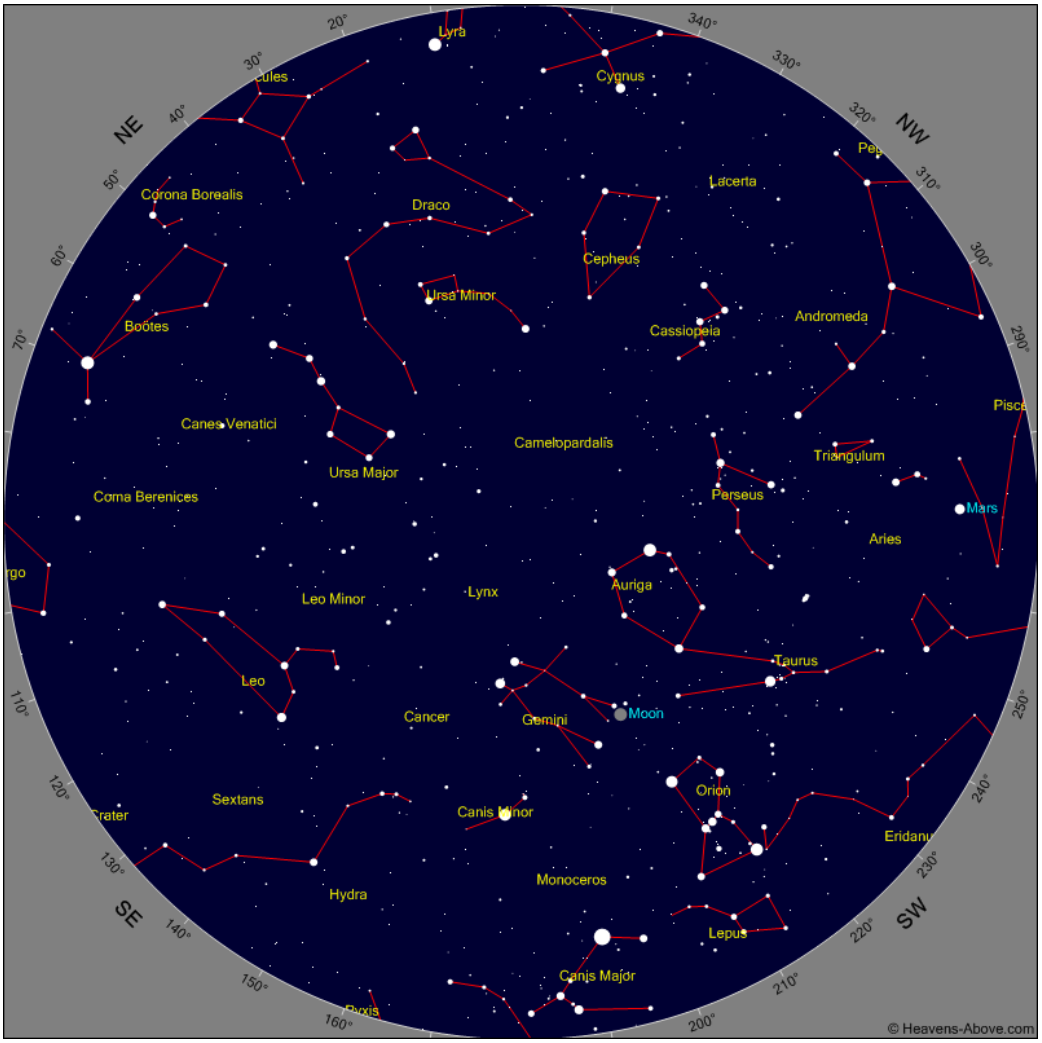
Dundee Astronomical Society

Sky Notes for February 2019



Sky Map for 15th February 22:00 UT

Illustration Courtesy of www.heavensabove.com

Firstly, many thanks to Ken Kennedy for taking care of January's Sky notes in my absence.

Here we are in February with the days slowly starting to stretch out, hopefully with much better viewing conditions. Certainly, here in Fife it has not been good at all with just 3 clear nights so far, as I am preparing these notes, and these were all with very high winds.

Let's look forward to the challenges this month will bring. There are many opportunities to look for in our night skies. Orion is very prominent in the south west, accompanied by Gemini to its east and Leo even further east of Gemini, all with a great many Deep Sky Objects that can be accessed. Whilst we are in this region of the night sky, let's look at the Winter Triangle, formed by three stars, Betelgeuse in Orion, Procyon in in Canis Minor and Sirius Canis Major. Interestingly enough the

Summer Triangle is still visible up there. Vega and Deneb are visible through the night, but Altair disappears early evening below the horizon.

