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SKY GUIDE

Astronomical guide for
February 2025

The most up-to-date guide to planetary and lunar activity, comet news and space wonders.

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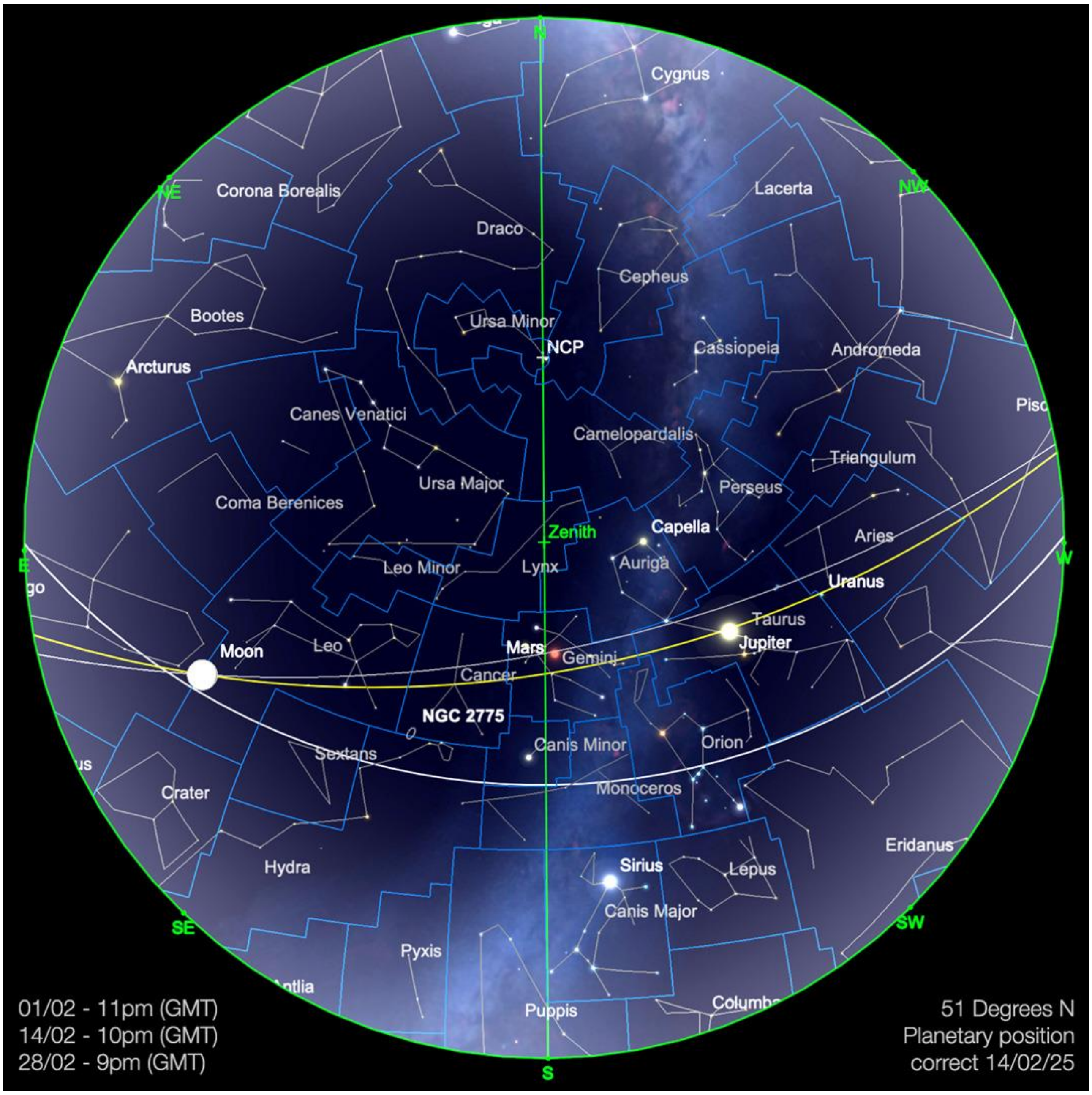
Gutenbergstr. 2 · 46414 Rhede · Germany
+49 (0) 28 72 – 80 74 – 0
info@bresser.de · www.bresser.de

Original text: Kerin Smith

Expand your horizon

Telescope House Hosted By Bresser UK February Sky Guide



February is typically the shortest month, with 28 days and only extends to 29 in a Leap Year, aligning our calendar with the Earth's rotation and orbit. The Gregorian Calendar, introduced in 1582, corrected inaccuracies in the previous orbitally flawed Julian Calendar. Leap Years are designed to maintain accuracy; for example, 2024 was a Leap Year as it was divisible by 4 but not by 100 unless also by 400. 2025 meets none of these criteria, so February remains a regular 28-day month.

The reason for February's comparative shortness is straightforward — human-imposed segmented time measurement does not completely align with nature. As natural time progresses, our calendar, if left uncorrected, would begin to slip and fall out of sync with the Earth's rotation and path around the Sun. Although this is a gradual process, it would not take long before the misalignment became quite noticeable. The reason behind this is as follows: the exact time taken for the Earth to complete one orbit of the Sun is just over 365 days. This period, known as an Astronomical Year—among other terms—equates to approximately 365.242 days. Once these "extra" hours of an Astronomical Year accumulate, they amount to a significant period of time, which, if uncorrected, would cause the Gregorian Calendar to drift in relation to astronomical events such as the Solstices and Equinoxes.

Pope Gregory XIII introduced the Gregorian Calendar in 1582 as an improvement over Julius Caesar's Julian Calendar, which was known for its inaccuracies. Luigi Lilio, the Italian natural scientist responsible for its formulation, never witnessed its implementation. Leap Years, with an additional 29th February, were crucial for the accuracy of the Gregorian system and were simpler than the Julian method. Despite its introduction in 1582, Britain continued using the Julian Calendar until 1752.

Leap Seconds, such as the last one added in December 2016, fine-tune timekeeping due to variations in the Earth's rotation, influenced by factors such as atmospheric drag. Venus exemplifies the impact of atmospheric drag on rotation, as its day now exceeds its year. However, it appears that the days of the Leap Second are numbered. In 2022, the international body overseeing weights and measures, the BIPM, voted to discontinue adding Leap Seconds to Universal Time by 2035. Instead of inserting Leap Seconds at regular intervals, time will be allowed to drift slightly in relation to the Earth's rotation, with corrections made by the insertion of a Leap Minute every 50 to 100 years. How this will ultimately affect the precision of telescope pointing and other tracking equipment remains uncertain. However, as many of these systems rely on GPS, which has its own timestamp separate from Universal Time, the offset in timing relative to the Earth's rotation may be less pronounced.

The Solar System

The Sun

Our parent star remains highly active, showing little sign of settling down from its peak activity. This current peak has already significantly surpassed that of 2014/15, which, in truth, was relatively weak. Sunspot activity has exceeded 225 in recent months. However, it still has some way to go to match the record-breaking Cycle 19, which peaked around 1958 with over 350 sunspots per calendar month at its height. While there is little chance of the current Cycle 25 reaching such extreme levels, it is performing well above initial predictions. December's sunspot activity significantly outperformed predictions again, with 154.5 sunspots being visible from Earth during the calendar month, as opposed to the predicted level of 112.3.

At the time of writing, there have been no significant recent repeats of the lower-latitude auroral displays experienced in May, August, September, and October of 2024. However, with sunspot activity still notably high, this could change at very short notice.

Websites such as www.spaceweather.com and Michel Deconinck's monthly newsletter (Aquarellia Observatory Forecasts) cover various aspects of solar observations and provide valuable insights into the current state of our parent star. Signing up for the AuroraWatch app, developed by Lancaster University in the UK, is also highly recommended for those seeking advance warnings of impending auroral events.

