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SKY GUIDE

Astronomical guide for May 2026

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

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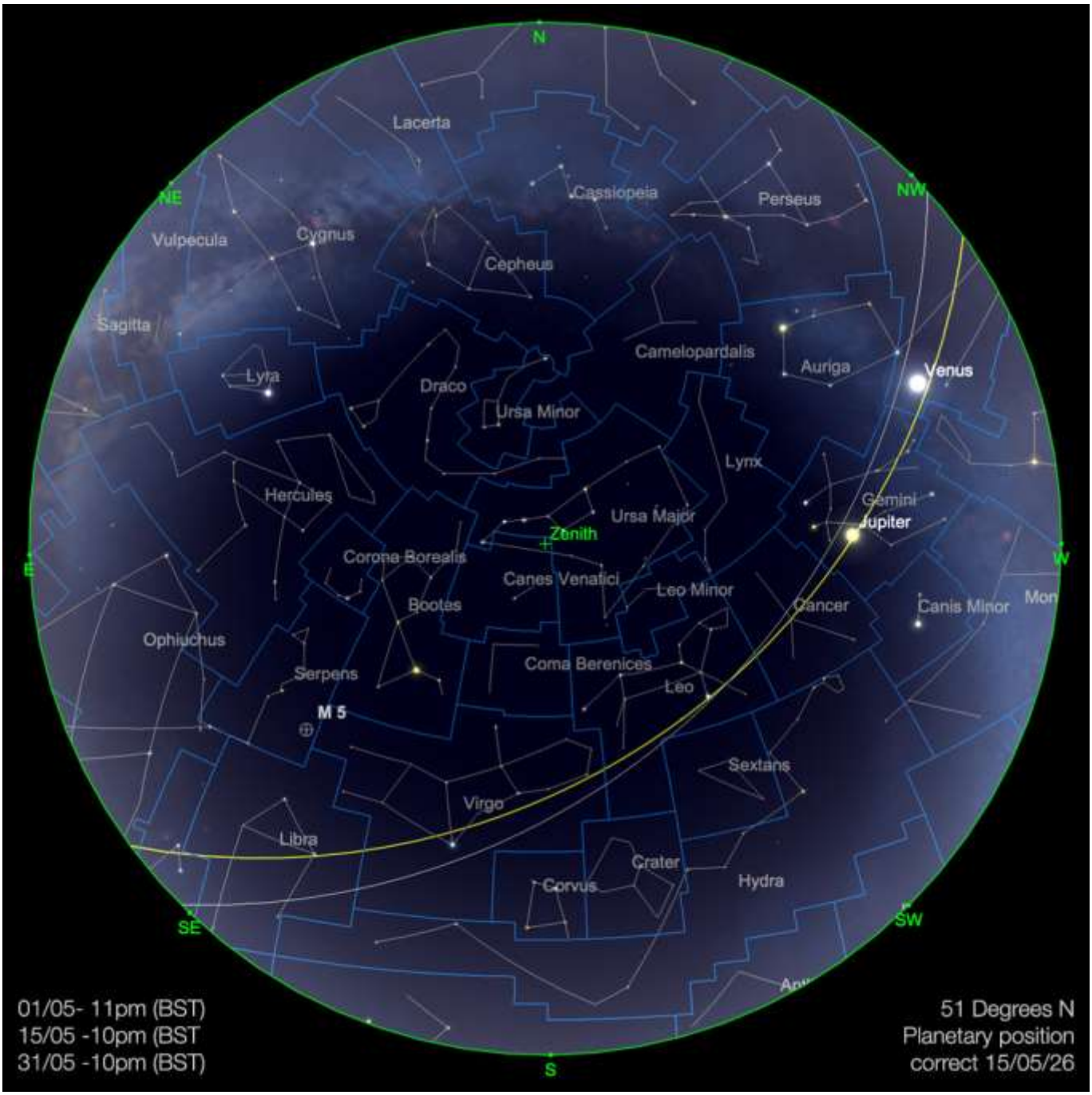
Expand your horizon

Bresser May Sky Guide



May brings a clear seasonal shift for skywatchers across the northern hemisphere. Since the vernal equinox in March, the Sun has continued climbing higher along the northern ecliptic, steadily increasing daylight hours—especially at higher latitudes.