19th February we will once again witness a supermoon, the largest of the year. It would be nice if we could get some images for the web site. I know our web master would love to put these up. However, don't be too disappointed if you can't see the increase of the moon size you expect.

Sadly, Nancy Grace Roman passed away at the age of 93 in the early hours of 2nd January.

Dr Roman was known as "Mother of the Hubble" for her work on the preliminary stages of the Hubble Space Telescope.

Nasa said her most important legacy was the advancement of women in the sciences and the generations of young scientists she inspired.

In 2017, when Lego created a 231-piece Women of Nasa set, a figurine of Dr. Roman was included among four women identified as space pioneers.

The Planets

Mercury	Look after sunset, best viewed on the 27th in Pisces.
Venus	Morning planet very close to the waning crescent moon and Jupiter at the start of the month in Sagittarius 0600 UT. Best seen on the 18th.
Mars	Still an evening object best viewed on the 1st of the month, well worth getting the scope out and having a look. Getting smaller as the month progresses.
Jupiter	Not visible in our night sky, close to Venus at the beginning of the month.
Saturn	Morning object appears near to the waning moon at the beginning of the month.
Uranus	Best seen at start of the month in the early evening.
Neptune	Best viewed on the 1st around 18:45 in Aquarius.

The Moon

New Moon 4th February

First Quarter 12th February

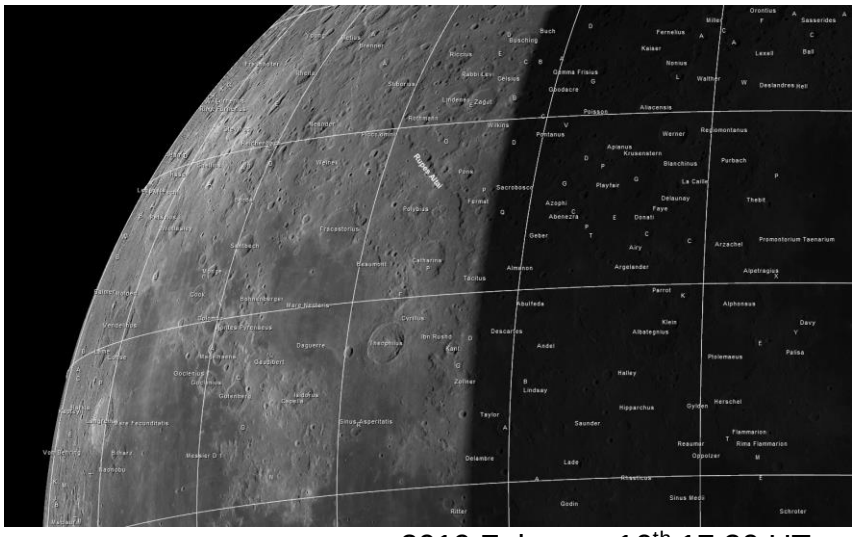
Full Moon 19th February (Largest Super moon of the year)

Third Quarter 26th February

Ken's Moon Notes (February)

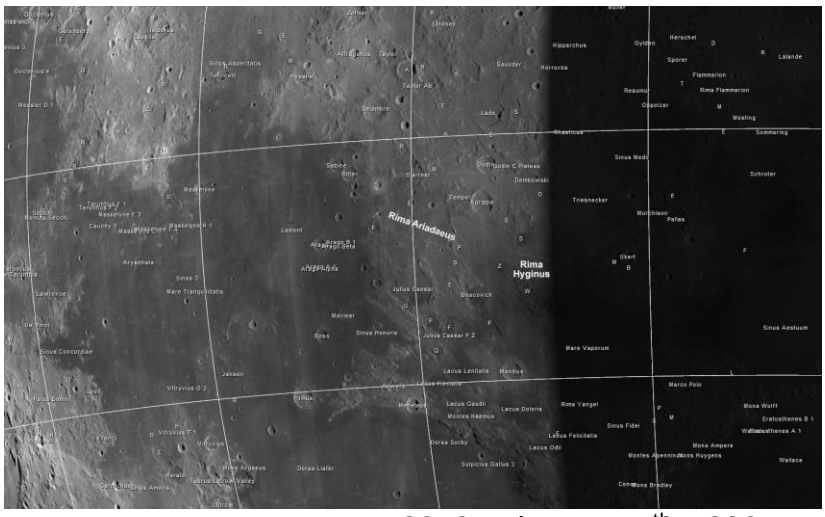
I always think that the months of February and March are the best lunar months of the year. When the Moon is close to first quarter it is high in the sky and, for me, my favourite areas are on display at very civilised times of the evening. I have mentioned some of these areas in previous monthly Moon notes but I will remind you of the features which I find worth looking at time and time again and the areas on which you may wish to try your imaging skills as there are some fine details to capture if we only get some nights with nice stable air conditions.