The Moon

The Moon begins February as a waxing crescent, approximately three days old, situated in the constellation of Pisces. The evening of the 1st finds the Moon alongside the striking Venus - the two forming a very prominent pair in the south west after sunset. Over the following nights, the Moon continues to grow in phase and illumination, climbing higher in the ecliptic from a northern hemisphere perspective.

Although the northern hemisphere is not experiencing Spring as yet, February's waxing crescent phase represents the first of what is commonly known as the Moon's "High Spring Crescent" phase. This occurs for observers in the northern hemisphere during springtime in the evenings. It is caused by the steeply setting Ecliptic plane as seen from temperate northern climes at this time of the year. The "High Spring Crescent" phase offers observers some of the best opportunities to view the Moon in the evening time and if the weather is kind should not be missed.

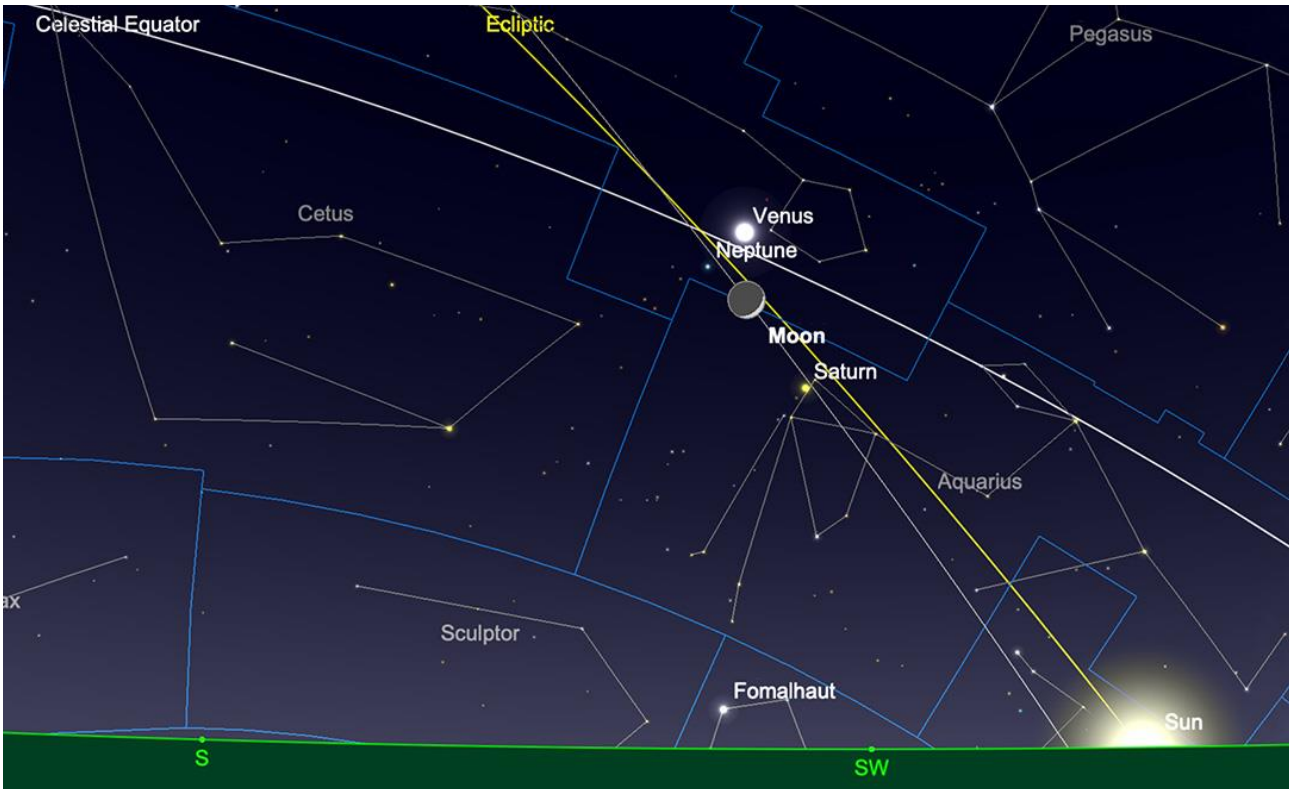
By the evening of the 5th, the Moon reaches its First Quarter phase in Aries, offering a striking sight as it sits high in the evening sky. The following night it sits next to Jupiter in Taurus.

A particularly interesting event occurs on the 9th, when the Moon makes a close approach to Mars, appearing near the Red Planet in the night sky. This conjunction presents a fine opportunity for naked-eye and telescopic viewing. In certain parts of the world - Northern Russia and central China, eastern Canada, Greenland, Iceland, the Orkney Islands and a large part of Northern Norway, Sweden and Finland - the Moon will occult Mars, but sadly this will be limited to these territories.

As the month progresses, the Moon moves through Gemini and Cancer before reaching Full Moon on the 12th in the constellation of Leo. This Full Moon, traditionally known as the Snow Moon, dominates the night sky, making this period less favourable for deep-sky observations.

In the latter half of the month, the Moon continues its journey, passing through Virgo and Libra before reaching its Last Quarter phase in Scorpio on the 20th. During this phase, the Moon rises later in the night, allowing darker skies in the evenings for visual deep sky astronomy and astrophotography.

During the final week of February, the Moon descends lower into the southern part of the ecliptic, moving through Ophiuchus and Sagittarius. Eventually, it reaches the constellation of Aquarius, where it meets the Sun on the 27/28th, becoming New once again.



The Crescent Moon and Venus, Jan 1st, 2025. Image created with SkySafari 6 for Mac OS X, ©2010-2016 Simulation Curriculum Corp., skysafariastronomy.com.