As May progresses, nights become noticeably shorter and astronomical twilight lasts much longer. By late May, observers above roughly 45°N experience very little true darkness, with the sky remaining faintly illuminated well into the night.

Even though the summer solstice is still weeks away, the change is already obvious. After sunset, the sky stays bright far later than many would expect, and darkness becomes increasingly brief.

At around 51°N latitude, such as in southern parts of the UK, the effect is especially striking. At the start of May, astronomical dusk arrives shortly after 11 pm, leaving several hours of properly dark skies before dawn. By 26th May, however, astronomical dusk occurs at around 12:52 am, while astronomical dawn follows less than 40 minutes later at approximately 1:28 am. After this point, full astronomical darkness disappears until mid-July.

Further north, this loss of true night happens even earlier and lasts longer. For deep-sky observers, the brighter sky reduces the contrast needed to detect faint galaxies, nebulae, and other subtle targets. Planetary and lunar observing are far less affected, though dimmer solar system objects can still become harder to spot under the lingering twilight.

Wherever you find yourself in the world, however, there's still plenty to see, so let us examine what's in store for us in the sky above during the forthcoming month...

The Solar System

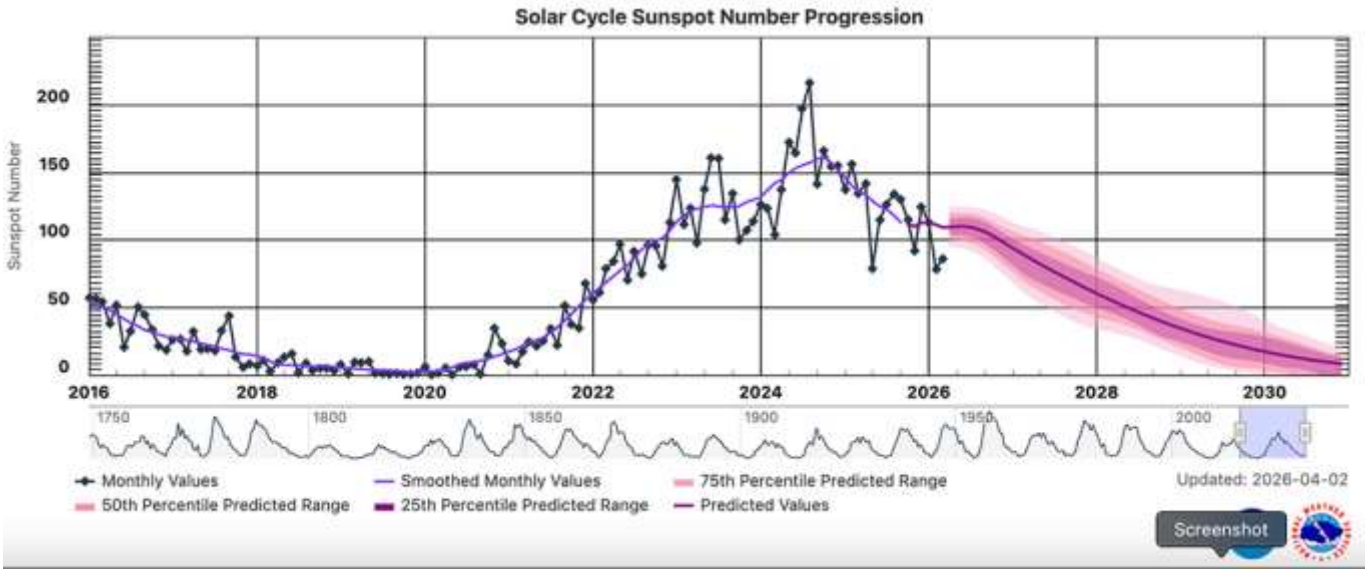
The Sun

Solar activity during April 2026 transitioned from initial stability, to high-intensity events. NOAA records indicate that conditions remained relatively quiet until 23rd April when sunspot region AR4419 produced two X2.5-class flares. These eruptions triggered R3-level radio blackouts that disrupted maritime and aviation communications across the Pacific and East Asia. While Coronal Mass Ejections were primarily directed away from the Earth-Sun line, a glancing blow resulted in a G1 geomagnetic storm between 25th and 26th April. These energetic bursts are characteristic of the solar maximum phase and provide critical data for understanding long-term space weather patterns.

