Astronomy News

Night Sky 2021 - August

Sunrise	Sunset	Mercury Sets	Venus Sets
1st – 5:37am 10th – 5:50am 20th – 6:06am 30th – 6:21am	1st – 8:57pm 10th – 8:41pm 20th – 8:22pm 30th – 8:01pm	15th – 9:00pm 20th – 8:53pm 25th – 8:43pm 30th – 8:31pm	1st – 10:06pm 10th – 9:47pm 20th – 9:25pm 30th – 9:03pm
Moon Rise	**Moon Set**	**Moon Rise**	**Moon Set**
1st – 12:08am (ENE) 2nd – 12:27am 3rd – 12:51am 4th – 1:21am 5th – 2:01am (NE) 6th – 2:51am 7th – 3:53am 8th – 5:04am 9th – 6:21am 10th – 7:39am (ENE) 11th – 8:58am 12th – 10:17am (E) 13th – 11:37am 14th – 12:59pm (ESE) 15th – 2:23pm 16th – 3:47pm 17th – 5:08pm 18th – 6:19pm (SE) 19th – 7:16pm	1st – 3:10pm 2nd – 4:19pm 3rd – 5:26pm 4th – 6:30pm 5th – 7:26pm (NW) 6th – 8:12pm 7th – 8:49pm 8th – 9:18pm 9th – 9:41pm (WNW) 10th – 10:00pm 11th – 10:18pm 12th – 10:34pm (W) 13th – 10:51pm 14th – 11:10pm (WSW) 15th – 11:34pm 17th – 12:04am 18th – 12:46am 19th – 1:42am (SW) 20th – 2:51am	20th – 7:59pm 21st – 8:30pm 22nd – 8:53pm (ESE) 23rd – 9:12pm 24th – 9:28pm 25th – 9:42pm (E) 26th – 9:57pm 27th – 10:12pm (ENE) 28th – 10:30pm 29th – 10:51pm 30th – 11:18pm 31st – 11:54pm - - - - - - - All times in notes are set for **Somerton** unless stated	21st – 4:10am 22nd – 5:32am 23rd – 6:52am (WSW) 24th – 8:09am 25th – 9:23am (W) 26th – 10:34am 27th – 11:45am 28th – 12:55pm (WNW) 29th – 2:04pm 30th – 3:13pm 31st – 4:18pm - - - - - - - **Moon Phases** New Moon – 8th First Quarter – 15th Full Moon – 22nd Last Quarter – 30th
A useful site: www.heavens-above.com	A S Zielonka		

Mercury is at superior conjunction on the 1st.

At 1:00am on the 1st Uranus is 2½ degrees to the upper left of the Moon in the east.

From the 1st - 15th Jupiter passes close to the star Iota Aquarii (4.2 mag) in Aquarius. During this period its in retrograde motion (left to right against the background of the stars). At midnight on the 7th & 8th in the south east Iota Aquarii is 1 degree below Jupiter.

The Moon is at apogee (404,410km) on the 2nd at 8:36am.

Saturn is at opposition on the 2nd.

At 1:40am on the 4th the crescent Moon is 1½ degrees above the north east horizon at 53.5 degrees azimuth. The star Zeta Tauri (2.9 mag) in the north east is 5½ degrees to the upper left of the Moon at 49 degrees azimuth.

From the 4th - 7th Venus passes close to the star Sigma Leonis (4 mag) in Leo. At 9:30pm on the 6th Venus is 4 degrees above the western horizon at 273.5 degrees azimuth with Sigma Leonis ½ a degree to its upper right.

On the 5th at 3:40am the star Mu Geminorum (2.8 mag) is 3 degrees above the crescent Moon in the ENE.

At 4:15am on the 6th the star Wasat (3.5 mag) in Gemini is 4 degrees below the thin crescent Moon.

On the 7th at 4:30am a thin crescent Moon is 3½ degrees above the horizon at 56 degrees azimuth low in the north east. The star Pollux (1.1 mag) is 6¼ degrees above the Moon and 1 degree to the right.