Mercury

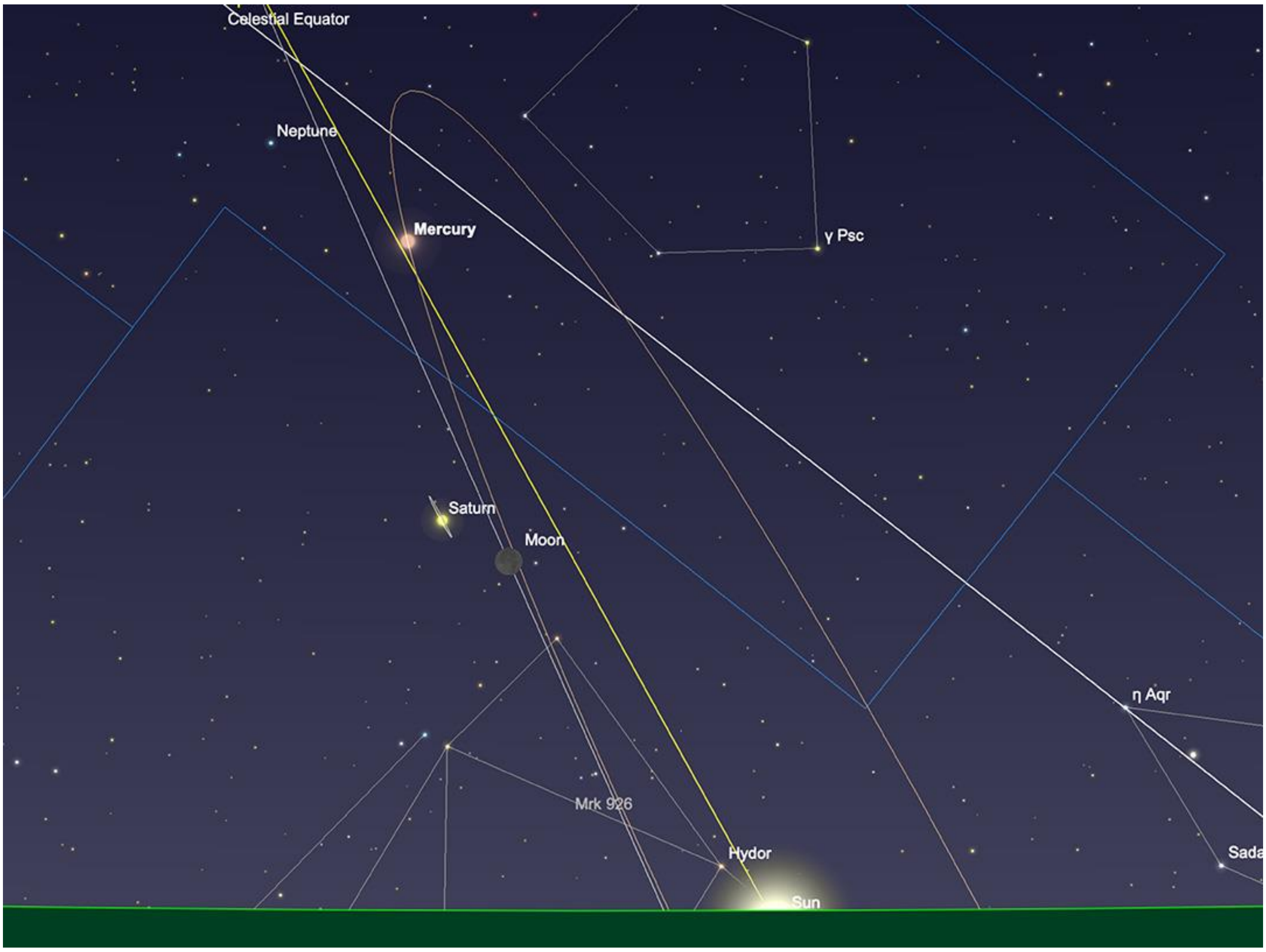
Observing Mercury, the innermost planet of our solar system, can be a challenge due to its close proximity to the Sun. However, late February 2025 presents a favourable opportunity for observers in the northern hemisphere to catch a glimpse of this elusive world.

Mercury reaches superior conjunction on 9th February 2025, positioning it directly behind the Sun from Earth's perspective. Following this, it will gradually emerge from the Sun's glare and become visible in the western sky after sunset during the last few days of the month. The best viewing period extends into early March, peaking at Mercury's greatest eastern elongation on 8th March, when it will be 18 degrees east of the Sun.

In late February, Mercury can be observed approximately 30 minutes after sunset. Looking towards the western horizon, the planet will appear as a bright star-like point of light just above the setting Sun. At -1.3 to -1.0 magnitude during the last week of February, Mercury is almost at peak brightness at this point. As the days progress into early March, Mercury will climb higher in the evening sky and remain visible for longer after sunset, making it easier to spot. On the 25th, Mercury and Saturn are in close conjunction, separated by around 1 1/2 degrees on the Aquarius/Pisces borders.

During late February, Mercury will be traversing the border of Aquarius, into neighbouring Pisces. Its position against the backdrop of stars will shift slightly each evening due to its rapid orbital motion. A location with an unobstructed view of the western horizon, free from buildings or trees, will offer the best chance of seeing it. Although Mercury is bright enough to be seen with the naked eye, binoculars can significantly enhance your chance of finding it, especially in twilight conditions.

As always, caution must be exercised when observing Mercury. Never attempt to look for the planet before sunset. It is much safer to wait until the Sun is completely set to try and find it with any form of optical aid.



Mercury at sunset, 28th February. Image created with SkySafari 6 for Mac OS X, ©2010-2016 Simulation Curriculum Corp., skysafariastronomy.com.

Venus

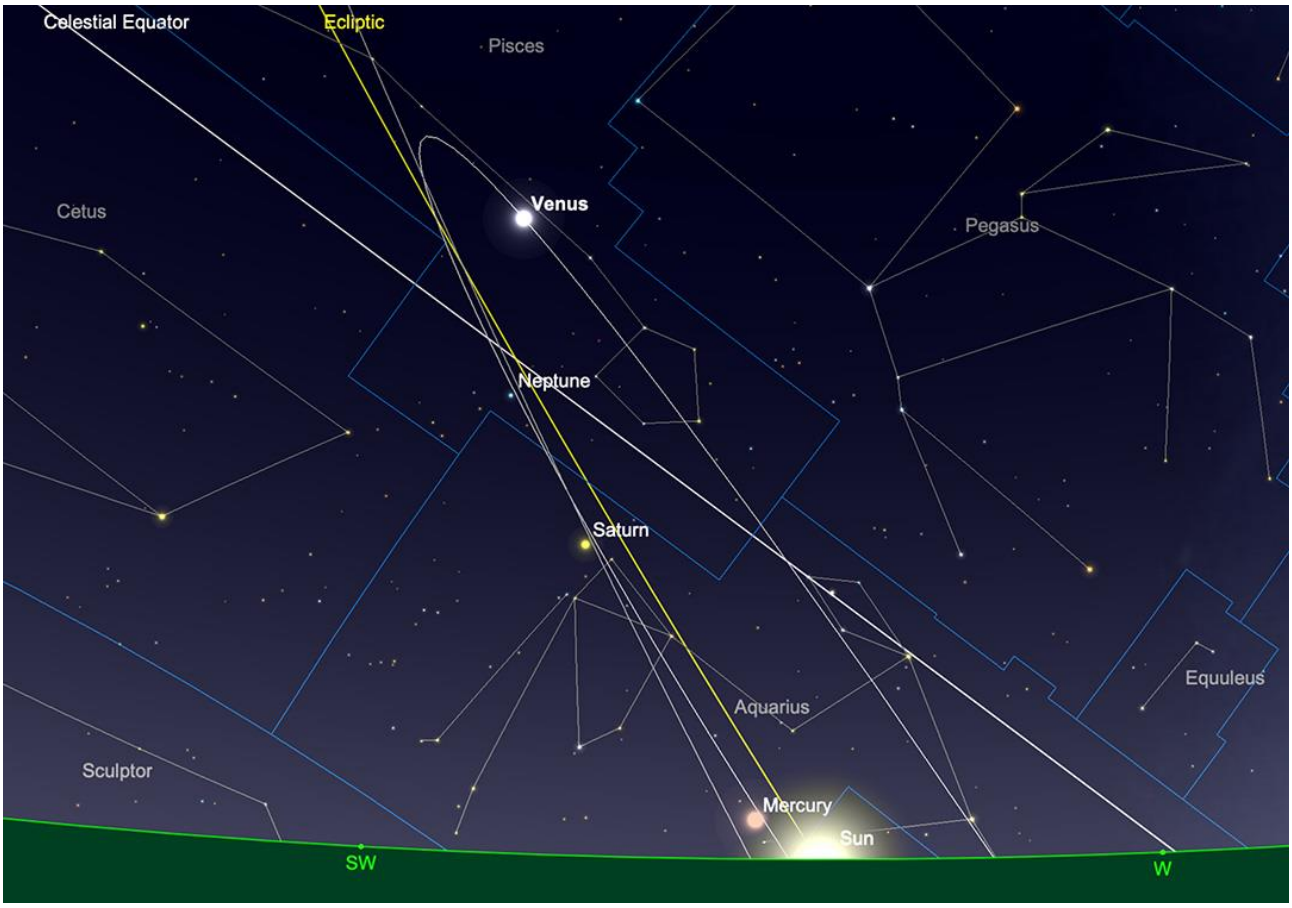
Venus remains a striking presence in the evening sky throughout February 2025. At the beginning of the month, it can be found in the constellation of Pisces, shining brilliantly at close to peak brightness at magnitude -4.6. On 1st February, about an hour after sunset, Venus will be visible over 35 degrees above the western horizon (as seen from 51° north). Its disc will measure over 32 arc seconds in diameter, showing a distinct crescent phase, with about 37.5% of its surface illuminated. As previously mentioned the evening of the 1st bright Venus and the thin Crescent Moon together, making a prominent pairing in the early evening sky. This should make for an excellent photographic opportunity.