At time of writing, the daily sunspot number had reached 122, which reflects the heightened magnetic activity of Solar Cycle 25 and a distinct improvement from both February and March's sunspot numbers, which were quite a way below the predicted range.

Websites such as www.spaceweather.com and Michel Deconinck's monthly newsletter (Aquarellia Observatory Forecasts) cover differing 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 latter was certainly useful when it came to warning of the latest low level auroral displays, so is highly recommended. We are now fortunate to have significant warnings of solar events, provided by a small fleet of spacecraft, designed solely for solar observation. This, coupled with the wealth of solar instruments and filters available for safe solar viewing, give modern amateur astronomers huge advantages when it comes to observing our nearest star, that would have been unthinkable only a few decades ago. Now the Sun is firmly in the northern celestial hemisphere, the clearer days and greater separation from the horizon that comes with this (for northern hemisphere

observers at least), makes our Sun a prime object for observation, moving into the Summer months.



NOAA Current Sunspot plot. Public Domain.

The Moon

The Moon begins the month at brilliant Full Moon phase on 1st May, while in Libra.

Over the first week of May, the Moon will glide through the lowest part of the ecliptic: Libra, Scorpius, Ophiuchus and on into Sagittarius. As the month progresses it reaches the Last Quarter on 9th May, while a resident of Capricornus. The Moon then shrinks further and further in late Crescent phase as it approaches the Sun, passing through Aquarius, Pisces (where on the mornings of the 13th and 14th it will pass Neptune, Saturn and Mars).

The New Moon occurs on 16th May, when it meets the Sun on the Aries/Taurus borders. The Moon then re-emerges as an evening object and will rapidly rise up through Taurus, where it joins the planet Venus on the Taurus/Gemini borders on the evening of the 18th. On the evening of the 19th, it can be found almost equidistant between the brilliant Venus and very striking Jupiter, in Gemini. The following evening of May 20th, the Moon will sit around 4° to the east of Jupiter in Gemini. These run of May evenings will give us a great opportunity to observe both the Moon in one of its High Crescent phases.

The First Quarter follows on 23rd May, with the Moon a resident of Leo. The Moon then spends most of the last part of the month crossing the large expanses of Leo and neighbouring Virgo. A rather rare occurrence concludes the month, as a second Full Moon appears on 31 May, while in Scorpius. This second Full Moon in a single calendar month is commonly referred to as a Blue Moon and provides a striking bookend to the month. The term Blue Moon, of course, has nothing to do with the colour of the Moon itself. Instead, this is a corruption of the archaic English “belewe” - meaning to betray. The Moon "betrays" its normal cycle of a single full phase in a calendar month so was known as a “Belewe Moon”. Over the years the term was corrupted to the modern Blue Moon.

