Astronomy News

Night Sky 2020 - May

Sunrise	Sunset	Mercury Sets	Venus Sets
1st – 5:44am 10th – 5:28am 20th – 5:14am 30th – 5:03am	1st – 8:34pm 10th – 8:48pm 20th – 9:02pm 30th – 9:15pm	10th – 9:25pm 15th – 10:07pm 20th – 10:40pm 25th – 11:01pm 30th – 11:11pm	1st – 12:25am 10th – 11:57pm 20th – 11:03pm 30th – 9:47pm
Moon Rise	**Moon Set**	**Moon Rise**	**Moon Set**
- - - - - - - 1st – 12:26pm 2nd – 1:47pm (ENE) 3rd – 3:10pm 4th – 4:35pm (E) 5th – 6:00pm 6th – 7:27pm 7th – 8:54pm (ESE) 8th – 10:18pm 9th – 11:36pm 11th – 12:44am 12th – 1:38am 13th – 2:19am 14th – 2:51am 15th – 3:16am (ESE) 16th – 3:36am 17th – 3:53am 18th – 4:09am (E) 19th – 4:25am 20th – 4:41am	1st – 3:30am 2nd – 4:00am (WNW) 3rd – 4:26am 4th – 4:48am 5th – 5:09am (W) 6th – 5:30am 7th – 5:54am (WSW) 8th – 6:22am 9th – 6:56am 10th – 7:39am 11th – 8:32am 12th – 9:34am 13th – 10:41am 14th – 11:51am 15th – 1:00pm (WSW) 16th – 2:07pm 17th – 3:14pm 18th – 4:20pm (W) 19th – 5:26pm 20th – 6:33pm	21st – 4:59am (ENE) 22nd – 5:21am 23rd – 5:47am 24th – 6:20am 25th – 7:02am 26th – 7:56am 27th – 9:01am 28th – 10:14am 29th – 11:32am (ENE) 30th – 12:52pm 31st – 2:12pm - - - - - - - All times in notes are set for **Somerton** unless stated	21st – 7:42pm (WNW) 22nd – 8:51pm 23rd – 10:00pm 24th – 11:06pm 26th – 12:04am 27th – 12:54am 28th – 1:33am 29th – 2:05am 30th – 2:31am (WNW) 31st – 2:53am - - - - - - - **Moon Phases** Full Moon – 7th Last Quarter – 14th New Moon – 22nd First Quarter – 30th
A useful site: www.heavens-above.com	A S Zielonka		

From the 19th April - 4th May low in the south east Mars passes by a trail of stars in Capricornus. At 5:30am each day Mars position as follows: On the 1st Nashira (3.6 mag) is 1 degree above the Moon and on the 4th May Delta Capricorni (2.8 mag) is 1 degree below right.

There is a planned flight test (Crewed) no earlier than May. SpaceX's Crew Dragon Demo-2 mission is a flight test with crew, prior to certification of systems by NASA for operational missions to the ISS. NASA astronauts **Bob Behnken** and **Doug Hurley** will fly on Demo-2. (See ISS News below)

Comet C/2020 A2 IWAMOTO (12 mag – March 16th) was at perihelion on January 8th. During this month it travels between the constellation of Auriga and Gemini. (For further information on this comet or others below please visit the 'Comet' section on the website above)

During this month Jupiter and Saturn stay around 5 degrees apart, low in the south eastern sky in the early hours of the morning. (On the 21st December low in the south west in the constellation of Capricornus, these two giant planets will be in a very close conjunction. They will be visible from approximately 30 minutes after sunset till they both set around 6:20pm).

On the 1st when the Sun is above the horizon at 6:10am Uranus and Mercury are in close conjunction (¼ of a degree apart) and just 4½ degrees to its right.

At midnight on the 1st the star Eta Leonis (3.4 mag) is 2½ degrees to the upper left of the Moon.

There is an occultation of the star Eta Leonis (3.4 mag) in Leo by the Moon on the 2nd. This will be visible from the southern half of South America.

