

Astronomy News Night Sky 2020 - August

Sunrise	Sunset	Mercury Rises	Venus Rises
1 st – 5:37am 10 th – 5:51am 20 th – 6:06am 30 th – 6:22am	1 st – 8:57pm 10 th – 8:41pm 20 th – 8:21pm 30 th – 8:00pm	1 st – 4:11am 5 th – 4:30am ----- -----	1 st – 2:22am 10 th – 2:17am 20 th – 2:17am 30 th – 2:25am
Moon Rise	Moon Set	Moon Rise	Moon Set
----- 1 st – 7:58pm 2 nd – 8:44pm 3 rd – 9:19pm 4 th – 9:46pm 5 th – 10:08pm (ESE) 6 th – 10:26pm 7 th – 10:42pm 8 th – 10:58pm (E) 9 th – 11:14pm 10 th – 11:31pm 11 th – 11:51pm (ENE) 13 th – 12:15am 14 th – 12:46am 15 th – 1:27am 16 th – 2:19am 17 th – 3:24am 18 th – 4:40am 19 th – 6:02am (ENE) 20 th – 7:27am	1 st – 2:49am 2 nd – 3:48am 3 rd – 4:56am 4 th – 6:07am 5 th – 7:18am (WSW) 6 th – 8:29am 7 th – 9:37am 8 th – 10:44am (W) 9 th – 11:51am 10 th – 12:47pm 11 th – 2:05pm (WNW) 12 th – 3:13pm 13 th – 4:21pm 14 th – 5:28pm 15 th – 6:29pm 16 th – 7:21pm 17 th – 8:04pm 18 th – 8:38pm 19 th – 9:06pm (WNW) 20 th – 9:29pm	21 st – 8:52am 22 nd – 10:16am (E) 23 rd – 11:40am 24 th – 1:03pm (ESE) 25 th – 2:24pm 26 th – 3:43pm 27 th – 4:54pm 28 th – 5:54pm 29 th – 6:43pm 30 th – 7:20pm 31 st – 7:49pm ----- All times in notes are set for Somerton unless stated	21 st – 9:50pm (W) 22 nd – 10:10pm 23 rd – 10:31pm 24 th – 10:55pm (WSW) 25 th – 11:24pm 26 th – 11:59pm 28 th – 12:45am 29 th – 1:40am 30 th – 2:44am 31 st – 3:53am ----- Moon Phases Full Moon – 3 th Last Quarter – 11 th New Moon – 19 th First Quarter – 25 th
A useful site: www.heavens-above.com	A S Zielonka		

There is a planned launch no earlier than 30th July of an United Launch Alliance Atlas V rocket from Cape Canaveral. The Mars Perseverance Rover will be sent on its journey to search for signs of habitable conditions on Mars in the ancient past and for signs of past microbial life. The launch window has been extended to the 15th August. The journey to Mars is a tricky one. The orbital paths of Earth and Mars align just once every 26 months, so it's imperative that Perseverance launch within its window to avoid a costly two-year delay.

Comet 88P Howell (10.7 mag – July 16th) travels from Virgo into Libra this month. (For details on this comet or others listed below please see the 'Comet' section in the website above)

Comet 58P Jackson-Neujmin (12.2 mag – July 16th) stays in the constellation of Orion this month.

Comet C/2018 N2 Asassn (14.3 mag – July 12th) travels from the constellation of Camelopardalis to Ursa Minor this month.

Comet C/2019 N1 Atlas (14.1 mag – July 12th) travels from the constellation of Canes Venatica to Coma Berenices this month. Its reaches perihelion on December 1st.

Comet C/2017 K2 Panstarrs (15.0 mag – July 12th) travels from the constellation of Draco into Hercules this month. It reaches perihelion in December 2022.

Comet C/2019 K7 Smith (15.5 mag – July 9th) travels from the constellation of Sagittarius into Hercules this month. It was at perihelion in June when it was 4.475AU from Earth, which is within the orbit of Jupiter.

Comet C/2020 F5 Master (15.8 mag – July 8th) is in the constellation of Apus this month. Its at perihelion in March 2021. (not visible from the UK as it is the southern hemisphere)

Comet C/2017 U7 (15 mag – July 10th) is in the constellation of Sagittarius this month.

Jupiter and Saturn are slowly drifting away from each other this month and by the 31st they will be 8½ degrees apart. They do have a very close conjunction in December though.