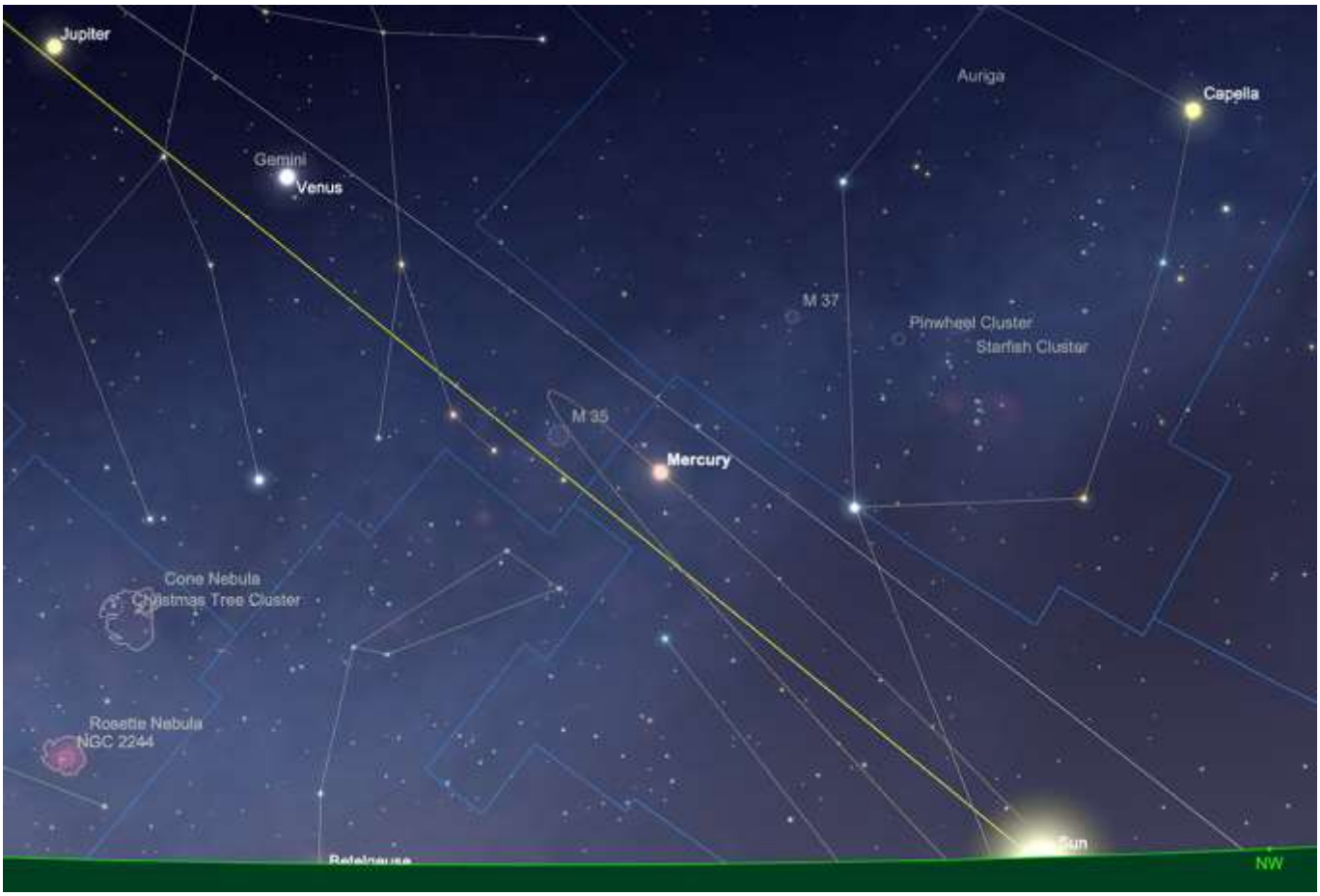
The Moon and Venus, dusk, 19th May. Image created with SkySafari 5 for Mac OS X, ©2010-2016 Simulation Curriculum Corp., skysafariastronomy.com.

Mercury

Mercury starts May in the morning sky positioned low in the east before sunrise. At -0.8 magnitude it is of reasonable brightness, but is desperately low at sunrise from mid northern latitudes. The planet is rapidly sinking towards the Sun and reaches Superior Conjunction on 14th May when it passes directly behind the solar disc. This renders the planet invisible for the middle of the month.

By the final days of May Mercury begins to emerge into the evening sky, first appearing very low in the west-northwest during twilight. Observers with a clear horizon might catch a glimpse of the fleet-footed planet, as it moves from the constellation of Aries into Taurus.

By month-end, the planet is distinctly better positioned for Northern hemisphere observers. At -0.6 magnitude, Mercury will stand just shy of 13° high above the horizon (as observed from 51° north) as the Sun sets on the 31st.



Mercury at sunset, 31st May. Image created with SkySafari 5 for Mac OS X, ©2010-2016 Simulation Curriculum Corp., skysafariastronomy.com.

Venus

Venus remains the magnificent “Evening Star” shining with unrivalled brilliance in the western sky after sunset, during May.

It continues its climb higher into the sky throughout the month, becoming more prominent and setting later as the weeks pass. Starting the month in the constellation of Taurus, at magnitude -3.9, Venus moves steadily eastward, passing between the horns of the Bull and entering Gemini by the 18th.

