

**Forthcoming CAWAS Meetings on Zoom at 7:00pm BST**  
 Friday October 9th Tom Killestein Hunting the Afterglow of Gravitational Wave Events  
 Friday November 13th Dr Carlos Frenk How our Universe was made: All from nothing

**Observing Sessions** with RADAS at Barby Cricket Club at 19:00 clock time.  
 In general two dates are given, the one to be used will be notified the day before.

**October** 16/17, 20/21      **November** 13/14, 20/21      **December** 12/13, 18/19

<u>October</u>		<u>Event</u>	
Saturday	10th	Moon - last quarter	☾
Tuesday	13th	Mars opposition	
Wednesday	14th	Moon near Venus	
Friday	16th	Moon - new	●
Tuesday	20th	Orionids peak	☾
Wednesday	21st	Moon - λ Sagittarii occultation	
Thursday	22nd	Moon near Jupiter	
Friday	23rd	Moon - first quarter	☾
Sunday	25th	Mercury conjunction	
Monday	26th	Moon Golden Handle visible	
Thursday	29th	Moon near Mars	
Saturday	31st	Moon - full, Uranus opposition	☉
<b><u>November</u></b>			
Sunday	1st	Flora opposition	
Sunday	8th	Moon - last quarter	☾
Tuesday	10th	Mercury greatest elongation west	
Friday	13th	Moon near Venus	

**Coventry and Warwickshire Astronomical Society**  
 The society usually meets on the second Friday in the month, at Earlsdon Methodist Church Hall. The meetings begin at 19:15 and end at 21:30.

**Web Site:** <http://www.covastro.org.uk>

**Mailing list**  
 Join the CAWAS mailing list and receive irregular information of astronomical events and CAWAS news.  
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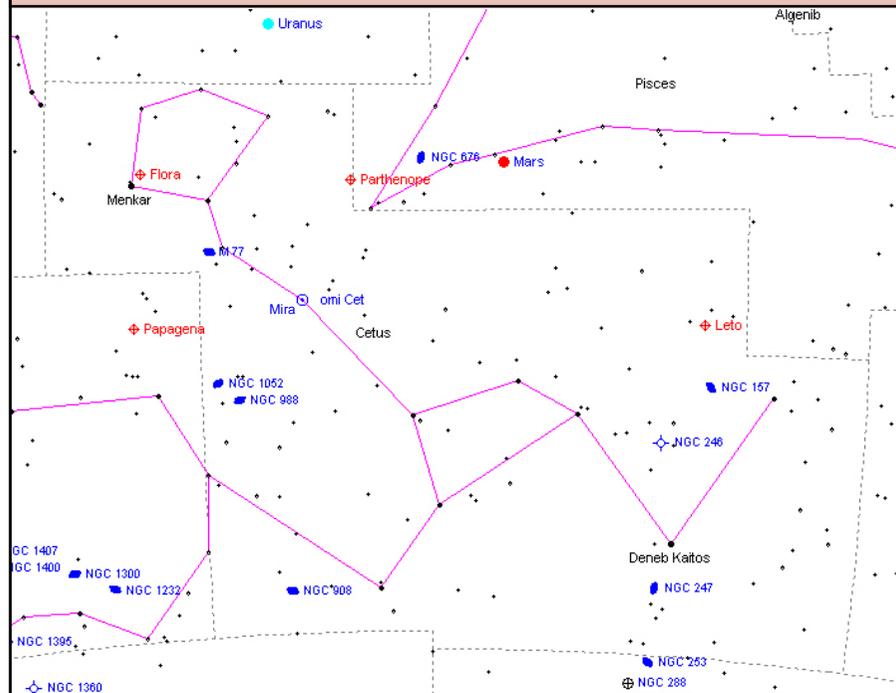
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# Coventry and Warwickshire Astronomical Society

## Sky Notes October 9th to November 13th 2020 No. 277



### The Sea Monster swimming in the Sky

The constellation of Cetus lies to the south of Mars in the southern sky and contains the famous variable star Mira (omicron Ceti). This star is a pulsating red giant which leaves behind a “comet’s tail” 13 light years long of expelled atmosphere as it moves through the interstellar medium. Currently it is at its brightest around magnitude +3 and will gradually become dimmer to around mag. +9 over the next few months as it goes though its regular cycle every 332 days. Nearby is the barred spiral galaxy M77, which is also a type II Seyfert galaxy as it has an active super-massive black hole at its centre. Also around Cetus there are some brighter asteroids at opposition, these are shown in red on the chart.

**Time** given in these skynotes is Co-ordinated Universal Time (UTC) known as GMT here in the UK. Add one hour to get clock time in BST until 02:00 BST on Oct 25 when summer time ends.

**Sun** continues its journey south moving from Virgo into Libra and on Nov 3 the difference between apparent and mean solar time (the equation of time) reaches its maximum of 16 m 13s, so that a sundial in Coventry will be about 10 mins ahead of a clock.