As the month progresses, Venus remains high in the evening sky, for northern hemisphere observers. By mid-February, around the 14th, it retains its brightness, shining brilliantly at magnitude -4.6. On this date, it will be just under 35 degrees above the western horizon at sunset. Its disc will now appear larger, around 39 arc seconds across, though it will be only around 24% illuminated. As we have commented in previous sky guides, Venus is very efficient at retaining its brightness as its phase diminishes. It is reasonably unique in doing so and this is caused by its perceived expansion, as it moves towards the Earth during period such as this. The surface area of illumination of Venus 'disc continues to grow in size, even while its phase shrinks.

Towards the end of the month, Venus starts to appear lower in the evening sky, moving into the constellation of Aquarius. On 28th February, it will shine at magnitude -4.6 and be positioned just under 29 degrees above the western horizon at sunset. At this stage, its disc will be roughly 15% illuminated, with a diameter of around 48.6 arc seconds.

For the best chance of seeing Venus, it is advisable to find an open location with an unobstructed view of the western horizon, away from buildings or trees. The planet is easily visible to the naked eye due to its brilliance, but binoculars or a small telescope can provide a better view, revealing its changing phase and apparent size.

With its dazzling brightness and subtle changing in phase, Venus remains one of the most rewarding planets to observe this month.



Venus at sunset, 14th February. Image created with SkySafari 6 for Mac OS X, ©2010-2016 Simulation Curriculum Corp., skysafariastronomy.com.

Mars

A resident of Gemini, at -1.0 magnitude, showing a 13.6 arc second diameter disc, the planet Mars presents itself in slightly more modest observational circumstances at the beginning of February, than it did at its recent peak in January. However, make the most of the Red Planet's showing, as the tail-off after opposition can be dramatic. The evening of the 1st sees Mars attain the height of a little over 21° (from 51° north) as the Sun sets. It transits at just before 11pm, when it will have attained an altitude of 65 1/5 ° (as observed from 51° north).

By the time we get to mid month, Mars will have faded to -0.7 mag and will now show a 12.3 arc second diameter disc. It will now transit at just before 10pm (GMT) and still retain an impressive altitude from mid northern latitude, when it does.

The end of February sees Mars fade to -0.3 magnitude and displaying a 10 arc second diameter. While it is still exceptionally well-placed for evening observations, now transiting at just before 9pm (GMT), the onus is on observers to make the most of this apparition, the best of which is coming to an end.

Mars, taken on opposition evening 2025. Image by Geof Lewis. Image used with kind permission.

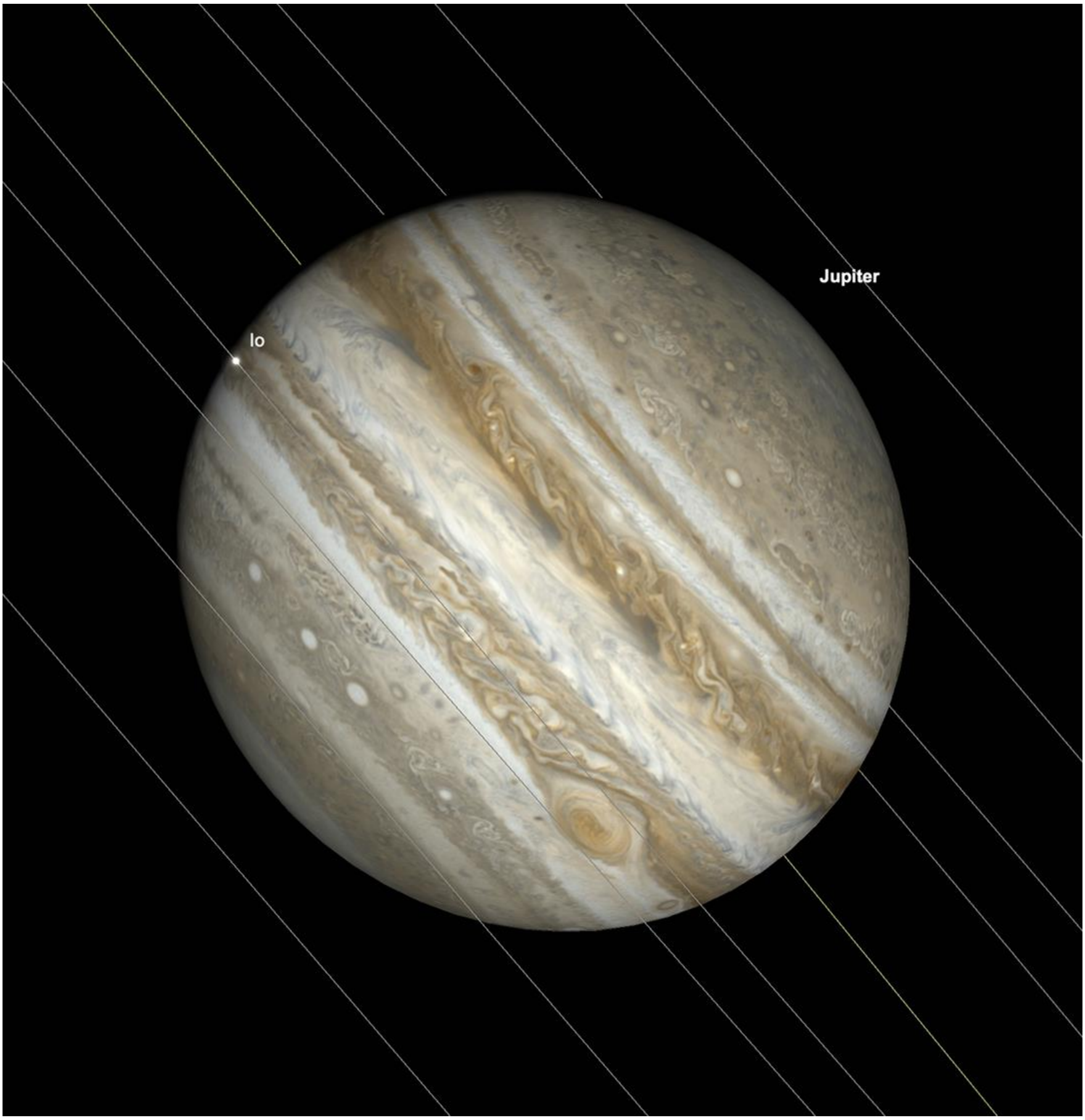
Jupiter

Jupiter remains exceptionally well-placed for evening observation throughout February 2025 and is still brilliant, despite the planet being some time after opposition. At the start of the month, Jupiter is located in the constellation Taurus, shining at a magnitude of -2.5 and presenting a diameter of 43.3 arc seconds. The planet rises just after 12pm GMT, transits the local meridian at a little after 8 PM and sets at a little after 4am the following morning.

By mid-February, Jupiter's brightness has slightly diminished to a magnitude of -2.4, now measuring about 41.5 arc seconds across. At this time, the planet transits the southern sky about 1 3/4 hours after sunset, standing around 61° above the horizon (as observed from 51° north).