Its high altitude and brightness make it readily accessible as planetary target for casual observers. Though at around 23° high above the horizon as the Sun sets, it is just shy of the ideal minimum 30° altitude (as observed for 51° north) for serious planetary observation and imaging.

By the end of the month, Venus has brightened to -4.0 magnitude and will be rapidly approaching Jupiter in the same constellation of Gemini - the two planets forming a spectacular pairing in the early evening sky.

Venus at sunset, 31st May. Image created with SkySafari 5 for Mac OS X, ©2010-2016 Simulation Curriculum Corp., skysafariastronomy.com.

Mars

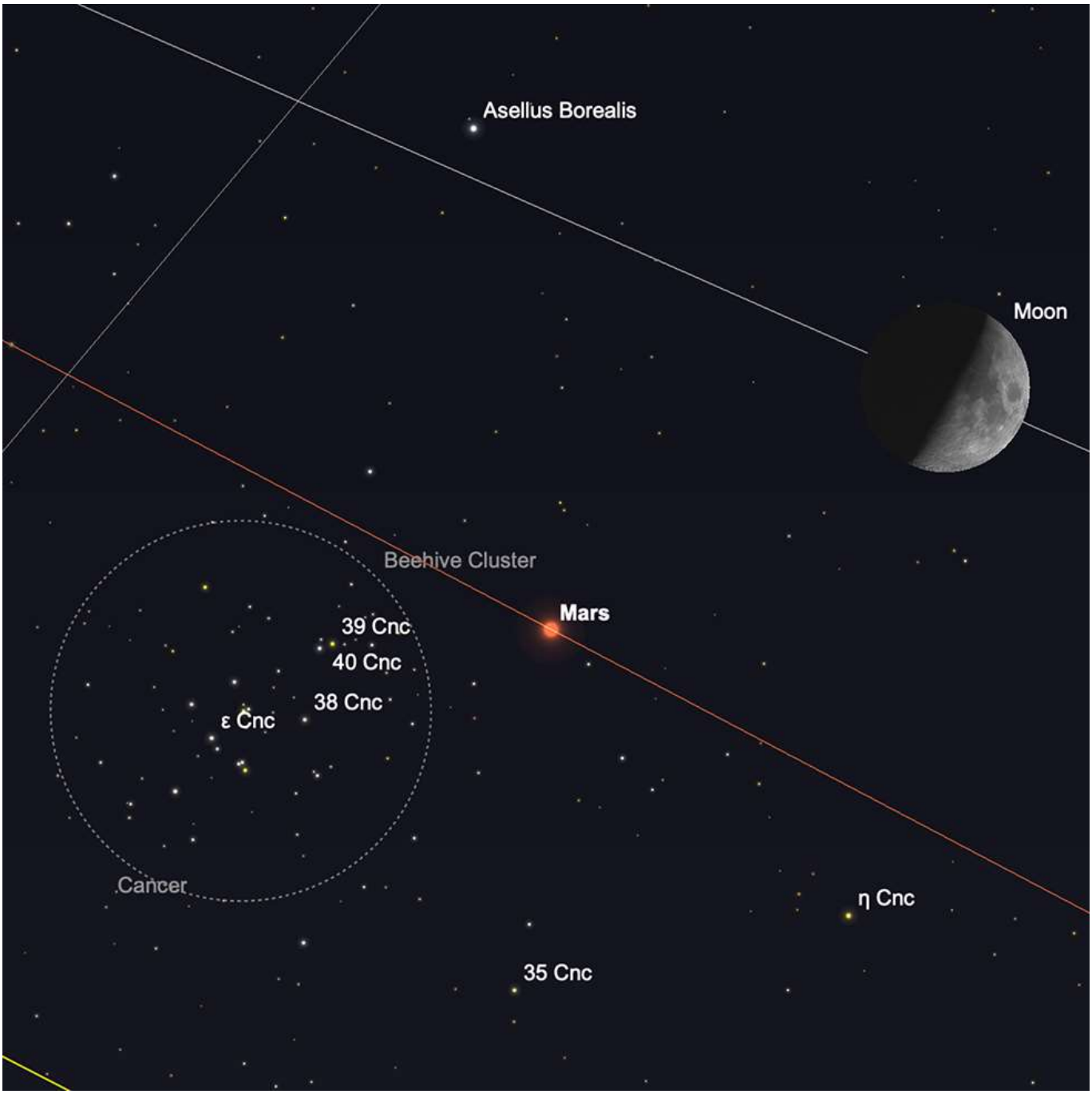
During May 2025, Mars continues its role as an evening object, gradually dimming and descending lower in the western sky after sunset. For observers in Western Europe, the Red Planet remains visible throughout the month, though its prominence diminishes, as it continues to move further from Earth.