The Solar Orbiter has a gravity assist manoeuvre from Venus on the 8th.

From the 8th - 13th at midnight the asteroid 12 Victoria (8.9 mag) will pass within a degree and below of the star Theta Aquilae (3.2 mag) in Aquila. (For further information on this or other asteroids please see the 'asteroid' section in the website above).

At 9:15pm on the 9th the stars Adhafera (3.4 mag) and Algieba (2 mag) in Leo point the way to a very thin crescent Moon. The Moon is 3 degrees above the horizon at 289 degrees azimuth. Mars is to the lower left of the Moon at 1 degree above the horizon and 284 degrees azimuth.
On the 10th at 9:30pm Venus is 8 degrees to the left of the thin crescent Moon low in the west.

BepiColombo's second flyby of Venus is scheduled for the 11th. This will provide an exciting opportunity to operate some of the instruments on both orbiters and to collect scientifically valuable data to further study this fascinating planet while en route to the mission's destination – Mercury. BepiColombo's mission that was launched to Mercury on the 20th October 2018 will enter Mercury's orbit in December 2025.

At 9:23pm on the 11th Venus is 3½ degrees above the horizon and due west. The crescent Moon and Venus are just 5¾ degrees apart.

Parker Solar Probe that was launched on August 12th 2018 reaches its 9th perihelion (nearest the Sun) on the 9th.

On the 12th at 9:30pm the star Porrima in Virgo is 3½ degrees to the right of the crescent Moon and 1¼ degrees below. The asteroid 4Vesta (3.3 mag) is approx halfway between the stars Porrima (2.7 mag) and Delta Virginis (3.3 mag) in Virgo. Vesta is just under 3 degrees above Porrima low in the west.

The Perseids meteor shower reaches its peak on the 12th / 13th. They can be seen between the 16th July and the 23rd August. Rate per hour can be up to 60. With the Moon setting soon after 10:30pm this should be a good night to view them. They are associated with Comet Swift-Tuttle.

At 9:30pm on the 13th the star Spica (1 mag) is 6 degrees to the lower right of the crescent Moon.

There is a scheduled launch on the 10th* at 12:55pm* from the Wallops Flight Facility in Virginia. Its the next flight in the series of Northrop Grumman resupply missions to the International Space Station (ISS).

On the 14th at 10:00pm the star Zubenelgenubi (2.7 mag) in Libra is 3¼ degrees to the left of the Moon.

At 10:00pm on the 16th the star Antares (1 mag) in Scorpius is 3½ degrees below the Moon.
The Moon is at perigee (369,124km) on the 17th at 10:16am. At 10:00pm the star Theta Ophiuchi (3.2 mag) in Ophiuchus is 3¼ degrees to the right of the Moon.

On the 18th at 8:45pm Mercury and Mars are in close conjunction and lost in the evening twilight to be visible.
On the 18th at midnight the star Phi Sagittarii (3.1 mag) in Sagittarius is just ½ a degree to the left of the Moon low in the SSW.

Jupiter is at opposition on the 20th.

At 11:30pm on the 20th Saturn is 4¾ degrees above the Moon in the south.

From the 20th August - 20th September around 4:00pm the asteroid Ceres (8.8 mag) will pass below the Hyades star cluster in the east. On the 23rd & 24th Ceres is just over ½ degree below the star Gamma Tauri (3.6 mag). On the 2nd Sept Ceres is ½ a

degree below the star Theta Tauri (3.4mag). On the 13th & 14th Ceres is just under 1 degree below Aldebaran. The Hyades is the nearest open cluster and one of the best-studied star clusters.

On the 21st at 11:30pm Jupiter is 7 degrees to the upper left of the Moon. The star Nashira (3.6 mag) is 3¼ degrees above the Moon. The star Delta Capriconri (2.8 mag) is 2 degrees to the left of Nashira.

