

**Forthcoming CAWAS Meetings on Zoom at 7:00pm GMT**

Friday December 11th	Party Evening	Members' Short Talks
Friday January 8th	Paul Fellows	Hawkins Black Holes and the edge of Physics
Friday February 12th	Richard Miles	When is a comet not a Comet? When it is Schwassmann Wachmann1!

**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.

December 12/13, 18/19      2021 January 8/9, 22/23      February 5/6, 19/20

**December**

		<b>Event</b>	
Saturday	12th	Moon near Venus	
Sunday	13th	Geminids maximum	⚡
Monday	14th	Moon - new	
Thursday	17th	Moon near Jupiter and Saturn	
Sunday	20th	Mercury superior conjunction	☿
Monday	21st	Moon - first quarter, winter solstice, Great Conjunction, Ursids maximum, Occultation of 61 and 63 Piscium	☽ ⚡
Wednesday	23rd	Moon near Mars	
Thursday	24th	Occultation of 64 and Xi1 Ceti	
Tuesday	29th	Moon - full	○
<b>January</b>			
Friday	1st	Quadrantids peak	⚡
Wednesday	6th	Moon - last quarter	☽
Friday	8th	Mercury near Saturn	

**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. (**Suspended until further notice**)**Web Site:** <http://www.covastro.org.uk>**Mailing list - Note the change to groups.io**

Join the CAWAS mailing list and receive irregular information of astronomical events and CAWAS news.

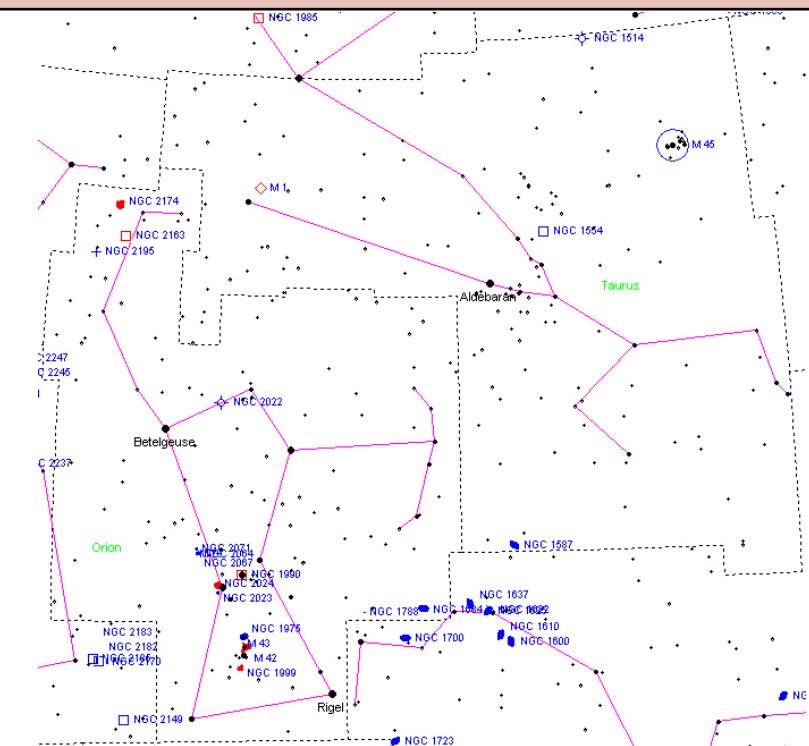
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# Coventry and Warwickshire Astronomical Society

## Sky Notes

December 11th 2020 to January 8th 2021 No. 279



### The Hunter and the Bull

Orion must be the most recognisable of all the constellations from its belt of three bright stars; Alnitak (mag. +1.8), Alnilam (+1.8) and Mintaka (+2.2). Also Betelgeuse is still not back to its full brightness after its unusual dimming this year, so it is still worth following. To the north Taurus is easily identified by its two open clusters; the V-shape of the Hyades (153 ly away), with the bright orange giant Aldebaran in front of it at 65 ly and the mini plough of the Pleiades, further away at 444 ly. To the east lies the remains of the 1054 supernova explosion, M1 - the Crab Nebula, at magnitude +8.4 it looks like a faint patch of light in larger telescopes.

**Time** given in these skynotes is Co-ordinated Universal Time (UTC) known as GMT here in the UK.

**Sun** continues its journey south moving from Ophiuchus into Sagittarius until the winter solstice at 13:30 on Dec 21 after which it starts moving north again. On Dec 14 the Sun undergoes a total eclipse, but it is only visible in Argentina or Chile.

December 11th Rise 08:06 Set 15:52 Dec  $-23^{\circ} 03'$   
January 8th Rise 08:14 Set 16:12 Dec  $-22^{\circ} 13'$

**Mercury** ( $-0.9\ 4.7''$  99% to  $-0.9\ 5.2''$  92%) moves from Ophiuchus, through Sagittarius into Capricornus and as it passes through superior conjunction on Dec 20 it might be glimpsed low down in the SW just after sunset at the end of the month. On Jan 8 Mercury lies  $3^{\circ}$  to the west of Saturn.