By the end of February, Jupiter's magnitude has decreased further to a magnitude of -2.3 and presenting a diameter of 39.6 arc seconds. The planet rises just after 10:30 AM GMT, transits the local meridian at a little after 6:00 PM GMT, and sets at a little before 2.30 AM GMT the following morning.

Throughout the month, several notable mutual events involving Jupiter's Galilean moons are observable. 1st February: A mutual Great Red Spot (GRS) and Io/Io shadow transit occurs, starting around 11:30 pm (GMT). 4th February: A mutual GRS and Ganymede transit starts around 1.45am. 8th February: An mutual GRS and Europa transit occurs, starting around 2am. 4th February: A mutual GRS and Ganymede daylight transit takes place, starting around 1:30pm. 25th February: A brief mutual GRS and Europa transit occurs, starting around 8.56pm.



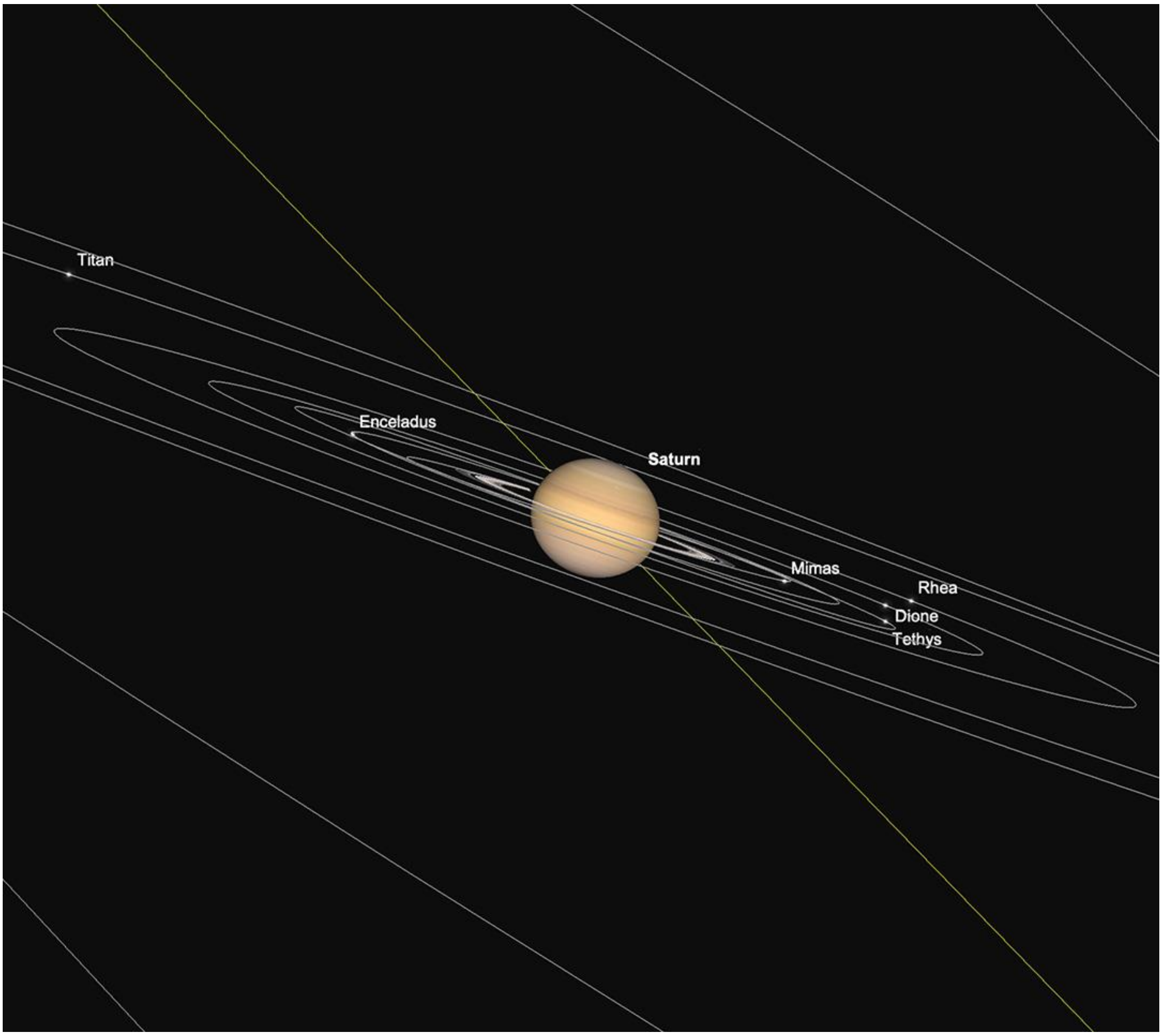
Jupiter, GRS and Io Transit, 11.42pm (GMT), 1st February. Image created with SkySafari 6 for Mac OS X, ©2010-2016 Simulation Curriculum Corp., skysafariastronomy.com.

Saturn

As mentioned in last month's, sky guide, the window for meaningful observations of Saturn in the evening sky is closing - and indeed, comes to a complete end by the latter part of the month. The 1st finds the planet at a visual magnitude of +1.1, displaying a 16 arc second diameter disk. The planet will transit in the south at around 2.42 pm (GMT) and will set at a little after 8 pm. While it is perfectly possible to observe Saturn once the Sun has set (it stands around 24 1/2° high – as observed from 51° north – in the south-west, in Aquarius), there is only a two hour window for observation in a darkening sky at the beginning of the month. With the Sun setting later and later, as time progresses and Saturn drawing closer to the Sun as the month goes on, evening observations become steadily more difficult. Those looking at the Ringed Planet through a telescope in recent times cannot help but notice that the ring system is now very thin, as we head towards ring plane crossing at the end of March 2025.

Mid February will see Saturn standing around 17° high in the west as the sunsets. It will now be +1.2 magnitude and will start to be difficult to see in the glare of the evening sky. At this point, Saturn will set around two hours after the Sun, making it a tricky target at best.

Saturn reaches superior conjunction, the opposing side of the Sun, as observed from Earth, in mid-March and the last week of February, will be very poor for viewing the Ringed Planet. Saturn will be around 7 degrees high in the west as the Sun sets and this apparition's evening phase will be effectively over.



