9m., Dec. +15° 49'.

Arthur Davis April 2014