At the start of May, Mars resides in the constellation Cancer, shining at a magnitude of approximately +0.9. It sets around 3am (BST), offering a window of visibility during the early evening hours. Throughout May, Mars does not experience any significant conjunctions with other naked-eye planets. However, on 3rd/4th May, the waxing crescent Moon passes near Mars, with a minimum separation of just over a degree. This close approach offers an attractive sight in the late evening sky and early morning sky. On the following nights of the 5th and 6th May, Mars skirts the edge of the Beehive Cluster (M44), providing a picturesque pairing for binocular observers.

By mid-May, its brightness has decreased slightly to around +1.1 magnitude and it sets earlier, approximately 5 1/2 hours after sunset. As the month draws towards its end, on the 27th, Mars transitions into the constellation Leo. The planet's eastward motion against the background stars continues and by 31st May, Mars is positioned under the head of Leo, not far from the Lion’s principal star Regulus, which at present is around the same brightness as Mars. Its magnitude has further dimmed to about +1.3 and it sets just over four hours after the Sun.

The last opposition of Mars, when the planet was directly opposite the Sun in the sky and at its closest approach to Earth, occurred earlier this year on 16 January 2025. During that time, Mars reached a maximum magnitude of -1.4 and was very well placed for observation. The next subsequent opposition will occur on 19 February 2027.

May 2025 marks a period of waning visibility for Mars in the evening sky. While it remains observable the world over, its diminishing brightness and earlier setting times make it a more challenging target as the month advances.



Mars, the Moon and M44, the Beehive Cluster, May 4th. Image created with SkySafari 5 for Mac OS X, ©2010-2016 Simulation Curriculum Corp., skysafariastronomy.com.

Jupiter

In May 2025, Jupiter continues to grace the evening sky as a prominent object for observers - particularly those in the northern hemisphere. However, its window of visibility in the evenings gradually diminishes as it approaches superior conjunction in June.

At the beginning of May, Jupiter is situated in the constellation Taurus, shining at a magnitude of approximately -2.0. It is visible after sunset, setting around midnight local time.