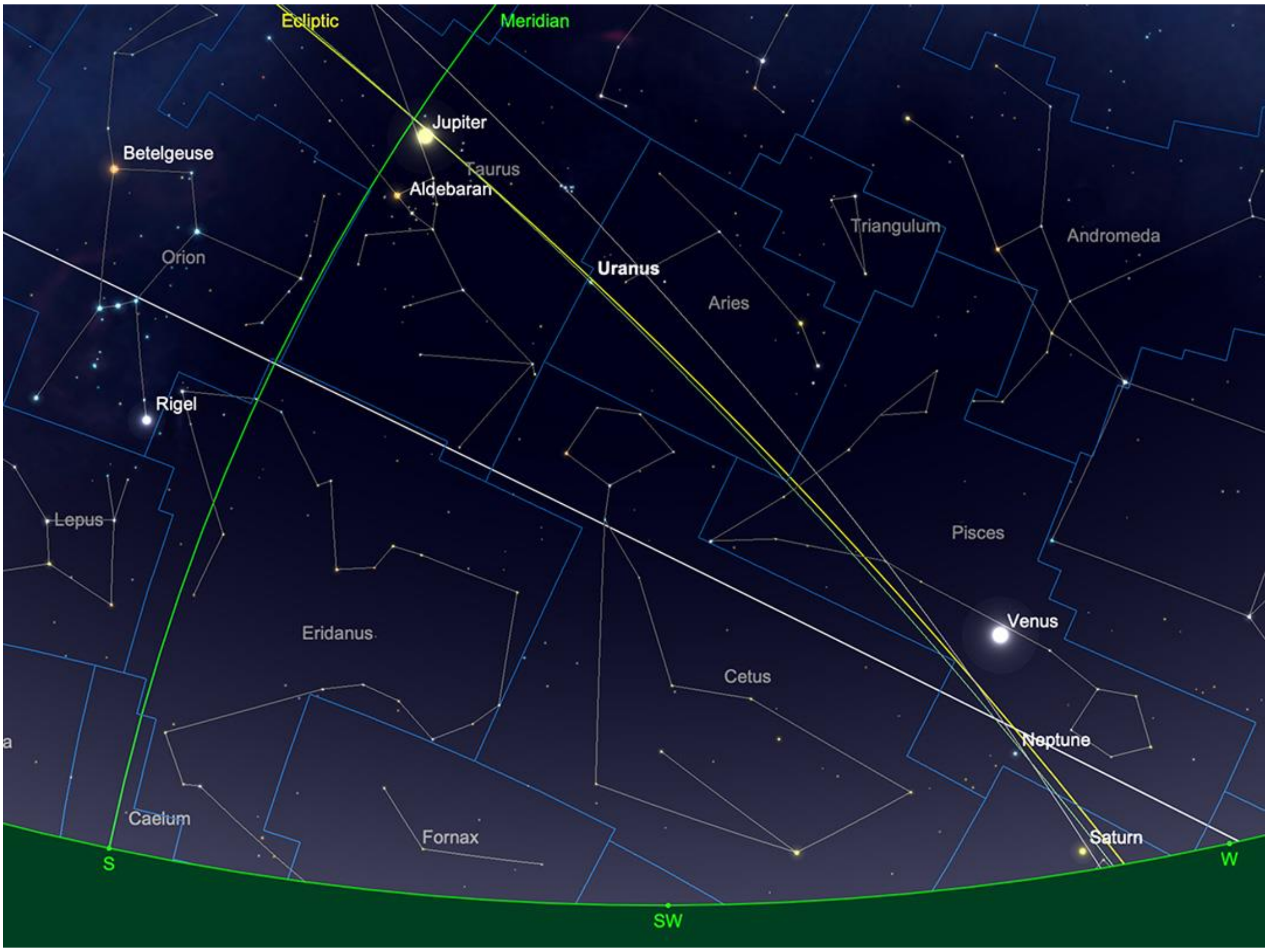
Saturn and inner moons, 1st February. Image created with SkySafari 6 for Mac OS X, ©2010-2016 Simulation Curriculum Corp., skysafariastronomy.com.

Uranus and Neptune

The outer gas giants are both observable during February, though it is Neptune, which is closer to Saturn in the sky, that presents the far larger challenge of the two. Neptune will stand around 22° high as the sunset on the 14th (as observed from 51° north). At +7.9 magnitude and displaying a tiny 2.2 arc second diameter disk, the solar system's outermost true planet will stand just 9° above the horizon by the time true astronomical darkness has fallen in mid northern latitudes. As the month progresses, the window of observation of Neptune closes to by the time we get to the end of the month, Neptune will sit just 18° from the Sun and will have become to all intents and purposes, unobservable. Though it will be another 19 days before it reaches superior conjunction in mid-March.

By way of contrast, Uranus is much better situated for evening observation, lying a little to the east of Jupiter in Aries. It is a steady +5.7 magnitude, displaying 3.6 arc second diameter disc in the middle of the month.

We often remark that Uranus is potentially visible with the naked eye – though only by those with very keen eyesight, from extremely favourable locations. However, the well-know Pleiades lying just under 8° to the east of Uranus, just over the in the shared constellation in Taurus, makes for a useful waypoint to find the mysterious outer world. Those with reasonable size telescopes, using high magnification can in certain circumstances, see albedo features on Uranus. This is a test of observing patience and skill – and also the optics of the telescope observers are using. Even those with smaller instruments will still see Uranus as a green–grey disc.



Uranus and Neptune relative position, astronomical dusk, 14th February. Image created with SkySafari 6 for Mac OS X, ©2010-2016 Simulation Curriculum Corp., skysafariastronomy.com.

Comets

Sadly, C/2024 G3 (Atlas) did not perform as well as expected for northern hemisphere observers. However, this comet appeared far better for southern hemisphere observers in mid-January. Some of the higher brightness estimates suggested it could reach a peak magnitude brighter than -20. However, the comet peaked at a more modest -4 magnitude. This was still quite a spectacular object, but its proximity to the Sun proved a real challenge for observations at its brightest.

The comet appeared to fragment in the latter part of January, by which time it was invisible to those of us in the northern hemisphere. However, by then it had developed quite a tail and this proved prominent in many pictures taken by southern hemisphere astronomers. The comet's fragmentation did not seem to affect the tail and general brightness of the object - and indeed may have contributed to it somewhat.

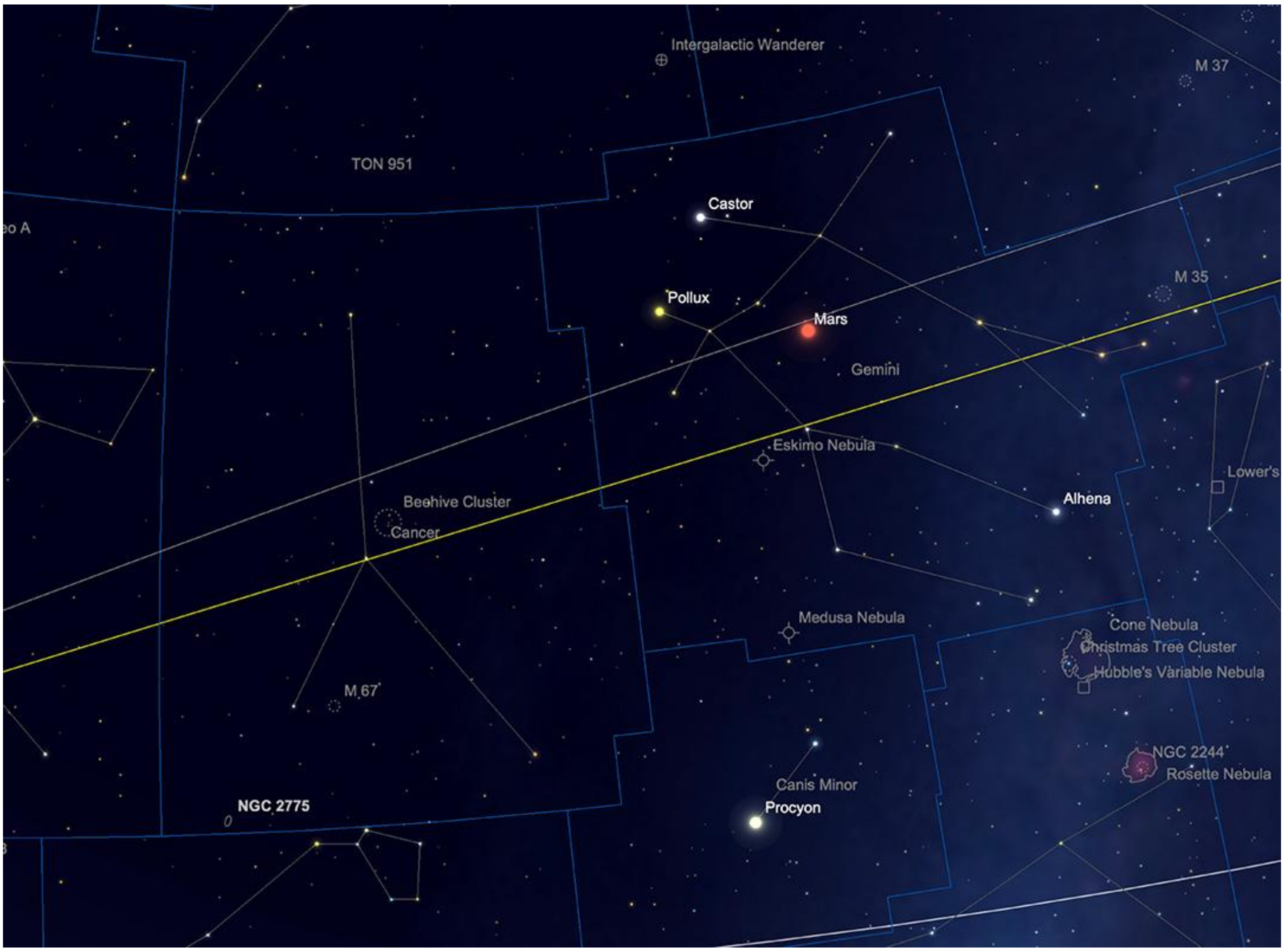
At the time of writing, the now "headless" comet is still visible to the naked eye in darker locations in the southern hemisphere, with a tail around 10 degrees in length.

