

Dundee Astronomical Society

Sky Notes for April 2018

Sky Map for 15th April 22:00

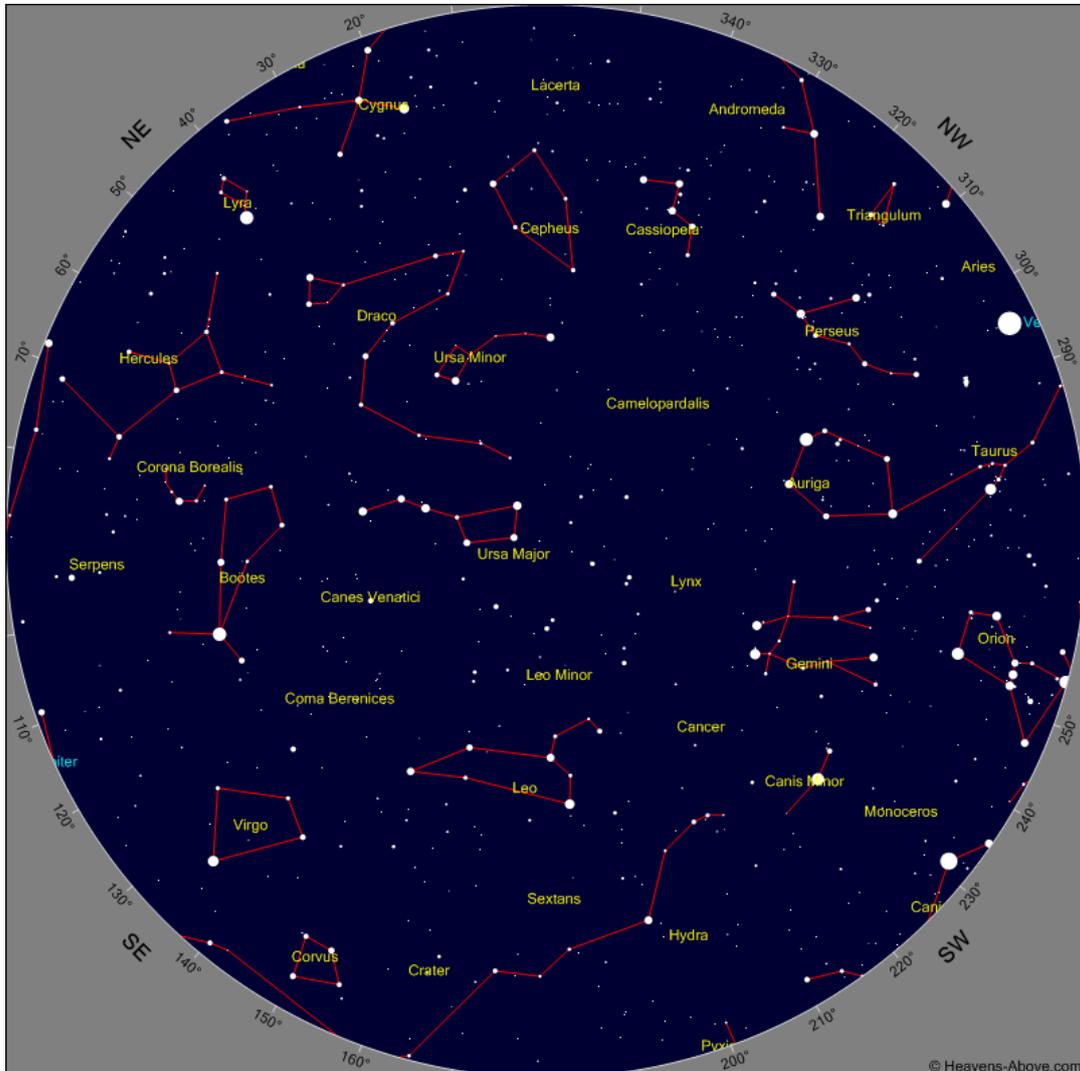


Illustration Courtesy of www.heavensabove.com

Here we are, in glorious spring time with beautiful clear night skies giving us plenty of opportunities to observe, we can dream, can't we? Anyway, let's look forward to better weather with clear skies from here on in.