**Venus** ( $-4.0\ 11.3''$  91% to  $-3.9\ 10.5''$  95%) moves from Libra, through Scorpius and Ophiuchus into Sagittarius and is visible low in the SE for two hours before dawn at the beginning of the month and one at the end, as it gradually draws closer to the Sun. On Dec 12 the crescent Moon lies  $6^{\circ}$  to the west.

**Mars** ( $-0.8\ 13.0''$  to  $0.0\ 9.6''$ ) moves from Pisces into Aries and is visible high in the southern sky until the early hours of the morning, setting at 02:30 at the beginning of the month and 01:50 at the end. On Dec 23 the Moon lies  $6^{\circ}$  to the south.

**Jupiter** ( $-2.0\ 33.7''$  to  $-2.0\ 32.6''$ ) moves from Sagittarius into Capricornus and is visible low in the SW for three hours after sunset at the beginning of the month and one at the end. During the month Jupiter gradually draws closer to Saturn, passing it on Dec 21 just  $6'$  to the south in a Great Conjunction. On Dec 17 the crescent Moon lies  $7^{\circ}$  to the east.

**Saturn** ( $+0.6\ 15.4''$  to  $+0.6\ 15.1''$ ) moves from Sagittarius into Capricornus and lies  $1^{\circ}$  to the east of Jupiter at the beginning of the month and  $2^{\circ}$  to the west at the end. On Dec 17 the crescent Moon lies  $7^{\circ}$  to the east.

**Uranus** ( $+5.7\ 3.7''$  to  $+5.7\ 3.6''$ ) lies in Aries and is visible high in the southern sky until the early hours of the morning, setting at 04:20 at the beginning of the month and 02:20 at the end where it lies  $5^{\circ}$  to the east of Mars.

**Neptune** ( $+7.7\ 2.3''$  to  $+7.9\ 2.2''$ ) lies in Aquarius  $1^{\circ}$  to the east of Phi Aquarii and is visible in the SSW for the first half of the night, setting at 23:25 at the beginning of the month and 21:30 at the end.

#### Lunar Occultations

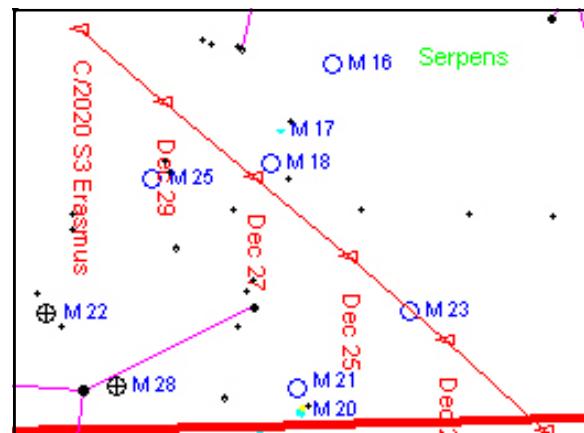
The dark limb of the Moon passes in front of **30 Piscium** (mag +4.4) at 19:55 and **33 Piscium** (+4.6) at 21:58 on Dec 21. Then on Dec 24 it passes in front of **64 Ceti** (+5.6) at 18:20 and **Xi1 Ceti** (+4.5) at 19:38.

#### Meteors

**Geminids** are active from Dec 7 to 16. They are unusual in having an asteroid (3200 Phaethon) as their source and their relatively low speed of 35km/s helps their trails to have longer durations. This year the peak ZHR of 120 is predicted for the night of Dec 13/14 and with a new Moon conditions are ideal, if you can get away from Christmas lights!

**Ursids** (Ursa Minor) are active from December 17 to 25 and derive from the debris of comet 8P/Tuttle. The shower is a weak one with a ZHR of about 10 and its peak is expected on the evening of Dec 21. With the first quarter Moon setting not long after midnight conditions are not too bad this year.

**Quadrantids** are active from January 1 to 6 and are named after the now obsolete constellation of Quadrans Muralis, near Boötes. They are also unusual in being associated with the extinct comet 2003EH1. The peak of the shower (ZHR of 80) tends to be very short - this year it is predicted for the night of Jan 2, but with a Moon not long after full, conditions are not very favourable.



**Comet C/2020 S3 (Erasmus)** is predicted to reach mag. +6 towards the end of December when it will be visible amongst the stars of Sagittarius. However, as it is at its brightest when close to the SW horizon at sunset (lower than Jupiter and Saturn) it will be a difficult object to observe.

**Algol** is an eclipsing binary star that drops in brightness from mag. +2.1 to +3.4 every 2.867 days, it can be seen at minimum brightness on Dec 8 at 22:43.

**Delta Cephei** is the prototype Cepheid variable star and varies between mag. +3.48 and +4.37 every 5.366 days and can be seen at maximum brightness on Dec 9 at 19:03 and Dec 25 at 21:27.

**Zeta Geminorum** is another Cepheid variable that varies between mag. +3.68 and +4.16 every 10.148 days. It reaches maximum brightness on Dec 19 at 19:44.