Let's start with the 10th February. The Moon is close to 6 days old and transits at 16.30 UT at an elevation of 38º. The terminator has cleared Mare Nectaris and leaves the triplet of craters, Theophilus, Cyrillus and Catharina well placed for examination. Note how comparatively well preserved Theophilus is compared to the other two, especially Cyrillus. Close to the terminator and running southwards from the crater Tacitus is Rupes Altai, the outer wall of Mare Nectaris, which ends at the crater Piccolomini. This is the only part of the outer wall which can be readily seen, and it is especially clear at this phase of the Moon. Follow the northward line of Altai and find the crater Arago, just a bit below the bottom edge of the illustration. You should easily be able to see the two domes close to this crater.



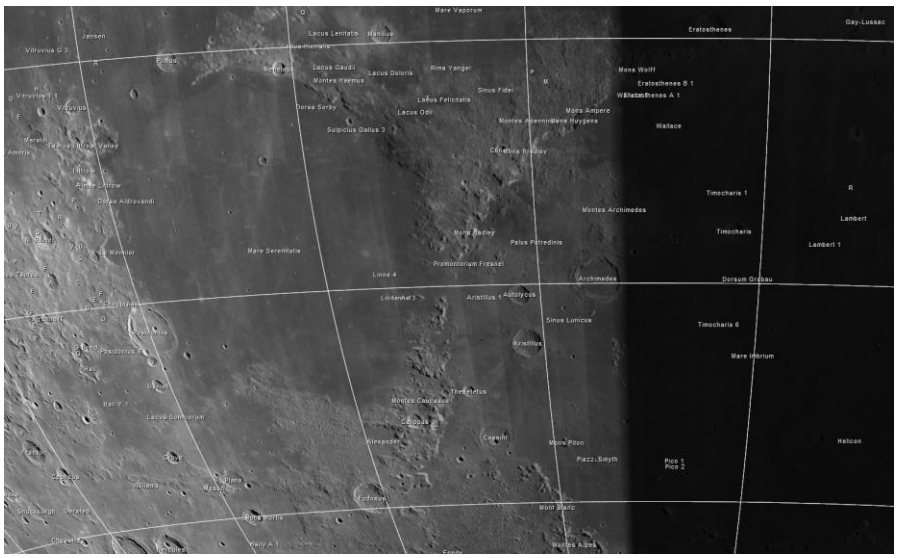
2019 February 10th 17.30 UT

The next evening sees the terminator uncovering the fine rille, Rima Ariadaeus and bisect Rima Hyginus. This is a fantastic opportunity to examine these rilles, especially Hyginus. Both of these rilles are probably Graben Faults but Rima Hyginus seems to have evoked, or been produced by, volcanic action as there are a number of crater pits along its length. This is the evening to have a close look at these, especially if conditions are good enough for high magnification. Check Arago and its domes. As domes are very low features which are best seen near the terminator, can you still see anything of the Arago domes tonight?



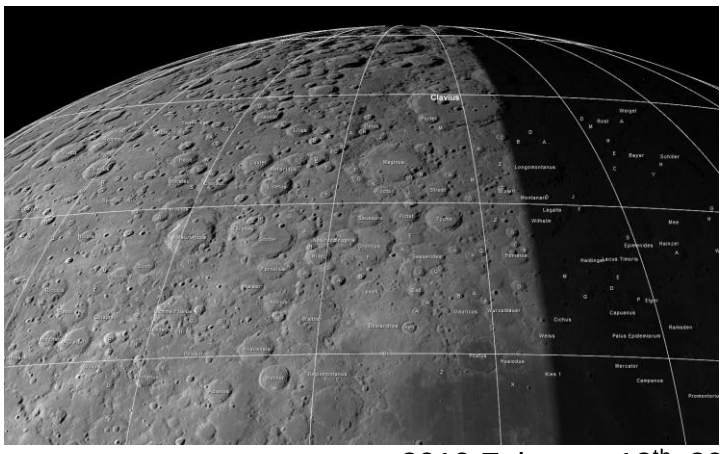
2019 February 11th, 1800 UT

By the 12th February the terminator has passed from Mare Serenitatis into Mare Imbrium and reveals the superb eastern end of that mare. The wall of Imbrium formed by the Montes Alpes, Caucasus and Apenninus curves majestically in a semi-circle and holds within it the craters Aristillus, Autolycus and the larger Archimedes, which is very close to the terminator and in an ideal position for close examination of its walls and the southerly ejecta blanket. Drift south-east from Archimedes and, on the rim of Montes Apenninus, you should find a high peak, Mons Hadley. Nearby is the rille Rima Hadley near to which Apollo 15 landed. In good seeing conditions and with a reasonably sized telescope it should be possible to see the rille. Just to the north of the illustration you will easily pick up the Vallis Alpes and if you are very fortunate you may just make out the rille running down its length.