At the end of the month around 22:00 UT we say goodbye to our old friend Orion together with Altair in the summer Triangle. However, there are still many observing treats that we can view. Vega and Deneb are still above the horizon, as is Gemini, Leo and circumpolar Ursa Major and Minor. Let's hope that the weather does indeed get better with clear skies and the opportunity to stand outside in the dark and, sometimes cold, to look up and wonder how it all got there.

The Planets

Mercury	Rising at almost the same time as the Sun which means Mercury is not well placed for viewing.
Venus	Placed south of the Pleiades on the 30 th - best seen at approximately 20:00 UT.
Mars	Close to Saturn at the beginning of the month on the 2nd at approximately 04:00 UT.
Jupiter	Low in the southern sky for most of the night. Best seen 00:50 UT on the 30 th .
Saturn	Best seen on the 30 th at approximately 02:50 UT
Uranus	Not visible this month as it will be close to the Sun.
Neptune	Not visible this month.

The Moon

Third Quarter	Sunday 8th
New Moon	Monday 16th
First Quarter	Sunday 22nd
Full Moon	Monday 30 th

Ken's Moon in April

During April the Moon is still high in the sky towards first quarter, which is on the 22nd. A day later the terminator moves a bit westwards and crosses a number of interesting objects which are worth more than a glance. On this date, the terminator crosses the prominent crater Plato, situated in the Montes Alpes towards the south of the Moon. Plato is a dark, lava flooded walled plain around 100 km in diameter. On the evening of the 23rd April the terminator will gradually start to reveal Plato as the easterly wall casts long sharp shadows over the flat interior. It is well worth watching the changes in these shadows over an hour or two from about 2000 UT. Have another look at Plato on the evening of the 24th April.

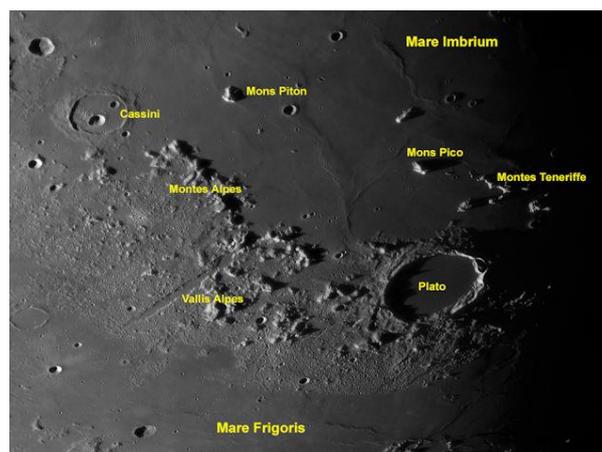
Moving eastwards over the Montes Alpes, a great gash in these mountains can clearly be seen and this is the Vallis Alpes, or Alpine Valley as we used to know it. This is a graben fault caused by sinking between two fractures or faults which were probably caused by disruption following the impact which created Mare Imbrium. The valley is about 120 km long and 6 to 10 km wide and has a flat bottom which was probably created by lava flowing from Mare Imbrium at some point. With a moderate sized telescope in good seeing conditions it may be possible to see the sinuous rille which runs down the centre.

Moving east again from the Vallis Alpes you will find the low rimmed crater Cassini (58 km). Like several craters in and around Mare Imbrium, the base of Cassini is lava filled but if you look outside the crater rim you will see a distinct area of ejecta encircling the crater. This suggests that the depth of basalt at that point on the Mare Imbrium is not very great. The other notable feature of Cassini are the two smaller craters, Cassini A (13 km) and Cassini B (9 km) which lie within the main crater and give it a distinct appearance.

Moving westwards into the flat basaltic area of Mare Imbrium you will see a number of isolated mountain peaks and mountain ranges. The first you will encounter is Mons Piton which rises to more than 2,000 m. On the 23rd it will cast a striking shadow across the mare basalt and, while watching the shrinking of the shadows in Plato, also note how the shadow cast by Piton shrinks. To the west of Piton and just on the terminator at around 2000 UT is another isolated peak, Mons Pico. Pico is around 2,500 m and will appear at this time as a bright top on the dark basalt. Have a look the following night and it will appear rather like Piton on the 23rd with a well-defined shadow. Just west of Pico and seen by the 24th are the Montes Teneriffe, a bright range of mountains with at least one peak as high as Pico.