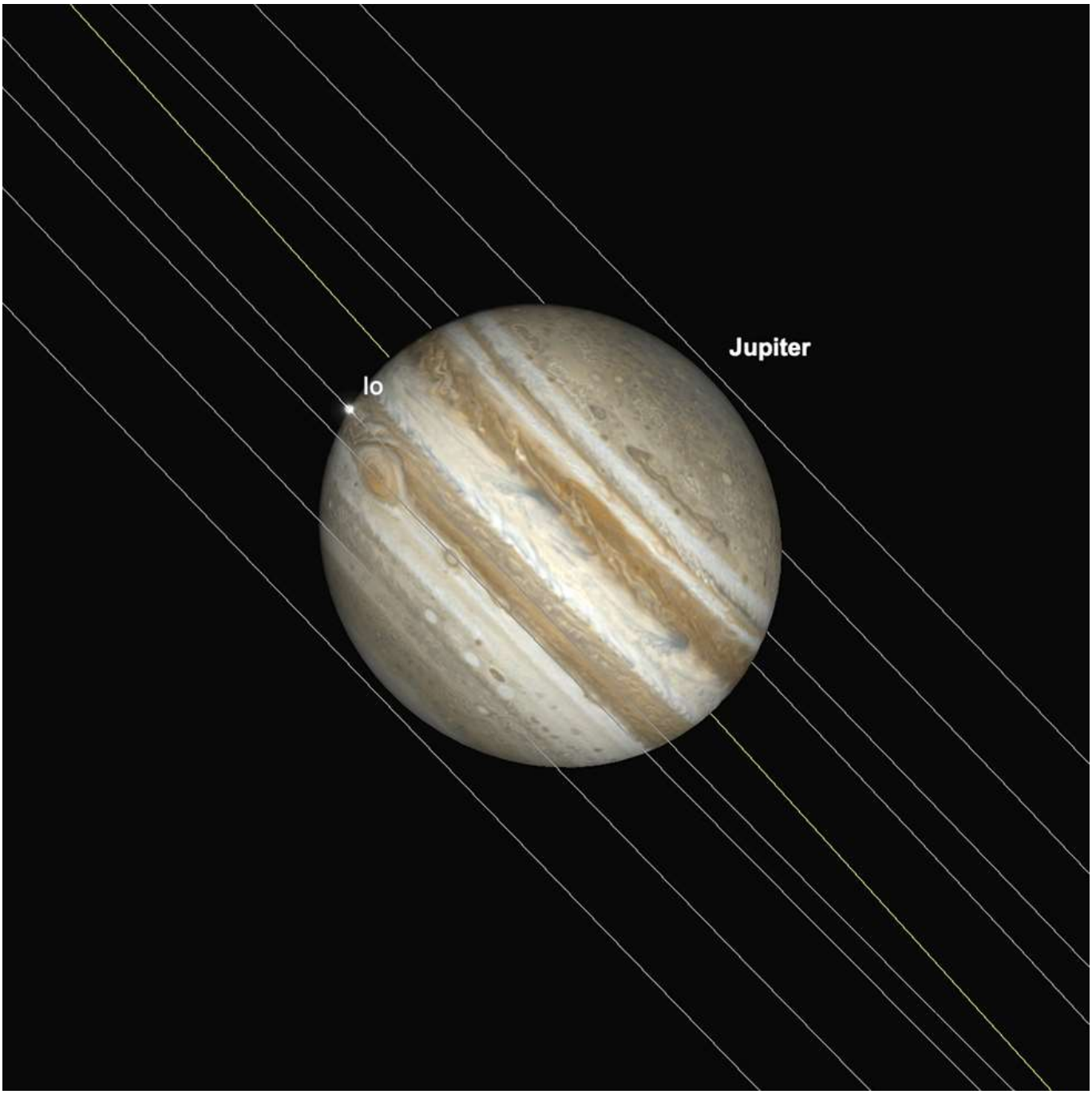
As the month progresses, Jupiter moves eastward within Taurus and by mid-May, it becomes increasingly immersed in the evening twilight, making observation more challenging.

On 18th May, Jupiter is to be found approximately 2 degrees north of the third-magnitude star Zeta Tauri, - the more southerly of the two stars that represent the tips of the horns of Taurus. Later in the month, in the early evening of the 28th May, the very slim waxing crescent Moon passes about 5 degrees north of Jupiter, providing a potentially picturesque scene in the western sky, just after sunset, for those with clear skies and unobstructed westerly horizons.

By the end of May, Jupiter's brightness has slightly decreased to around -1.9 magnitude and it sets earlier, approximately an hour and fifteen minutes after sunset. Its position remains within Taurus, but its proximity to the Sun makes it a much more challenging target for evening observation.

Jupiter reaches superior conjunction on 24 June 2025, after which it will transition to the morning sky. The next opposition of Jupiter, when it will be directly opposite the Sun and at its closest approach to Earth, will occur on 10 January 2026.

As mentioned in last month’s sky guide, we are rapidly losing Jupiter as an evening target, so catch the planet while you still can.