2019 February 12th, 1900 UT

On to the fourth day of our lunar adventure and always hoping that at least one of these will have clear skies. On the 13th February I direct your attention to the southerly area of the Moon. This rugged area is full of interest – enough for a lifetime's study! I will pick out my perennial favourites, Clavius and Tycho which are ideally situated on this evening. Clavius has just been uncovered by the terminator and you will be able to clearly see the sharp smaller craters on its floor but also the undulations of the floor of Clavius itself. See how many craterlets you can pick up on the floor of Clavius. It's also an excellent time to have a look at the two craters which breach the wall of Clavius, Porter and Rutherford. For some inexplicable reason I don't really examine these as often as I should as I tend to look upon them as some sort of adornment to the main crater! Move north to Tycho and the contrast couldn't be more striking. The young, clean-cut crater compared to the ancient and crumbling Clavius could not speak more clearly of the aeons which separate their formation. Take the opportunity to look around the area. Between Clavius and Tycho the very degenerate crater Maginus but let your eyes drift southwards again and you will find many smaller, sharper and more recent craters. If you are in a mood to ponder on these, consider the 'rule' that you will not find a smaller crater breached by a larger one. The size of impacting bodies grew smaller with time and invariably smaller craters are seen within or breaching the walls of larger craters. Have a look around and you will find this is correct – but if you do find the odd small crater breached by a larger impact, please note it and let me know.



2019 February 13th, 2000 UT

Hopefully, if conditions aren't favourable in February, you may be able to look at these features in March or even into April.

Ken Kennedy

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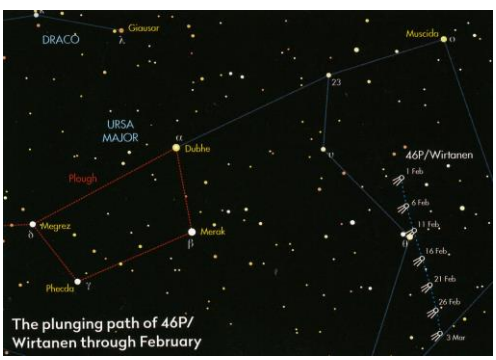
Still in our skies passing through Ursa Major. Can be seen in binoculars.

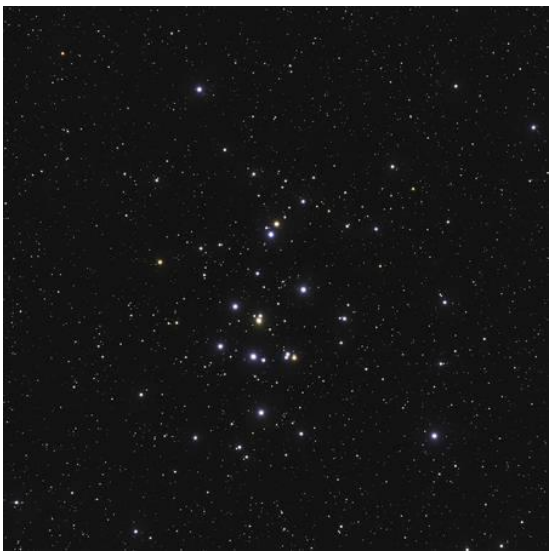


Monthly Challenge

Returning to the Moon. On Thursday 14th the effect known as The Jewelled Handle will be visible in the evening. This occurs when the peaks of the Jura mountains which surrounds Sinus Iridium catch the sunlight. This is a difficult one this month, let's hope we get the conditions to allow us to have a go.

Jim's Focus of the Month

This month let's look in the constellation of Cancer the Crab and concentrate on M44 (NGC 2632), more commonly known as the Beehive Cluster, an open cluster. At magnitude of +3.1 it should be easily visible in a pair of binoculars but better viewed using a telescope with low magnification. Have a go and let us know how you get on. I know our webmaster would be delighted to add any and all images to the Society website.



Did You Know?

1st February 2003, Space Shuttle Columbia breaks up during re-entry into the Earth's atmosphere with a crew of seven Astronauts aboard.

7th February 1999 Stardust launched as the first US mission to bring a sample of a Comet back to Earth.

11th February 1970 Ohsumi, a Japanese test satellite was launched.

20th February 1962 John Glenn Jr becomes the first American to orbit Earth.

Jim Barber

Director of Observations

Dundee Astronomical Society