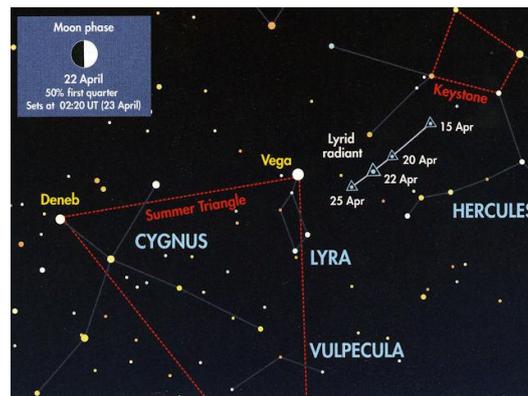
The area around Montes Alpes has several interesting features as mentioned above and it is worth spending some time studying them carefully to try to see fine detail such as the sinuous rille in Vallis Alpes and perhaps features on the isolated mountain peaks. It's also an area to watch over several hours to see the changing shadows as the Sun rises on Mare Imbrium.

The terminator will be near the position shown on the accompanying image at around 0400 UT on the 24th April.



Meteor Showers

Lyrids Meteor Shower. The Lyrids is an average shower, usually producing about 20 meteors per hour at its peak (ZHR). It is produced by dust particles left behind by comet C/1861 G1 Thatcher. The shower runs annually from April 16-25. It peaks this year on the night of the 22nd and morning of the 23rd. These meteors can sometimes produce bright dust trails that last for several seconds. The first quarter moon will set shortly after midnight, leaving dark skies for the what could be a good show. Best viewing will be from a dark location after midnight. Meteors will radiate from the constellation Lyra but can appear anywhere in the sky.



Courtesy of S@N Magazine

Monthly Challenge

Although Orion is now getting quite low in the sky this month, let's stay with it and look at NGC1999. This object is a reflection Nebula and is lit by V380 Orionis and, with a magnitude of +9.3, you will need a medium to large scope to view. This reflection Nebula also has a "black patch" in the centre of the object which, at present, is still under discussion as to the cause. To see the "black patch" clearly, you will need to image it.



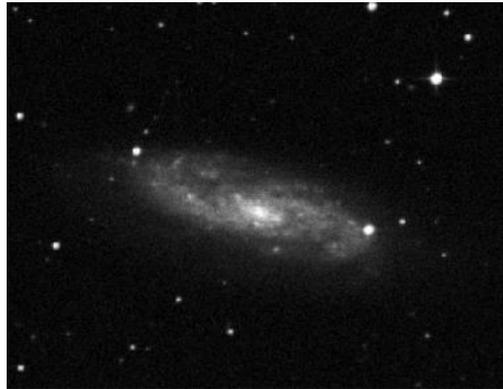
Jim's Focus of the Month

Crater

Depicts a cup that is associated with the god Apollo and is perched on the back of Hydra the water snake. The nearby Crater 2 is a dwarf satellite galaxy of the Milky way.

There are 3 deep sky objects associated with Crater, two of which are described below:

NGC3511 is a Spiral Galaxy of Magnitude +11.6 so view you will require a medium to large telescope.



NGC 3981 is another Spiral Galaxy of Magnitude +12, and again you will need a medium telescope to get the best view.



Forgotten Women of NASA

Born in 1951, later when completing her PhD in Physics, she read in a student newspaper that NASA was recruiting astronauts and, for the first-time, women could apply. On June 18th, 1983 she blasted off aboard the space shuttle Challenger to become America's first woman in space. Sally Ride died in 2012. She was posthumously awarded the Presidential Medal of Freedom.



Did You Know?

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| 6 th April 1965 | Intelsat (Early Bird), first geostationary commercial communications satellite launched. |
| 4 th April 1983 | First flight of space shuttle Challenger. |
| 19 th April 1971 | Salyut 1, first space station launched by USSR. |
| 24 th April 1990 | Space shuttle Discovery launched, deploying the Hubble Space Telescope. |

Jim Barber

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