From the 1st - 5th the asteroid Vesta passes within 2½ degrees of Mercury. On the 3rd at 5:00am they will be just ½ a degree apart. Mercury will be 5¼ degrees above the ENE horizon and at 62 degrees azimuth. The two stars Upsilon Geminorum (4 mag) and Kappa Geminorum (3.5 mag) point to their direction. (For further information on this asteroid or others please visit the website above)

On the 1st at midnight in the south Jupiter is just 2½ degrees above the moon with Saturn 7¾ degrees to the left of Jupiter.

From the 1st - 6th **Comet C/2019 L3 Atlas** (15.9 mag – July 17th) passes close to the star Gamma Cassiopeiae (2.1 mag) in Cassiopeia (the middle star of the 'W'). On the 3rd at midnight its less than a ¼ of a degree away.

From the 1st - 10th the asteroid Ceres (7.9 mag) passes close to the star '114341' (3.6 mag) in Aquarius. On the 5th at midnight they are less than a ¼ of a degree apart low in the south east and 10½ degrees above the horizon. (For further information on Ceres or other asteroids please visit the 'Asteroid' section in the website above).

At 10:00pm on the 2nd Saturn will be 5½ degrees above right of the moon with Jupiter 7¾ degrees to the right of Saturn.

At around 10:30pm on the 2nd **Comet C/2019 U6** (8.5 mag – July 17th) will be 5 degrees from the star Muphrid (2.6 mag) in Bootes and 10 degrees from Arcturus (0 mag), all three in a straight line. Also on the 2nd **Comet C/2017 T2 Panstarrs** (10.3 mag – July 16th) is just 1 degree from **Comet U6**.

Mars is at perihelion on the 3rd.

On the 3rd at midnight the star Zeta Capricorni (3.7 mag) in Capricornus is 2¾ degrees below left of the moon.

From the 4th - 12th **Comet 115P Maury** (15.2 mag – July 12th) is close to the star Lambda Aquilae (3.4 mag) in the constellation of Aquilla. On the 8th/9th their just ¾ of a degree apart. Its at perihelion on the 29th when its 2.057AU from the Sun.

At 12:30am on the night of the 5th the star Tau Aquarii (4 mag) in Aquarius is 2¼ degrees to the right of the moon.

Mercury is at perihelion on the 6th.

On the 6th at midnight Neptune is 5¼ degrees above the moon and 1¾ degrees to the right.

Mercury will be close to the Beehive Cluster on the 8th & 9th.

At 10:30pm on the 8th & 9th **Comet C/2020 F3 Neowise** (3 mag – July 20th) will be approximately midway between the stars Muphrid (2.6 mag) in Bootes and Vindemiatrix (2.8 mag) in Virgo looking low in the west and 20 degrees above the horizon. On the 8th its 0.984 AU from Earth.

The moon is at apogee (404,659km from the Earth) on the 9th at 2:51pm.

At midnight on the 9th Mars will be 4¾ degrees to the left of the moon... and at 4:30am Mars will be 3 degrees above left of the moon in the south.

On the 10th at 4:30am Mars will be 9 degrees to the right of the moon.

At 4:30am on the 11th Uranus will be 4 degrees above the moon and 2 degrees to the right. The star Mu Ceti (4.2 mag) in Cetus is just 1¾ degrees below right of the moon.

On the 12th at 4:30am the Pleiades star cluster is 9 degrees above left of the moon.

The Perseids meteor shower reaches its peak on the 12th / 13th. They can be seen from the 16th July - 23rd August. Their associated with Comet Swift-Tuttle.

Venus is at maximum western elongation on the 13th.

From the 13th - 16th Venus passes close to the star Nu Geminorum (4.1 mag) in Gemini. Venus is 5½ degrees below left of the moon with the star Nu Geminorum only a ¼ of a degree above Venus.

At 4:30am on the 13th the star Ain (3.5 mag) in Taurus is 1 degree from the crescent moon with Aldebaran (0.8 mag) ¾ degrees below Ain. An occultation of Ain by the moon occurs also today which is visible over parts of eastern Russia, Alaska, Canada and the USA.

Comet **C/2019 Y1 Atlas** (13 mag – July 12th) stays in the constellation of Virgo this month. From the 14th - 18th it passes close to the star Delta Virginis (3.3 mag) in Virgo. On the 16th it will be less than a ¼ of a degree from the star.

On the 15th at 3:00am **Comet 249P Linear** (12.5 mag – July 8th) will be 2 degrees from the crescent moon and at 4:30am the star Propus (3.3 mag) in Gemini is just 1 degree below the crescent moon. At 4:30am on the 16th the star Wasat (3.5 mag) in Gemini is just 2½ degrees below left of a thin crescent moon. Venus is 9½ degrees to the upper right of the moon.

Mercury is at superior conjunction on the 17th.