Mercury is at superior conjunction on the 4th.

Comet C/2017 T2 PANSTARRS (8.5 mag – March 30th) is at perihelion on the 4th and in the constellation of Camelopardalis when it will be 1.615AU from the Sun. From the 2nd - 6th June it will pass close by the star Dubhe (1.8 mag) in Ursa Major.

On the 4th at midnight the star Porrima (2.7 mag) in Virgo is just 1½ degrees below the Moon.

At midnight on the 5th the star Spica (1st mag) in Virgo is 6¼ degrees to the lower right of the Moon.

The Eta Aquarids meteor shower reaches its peak on the 5th/6th May though they can be seen till 27th May.

On the 6th at midnight the star Zubenelgenubi (2.7 mag) in Libra is 5½ degrees below left of the Moon.

From the 8th - 12th Venus is in a close conjunction with the star Elnath (1.5 mag) in Taurus. On the 10th Elnath is just 1¼ degrees above Venus at 10:00pm low in the WNW.

At 1:00am on the night of the 8th the star Antares (1st mag) in Scorpio is 5 degrees below the Moon and 3 degrees to the right.

Mercury is at perihelion (closest to the Sun in its orbit) on the 10th.

On the 10th at 4:30am the star named 85340 (Hipparcos ID) (4th mag) in Ophiuchi is 4 degrees to the right of the Moon.

At 4:30am on the 11th the star Phi Sagittarii (3.1 mag) is 2 degrees below the Moon.

On the 12th at 4:30am Jupiter is 5 degrees upper left of the Moon. Saturn is 5 degrees to the left of Jupiter.

At 4:30am on the 13th Saturn is 6 degrees to the upper right of the Moon. Jupiter is 4¾ degrees to the right of Saturn.

On the 14th at 4:30am Mars is 12 degrees to the left of the Moon.

Comet 88P HOWELL (14 mag – March 30th) is in the constellation of Virgo this month. From the 8th – 10th its closest to the Earth at 1.080AU. From the 14th – 30th it passes within 1½ degrees from the star Porrima (2.7 mag). At midnight on the 20th its about a ¼ of a degree above right of Porrima. It is at perihelion (1.353AU) from the Sun on September 26th. This comet stays within our solar system and at its furthest from the Sun (Aphelion), when its 4.858AU distance. Its elliptical orbit round the Sun takes just 5.47 years, so its a regular visitor.

At 4:30am on the 15th Mars is just 3½ degrees above the crescent Moon.

On the 16th at 4:30am Mars is 12 degrees upper right of the crescent Moon. The Moon is just 7 degrees above the horizon and at 119 degrees azimuth.

At 4:30am on the 17th Neptune will be 7 degrees to the upper right of the crescent Moon in the ESE which is at 108 degrees azimuth.

On the 18th at 4:30am the thin crescent Moon is just 2½ degrees above the eastern horizon at 97.5 degrees azimuth.

Comet C/2019 Y1 ATLAS (8.5 mag – March 30th) was at perihelion on March 30th. From the 18th - 21st it passes close to the star Dubhe (1.8 mag) in Ursa Major. On the 23rd and 24th it passes within 2 degrees from the star Merak (2.3 mag) also in Ursa Major. These two stars are the ones that point towards the north star – Polaris (1.9 mag) in Ursa Minor.

At 4:45am (30 mins before sunrise) on the 19th you may see a very thin Crescent Moon 2½ degrees above the horizon due east.

There is a scheduled launch on the 20th* at 6:30pm from Tanegashima Space Centre, Japan. Japan Areospace Exploration Agency (JAXA) H-IIB rocket with the H-II Transfer Vehicle-9 (HTV-9) cargo ship, will deliver supplies to the International Space Station (ISS).

From the 21st - 23rd Venus and Mercury pass close to one another. They are in a close conjunction on the evening of the 22nd when Mercury will be 1¼ degrees to the left of Venus around 9:30pm.