C/2024 G3 (ATLAS) taken from the ISS by Astronaut D. Pettit, 11th January 2025. Public Domain.

Meteors

There are no bright or notable meteor showers during February. The beginning of the year is traditionally a rather sparse time for meteor activity, apart form January's Quadrantids. However, whenever you are out under a clear, reasonably dark sky, there is still the opportunity to see sporadic meteors. These are not necessarily associated with any particular meteor shower and can come from any direction in the sky.

Deep Sky Delights in Gemini and Cancer



Gemini and Cancer. Image created with SkySafari 6 for Mac OS X, ©2010-2016 Simulation Curriculum Corp., skysafariastronomy.com.

Gemini and Cancer are two "next door neighbour" zodiacal constellations and have between them an array of very differing targets, some of which are very easy to see in binoculars and smaller telescopes.

Gemini is the more westerly of the two and where we will start this month. The most obvious place to begin it with Gemini's two very prominent twin stars of Castor and Pollux, Alpha and Beta Geminorum, respectively. Pollux, the Beta star is actually brighter than Castor, the Alpha - and while it has been suggested that when Bayer codified the brightness classification of stars in the 17th century, Castor was the brighter of the two, this is extremely unlikely.

Castor is a fine double star and an easy target in small instruments. Consisting of two stars, A and B, of +2 and +2.9 mag respectively, Castor's elements are currently widening and are separated by 4.5-5 seconds of arc. Castor's double nature was discovered in 1678 by Cassini (he of Saturn's ring division fame, amongst many other discoveries) and bears the distinction of being the first gravitationally bound object to be identified beyond the reaches of the Solar System. Castor A and B's orbit about a mutual gravitational point takes around 467 years to complete, but both stars are also in turn doubles, with much fainter M-class dwarf companions. In addition to these companions there is also present in the system a further pair of gravitationally bound M-class stars. This makes Castor not just a double star, but a sextuple - quite a collection! Sadly, only the primary elements are observable in amateur instruments.

To the westerly reaches of Gemini, is to be found M35. M35 is a very prominent star cluster, at +5 mag, easily picked in small telescopes and binoculars and can also be seen with the naked eye from a reasonable site. Consisting of well in excess of 100 observable stars (mags 6-13th), M35 was first noted by Astronomer Philippe Loys de Cheseaux in 1745. Also included in the Uranographica Britannica by John Bevis in 1750, M35 was catalogued by Messier in 1764, who credited Bevis with its discovery.

Many of the 100+ observable stars are types G and K stars - similar in class to our Sun - though these seem to be of a considerably larger mean size than main sequence. M35 is tentatively aged at about 100 million years - about the age of the nearby M45, (the Pleiades) though problematically, stellar evolution is thought to be considerably more advanced in the case of M35. Does this mean that M35 is in fact older, or are the Pleiades actually younger? Further observation and theories will be needed to explain this anomaly.

In the background sky to M35 lies the fainter (+8 mag) open cluster NGC2158, though this is nearly six times further away than M35's 2800 light years. In addition to this, there is also the yet fainter and more compact IC2157 cluster (+8.4 mag) - making this an extremely rich area for sweeping with virtually any type of optical aid.

M35 & NGC2158. Image credit: Kerin Smith

Drifting eastward, 2 1/3 degrees east of the star Wasat (Delta Geminorum) is the fabulous Eskimo Nebula, NGC2392. This Planetary Nebula supposedly resembles an Eskimo's head, surrounded by the fur of an Arctic Parka hood. A reasonably compact 0.8 arc minute across (about 2/3rds the size of the Ring Nebula, M57), the Eskimo is only +9.19 mag, though its compact size makes its surface brightness quite high and it takes magnification well. Discovered by William Herschel in 1787, it is perhaps surprising that it wasn't noticed by earlier observers - though this is most likely down to its small size. OIII filters reveal more of the two stages of the object: it's tenuous outer shell and the gleaming, brighter interior. Larger instruments reveal more of the complex structure of the internal part of the Eskimo - its radial double shell of expanding gasses and fine s blown by cosmic winds form its central star. This central star shines at +10.5 mag and is relatively easy to spot in most instruments. The nebula is thought to lie at 2800-3000 light years distance.

The Eskimo Nebula, Hubble Image. Image Credit: NASA/ESA. Public Domain.

Further south from the Eskimo is another older, larger and fainter object - The Medusa Nebula (Abel 21). Whereas the Eskimo is small and comparatively bright, the Medusa is large - at 10 arc minutes across it is a third the diameter of the Full Moon. Telescopes of 8-inches + aperture, coupled with a good OIII filter and a dark site will be needed to seen the Medusa. Although listed as being +10.19 mag, this is spread out over a significant area of sky, so it is in long duration astrophotography that the wonders of the Medusa really start to reveal themselves. A modest aperture telescope will be needed and a sturdy equatorial mount, capable of being autoguided, will be needed to attempt to image this object. Images reveal the serpent-like tendrils of nebulosity that give this mysterious object its name - its namesake Medusa being the Gorgon who had snakes for hair in classical Greek mythology. The stare of Medusa was reputed to turn people to stone, though staring at this nebula through a large telescope will be a much more pleasant experience… The Medusa lies about half the distance from us as the Eskimo Nebula - 1500 light years and is around 4 light years in diameter. Opinions were divided on the true nature of the Medusa: George Abel, its discoverer thought it to be an old planetary nebula, whereas many considered its irregular nature to indicate it was a supernova remnant. Narrowband imaging has revealed the true extent of the Medusa's helical hourglass figure - making it much more likely to be, as Abel initially suggested, a planetary nebula.

The Medula Nebula. Image Credit: Joel Schuman, Mt Lemmon Observatory, Creative Commons.

Drifting eastward,, we come to the neighbouring Cancer. which contains a couple of interesting objects for Deep Sky enthusiasts. Cancer is small and rather faint, containing no really bright stars, Gemini on the other hand is bright and prominent and easily identified, even from a light polluted environment.