October 9th	Rise 06:21	Set 17:24	Dec $-6^{\circ} 40'$
November 13th	Rise 07:24	Set 16:15	Dec $-18^{\circ} 06'$

**Mercury** (+0.3 7.9" 43% to  $-0.6$  6.3" 69%) moves from Libra into Virgo and as it passes through conjunction on Oct 25 it moves into the morning sky, where it becomes visible very low down in the ESE just before sunrise about  $5^{\circ}$  to the north of Spica. It reaches its greatest elongation west of  $19.1^{\circ}$  on Nov 10 when it rises 2 hours before the Sun.

**Venus** ( $-4.0$  14.7" 74% to  $-4.0$  12.4" 85%) moves from Leo into Virgo and shines brightly in the ESE in the morning sky, rising at 02:40 at the beginning of the month and 04:20 at the end. On Oct 14 the crescent Moon (two days before new) lies  $4^{\circ}$  to the north and on Nov 13 it lies  $5^{\circ}$  to the east.

**Mars** ( $-2.7$  22.5" to  $-1.7$  17.7") lies in Pisces and as it reaches opposition on Oct 13 is visible high in the southern sky all night. Unmistakeable as it is the brightest object (except for the Moon) in the evening sky. At the beginning of the month Olympus Mons is visible and at the end, Syrtis Major. On Oct 29 the nearly full Moon lies  $4^{\circ}$  to the south.

**Jupiter** ( $-2.3$  39.4" to  $-2.1$  35.8") lies in Sagittarius and is visible very low down in the SSW in the early part of the evening. On Oct 22 the Moon lies  $3^{\circ}$  to the south. At the beginning of the month both Jupiter and Saturn cross the meridian around 18:30 and it is possible to see them in the same place throughout the month by looking out 4 mins earlier each day to compensate for the apparent rotation of the sky.

**Saturn** (+0.5 16.9" to +0.6 16.0") lies in Sagittarius about  $7^{\circ}$  to the east of Jupiter at the beginning of the month and  $4^{\circ}$  at the end as Jupiter heads towards overtaking Saturn in a grand conjunction in December.

**Uranus** (+5.7 3.7") lies in Aries and is visible high in the southern sky all night as it passes through opposition on Oct 31. Currently it attains the highest altitude of all the planets culminating at an altitude of  $52^{\circ}$ .

**Neptune** (+7.7 2.3") lies in Aquarius and can be seen in the southern sky until the early hours of the morning, setting at 03:40 at the beginning of the month and 01:20 at the end.

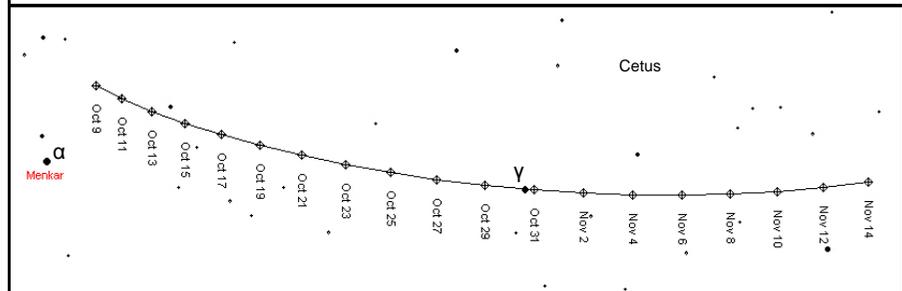
**Meteors** The debris left behind by Comet 1P/Halley produces two showers each year, the eta Aquarids in May and the **Orionids** in October (from 17 to 27). Maximum activity is expected for the nights of 20 - 22 and with the crescent Moon setting early in the evening conditions should be good.

The **Taurids** have a broad spread of activity from about October 15 to November 25 and are unusual for having two radiants, the northern one near the Pleiades comes from the debris of Comet 2P/Enke and the southern near the Hyades from asteroid 2004TG10. They are not prolific showers and do not have a well defined peak in their activity, but they are known to produce fireballs, so choose a night around new Moon in the middle of the month to do your observing.

**The Golden Handle** of the Moon will be visible from 19:12 on Oct 26. This optical effect is caused by the tops of the Montes Jura being illuminated by the rising Sun before the floor of the Sea of Showers (Sinus Iridium) in Mare Imbrium.

**Occultation of mag. +2.8  $\lambda$  Sagittarii** occurs at 18:20 on Oct 21 when the dark limb of the crescent Moon passes in front of it. The occultation ends at 19:22 when the Moon is just  $4^{\circ}$  above the SW horizon.

**Asteroid (8)Flora** reaches opposition on Nov 1 when it will attain a magnitude of +8.04. Its position near Menkar ( $\alpha$  Ceti) at the start of the month is shown on the first page of these skynotes and its track throughout the month is shown in the chart below (containing stars to mag. +8.5) as it passes close to mag. +4.7  $\gamma$  Ceti on Oct 30.



**$\delta$  Cephei** reaches maximum brightness at 18:20 on Oct 11 and 20:42 on Oct 27. This star is the prototype of all other Cepheid variable stars and pulsates every 5.366249 days as its brightness changes from mag. +3.48 to +4.37. At this time of year it passes nearly overhead.