At 11:30pm on the 22nd the star Skat (3.2 mag) in Aquarius is 4 degrees to the lower left of the Moon.

From the 23rd - 25th Comet 4P Faye (13.3 mag – July 18th) passes close to the star Ain (3.5 mag) in Taurus. On the 24th at 4:00am Faye is ¼ of a degree to the lower right of the star Ain.

From the 23rd – 25th Venus passes close to the star Porrima (2.7 mag) in Virgo. At 8:45pm on the 24th

Porrima is 2¾ degrees above Venus and ½ a degree to the right.

Comet C/2020 T2 Palomar (9.6 mag - July 13th) is approximately halfway between the stars Zubeneschamali (2.6 mag) and Zubenelgenubi (2.7 mag) in Libra on the 23rd at 9:30pm.

On the 23rd at 11:30pm Neptune is 6 degrees above left of the Moon. The star Psi Aquarrii (4.4 mag) in Aquarius is 2½ degrees to the upper right of the Moon.

At 12:30am on the night of the 24th the star Iota Ceti (3.5 mag) In Cetus is 5 degrees lower right of the Moon.

On the 26th at 11:30pm the star Nu Piscium (4.4 mag) in Pisces is just 2 degrees to the right of the Moon.
At 11:30pm on the 27th Uranus is 6 degrees to the left of the Moon and ½ a degree above.
On the 28th at 11:30pm Uranus is 5¼ degrees to the right of the Moon and 4½ degrees above.
At 11:30pm on the 29th the Pleiades star cluster is 7 degrees above the Moon.
The Moon is at apogee (404,100km) on the 30th at 3:23am.

* = Dates and times are subject to change

News: An amateur astronomer Kai Ly has discovered a new moon of Jupiter. While it hasn't received official designation yet, it would bring the tally of Jovian Satellites to

80. Ly's quest was a spin-off of their earlier identification of pre-recovery images of recently discovered moons including Valetudo, Ersa, and Pandia while examining data taken in 2003 with the 3.6-metre Canada-France-Hawaii Telescope (CFHT).

When the European Space Agency (ESA) announced that the EnVision orbiter would head to Venus in the early 2030's the mission became the third in a new crop of spacecraft soon to be bound for our sister planet with DAVINCI+ and VERITAS missions which will launch later this decade. EnVision will provide a Holistic view of the planet's surface, interior, and atmosphere using a suite of instruments: The Venus Synthetic Aperture Radar, provided by NASA and the Jet Propulsion Laboratory, will map the surface; the Venus Subsurface Radar Sounder will probe the planet's interior, and the Venus Spectroscopy Suite will explore the Atmosphere.

The discovery on Mars of a large radar-bright area deep beneath the South Polar Layered Deposits (SPLD) – large layers of dry and water ice plus sediment deposited over millions of years at the south pole – suggested the presence of a huge subterranean lake. Researchers aren't so sure. In 2018, Roberto Orosei and colleagues found the large radar-bright area 1.3 km below the surface, using a radar experiment called MARSIS. The MARSIS radar penetrates metres to a few kilometres beneath the surface, depending on the composition – that's deep enough to chart the boundary where the polar deposits end and the Martian interior begins. Khuller and Plaut's investigation of this interface revealed dozens of new smaller regions, like the one found by Orosei's team.
Ingenuity Mars Helicopter first historic flight was on April 19th. It has now flown nine times in total so far, breaking records nearly everytime it takes to the Martian skies. The fifth flight saw its first landing at a new location, as it flew 129 metres (423 feet) to the south of Wright Brothers field to a new airfield. This marked the formal end of the technology demonstration. It has proven itself a valuable asset to Perseverance, scouting out terrain that the rover can't cross.

Facts: Comet Swift-Tuttle was discovered in 1862 by Lewis Swift on July 16th and Horace Parnell Tuttle on July 19th. It's nucleus is 26 km in diameter. It is the parent body of the Perseid meteor shower this month. Its the best known shower and among the most reliable in performance.