The asteroid Vesta is 6 degrees to the left of Venus and Mercury on the 21st at 9:35pm and just 1½ degrees upper right of the star Zeta Tauri (2.9 mag) in Taurus. (For further information on this or others listed below please visit the 'Asteroid' section in the website above).

From the 21st - 22nd Comet C/2019 Y4 ATLAS (8 mag – March 30th) will pass close to the star Epsilon Persei (2.9 mag) in the constellation of Perseus. At 10:00pm it will be low in the north west and just 10 degrees above the horizon. Its at perihelion on the 31st when it will be just 0.253 AU (23,529,000 miles) from the Sun. (It was announced mid-April that this comet is breaking up)

On the 23rd at 9:40pm a very thin crescent Moon is just 1½ degrees above the horizon at 302 degrees azimuth with Venus 6½ degrees directly above it. Mercury is 3 degrees above left of Venus.

At 9:40pm on the 24th Mercury is 5 degrees to the right of the crescent Moon with Venus 5¼ degrees to the lower right of Mercury.

On the 25th at 10:00pm the star Mebsuta (3rd mag) in Gemini is just 2 degrees above right of the crescent Moon.

At 10:00pm on the 26th the star Kappa Geminorum (3.5 mag) in Gemini is just 1½ degrees to the upper right of the crescent Moon.

On the 27th at 10:00pm the Beehive Cluster (M44) is 1 degree below the crescent Moon.

There is an occultation of the star Eta Leonis (3.4 mag) in Leo by the Moon on the 29th. This will be visible from Australia, New Zealand and the coastal region of south east Asia.

From the 29th May – 3rd June the asteroid Ceres (9th mag) passes close to the star Skat (3.2 mag) in Aquarius. At its closest it will be just over 1 degree below Skat.

At 10:00pm on the 29th the star Regulus (1.3 mag) in Leo is 6½ degrees below right of the Moon.

On the 31st at 10:00pm the star Porrima (2.7 mag) in Virgo is 6½ degrees lower right of the Moon.

* = Dates and times are subject to change.

ISS News: **Robert L Behnken** (Bob) (b.1970) is married to fellow astronaut K Megan McArthur. In September 2006, he served as an aquanaut during the NEEMO 11 mission aboard the Aquarius under water laboratory, living and working underwater for seven days. He has been on two missions to the ISS. The first was in March 2008 where he took part in three spacewalks. The second mission was in February

2010 where again he took part in three spacewalks. In August 2018 he was assigned to this first test flight SpX-DM2 of the SpaceX crew Dragon.
Doug Hurley (b.1966) is married to fellow NASA astronaut Karen Nyberg and have one son. His first mission was on Endeavour which docked to the ISS in July 2009. This set a record for the most humans in space at the same time in the same vehicle, the first time thirteen people have been at the ISS at the same time. It also tied the record of thirteen people in space at any one time. In August 2018 he was assigned to this first test flight SpX-DM2 of the SpaceX crew Dragon. Following the In-Flight Abort test of Crew Dragon, he was confirmed to be the flight's commander.

Facts: The first earthlings to travel to the moon and back were in fact two tortoises. They with fruit fly eggs and plants went to the moon on the spacecraft Zond 5 which was the Soviet Zond program. It went to the moon during September 1968 which was just months before Bill Anders, Frank Borman and Jim Lovell took flight on Apollo 8 who were the first humans.

News: **Solar Orbiter**: The science payload is composed of 10 instruments.
2/10) EPD – Energetic Particle Detector (Spain): To measure the composition, timing and distribution functions of suprathermal and energetic particles. Scientific topics to be addressed include the sources, acceleration mechanisms, and transport processes of these particles.

News Extra: It was announced on April 7th that more than 100 of Earth's largest telescopes are now closed, and astronomers are worried about the pandemic's long-term impacts on their field.

Wishing you and your families all stay safe through this Coronavirus....