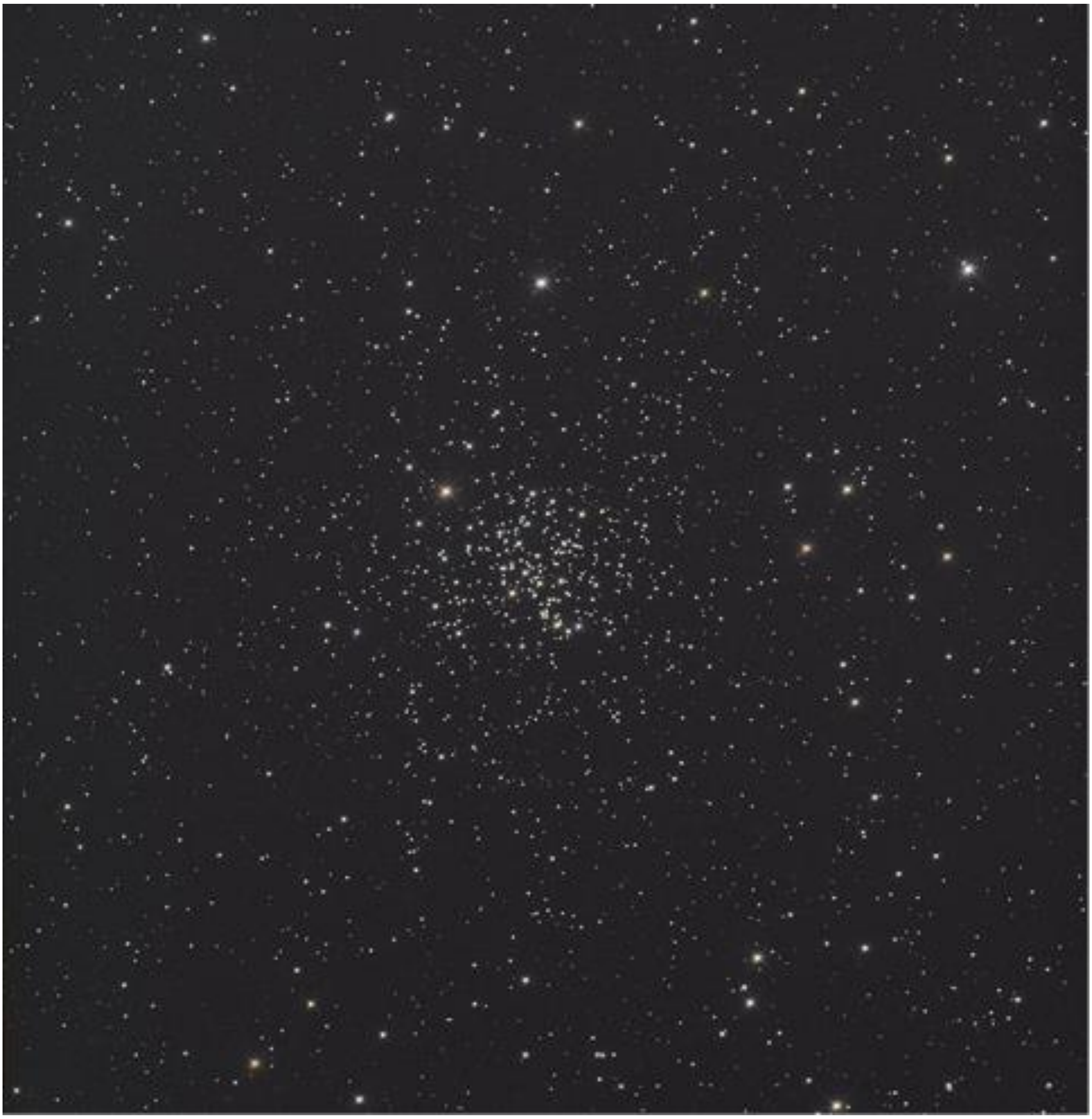
Cancer, as mentioned, is not a particularly prominent constellation, comprising as it does of stars no brighter than the 3rd magnitude. Of its principle stars, Iota Cancri is probably the most interesting for amateur observers. This star marks the most Northerly point of the main constellation and is a double star of +4.01 and +6.57 mags. The primary star is a yellow G-type star, the secondary a white A-type main sequence star. Separated by 30 seconds of arc, these are an easy and attractive pair for small telescopes. The angular separation of the two has not changed radically for over a century but it has been established the two are related. It is estimated their orbital period is over 65000 years.

Nine degrees to the south of Iota Cancri lies one of the jewels of the night sky, the bright, expansive open cluster of M44, The Beehive or Praesepe. At +3.09 mag this cluster is an easy naked eye object from a reasonable observing site and at over a degree in size, is pretty unmissable. Known since antiquity, M44 was known as Phatne - "The Manger" to the ancient Greeks (Praesepe being the Latinised translation of this title), though its first datable mention in literature came in 260 BC, when the Greek poet Aratos called it the "Little Mist". M44 was also contained in Hipparchus' star catalogue of 130 BC. The Beehive as a name seems apt, as the core of M44 could be argued to resemble a natural hive, with outlying stars being "the Bees" hovering around it.

Praesepe (M44-NGC2632), Stuart Heggie - https://www.jpl.nasa.gov/spaceimages/details.php?id=PIA15801. Reproduced under Creative Commons License.

Containing over 1000 individual stars (over 75 of which are observable to the smallest amateur telescopes), M44 seems to share a proper motion with the Hyades in neighbouring Taurus, which seems to suggest a common point of origin.- both clusters seem to be of a similar age too (around 600-730 million years). The Beehive lies 570-610 light years away from us and is estimated to be about 12 light years in diameter (though its tidal influence reaches much further). This cluster should be seen by everyone - it is easy enough in a modestly-sized pair of binoculars. The mix of stellar components make for a lovely imaging opportunity too.

Eight degrees to the southeast of the Beehive, another open cluster, M67, is to be found. Although fainter and more compact that M44 at +6.90 mag and 25 arc minutes, it is in its way, as attractive a target as its neighbour. Discovered by Johann Koelner in the late 1770s, M67 was catalogued by Messier in 1780.



M67 by Thomas Jäger. Reproduced under Creative Commons License. Visit Thomas' Website here.

Comprising of about 100-or-so observable members (out of a total of over 500 stars), many of which are similar it class to the Sun, M67 is one of the oldest clusters in our galaxy. It is thought to be around 4 billion years old - nearly as old as our own Sun and lies 3000 light years away. M67 does also contain some "blue stragglers" - stars that technically speaking it should not contain. Whether these have been swept up by M67 during its journey around our galaxy (or not), is a question that, to date, remains unanswered. Observers using higher power magnifications will resolve some spectacular chains of stars in M67. It truly is a lovely object.

Further southeast (by just under 7 degrees) from the delights of M67 is a much more challenging target, the beautiful spiral galaxy NGC2775. Though not intrinsically conspicuous at +10.10 mag, it is a compact target at 4.3 x 3.3 minutes of arc and has a comparatively bright core. Lying some 60 million light years away, NGC2775 is an exotic blend of a spiral structure and large elliptical core, which itself is ringed by pronounced hydrogen regions. The arms of the outlying spiral sections are very finely structured, though this is only really visible in long duration images. Visually, NGC2775 is visible with a reasonable-sized instrument, though a larger scope may on occasion show interactive stream of material from NGC2777, which is tidally interacting with its larger neighbour. Whilst a challenge, NGC2775 has been the site of some 5 Supernovae since the mid-1980s, so who knows what you may find there?

NGC2775, Copyright Adam Block/Mount Lemmon SkyCenter/University of Arizona. Image reproduced under Creative Commons License.

Cancer contains many galaxies between the +12-14 mag range. Being located so close to the Leo, Leo Minor and Hydra galaxy clusters, it would seem a fairly safe assumption that Cancer's galaxies are gravitationally clustered. Studies of proper motion based on spectral shift have confirmed, however, that these galaxies are not related. Still, there is much for owners of large telescopes and astrophotographers to enjoy galaxy-wise in Cancer. Although many of these objects are challenging and are not as easily-observed as those in the adjacent constellation of Leo.