Comet 210P Christensen (15.5 mag – June 23rd) is in the constellation of Virgo this month. On the 17th its just 1½ degrees from the star Delta Virginis (3.3 mag).

On the 18th at 5:00am a very thin crescent moon will be 1½ degrees above the ENE horizon and at 60 degrees azimuth.

From the 19th – 24th Mars passes close to the star Nu Piscium (4.4 mag) in Pisces. On the 21st their just ½ a degree apart.

At 8:50pm on the 19th low in the WNW a very thin crescent moon may be seen. The moon will be 1½ degrees above the horizon and at 288 degrees azimuth.

On the 20th at 9:00pm the moon will be low in the west at 4 degrees above the horizon and at 276 degrees azimuth.

From 21st - 23rd Comet **C/2020 K8 Catalina-Atlas** (15.8 mag – July 17th) passes close to Venus. On the 22nd at 3:00am they will be approximately 3 degrees apart. Its closest to Earth on the 14th/15th when it will be 0.598AU distance. Its at perihelion (0.475AU) on September 14th.

The moon is at perigee (363,513km from the Earth) on the 21st at 11:58am.

At 9:00pm on the 21st the star Porrima (2.7 mag) in Virgo is 4 degrees to the left of the crescent moon.

From the 22nd – 24th Venus passes close to the star Mekbuda (4 mag) in Gemini. On the 23rd their just ½ a degree apart.

On the 22nd at 9:00pm the star Spica (1 mag) in Virgo is 6½ degrees to the lower left of the crescent moon. The star Virginis (3.3 mag) is 5¼ degrees above the moon.

At 9:00pm on the 24th the star Zubenelgenubi (2.7 mag) in Libra is 5¼ degrees to the lower right of the moon.

From the 25th – 30th **Comet 246P Neat** (14.2 mag – July 16th) will pass close to the star Zeta Virginis (3.3 mag) in Virgo. On the 28th their just ½ a degree apart.

From the 25th - 31st the asteroid Vesta passes through the Beehive Cluster in Cancer during the early hours of the morning.

On the 25th at 9:00pm the star Acrab (2.5 mag) in Scorpius is 1 degree to the right of the moon. An occultation of Acrab by the moon this occurs evening from 7:08:54pm – 8:19:47pm (These times are set from Yeovilton). The Sun sets at 8:11pm.

At 10:30pm on the 26th the star Theta Ophiuchi (3.2 mag) in Ophiuchus is 3½ degrees to the left of the moon.

From the 28th Aug – 2nd Sept **Comet C/2019 F1 Atlas-Africano** (14.8 mag – June 23rd) passes close to the star Pi Hydrae (3.2 mag) in Hydra. On the 30th/31st their just 1 degree apart. Its at perihelion in June 2021.

On the 28th at 9:00pm Jupiter is 4 degrees to the upper left of the moon. The star Nunki (2 mag) is 2 ½ degrees to the lower right of the moon. The star Pi Sagittarii (2.8 mag) is 2½ degrees to the upper right of Jupiter.

At 9:00pm on the 29th Saturn is 3½ degrees to the upper right of the moon. Jupiter is 8½ degrees to the right of Saturn.

C/2020 H4 Leonard (14 mag – July 10th) is in the constellation of Ursa Major this month. It reaches perihelion on the 29th.

On the 31st at 9:00pm the star Delta Capricorni (2.8 mag) is 2½ degrees above the moon and 1 degree to the left.

* = Dates and times are subject to change.

News: **Solar Orbiter**: The science payload is composed of 10 instruments.

5/10) PHI Polarmetric and Helioseismic Imager (Germany): Provides high-resolution and full-disk measurements of the photospheric vector magnetic field and line-of-sight (LOS) velocity as well as the continuum intensity in the visible wavelength range. The LOS velocity maps have the accuracy and stability to allow detailed helioseismic investigations of the solar interior, in particular of the solar convection zone high-resolution and full-disk measurements of the photospheric magnetic field.

News: It was announced on the 16th July that the first images from Solar Orbiter, have revealed omnipresent miniature solar flares, dubbed 'campfires' on the surface of the Sun. The 'campfires' were captured by the Extreme Ultraviolet Imager (EUI) from Solar Orbiter's first perihelion.

Facts: Astronaut Ed White made the first American spacewalk during the Gemini 4 mission on the 3rd June 1965. It was over the Pacific Ocean and lasted for 23 minutes.

My thoughts: With all the Starlink satellites that going into orbit around our planet spoiling the photos from ground-based telescopes wouldn't be a good idea to have a few ground-based ones, around the surface of the moon?