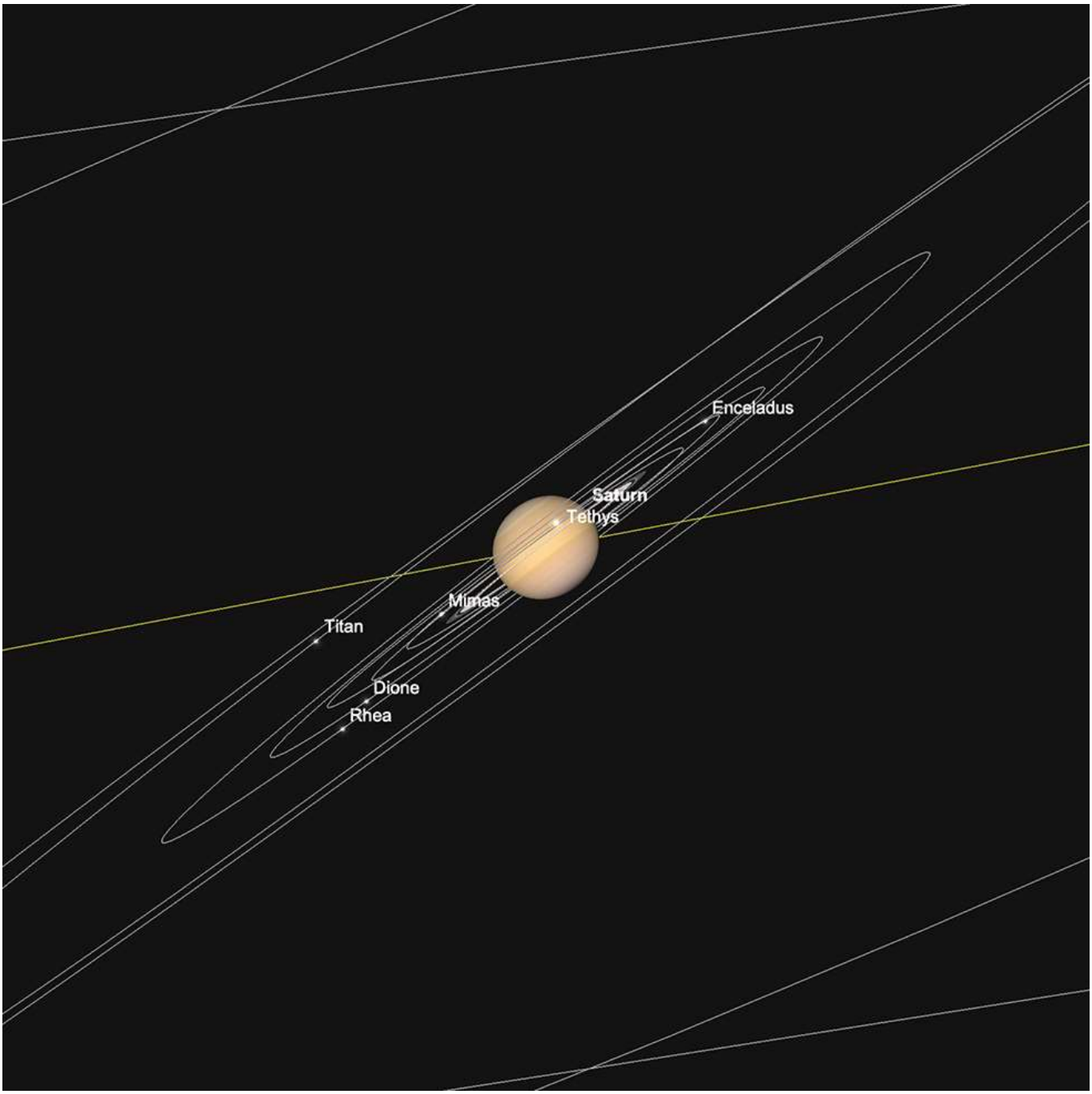
Jupiter, Io and Great Red Spot Transit, 8.27pm (BST), 6th May. Image created with SkySafari 5 for Mac OS X, ©2010-2016 Simulation Curriculum Corp., skysafariastronomy.com.

Saturn

During May 2025, Saturn continues to emerge as a more prominent morning object, gradually becoming easier to find in the pre-dawn sky for observers. At the start of the month, Saturn is located in the constellation Pisces, shining at a magnitude of approximately +1.2. It rises about an hour before sunrise, making it just visible low in the eastern sky. It can be found reasonably close to the much brighter Venus during the early part of the month, the brighter planet giving observers a hint of where the more subdued ringed planet lies.

As the month progresses, Saturn's apparent brightness stays static, keeping at around magnitude +1.2 by mid-May. Its rising time also becomes earlier, providing a little longer window for observation before dawn.

By the end of May, Saturn has brightened minutely to magnitude +1.1 and rises just under 2 1/2 hours before the Sun. Its position in Pisces places it higher in the eastern sky during the pre-dawn hours, offering improved visibility for early risers. By the 31st, the planet will sit over 20 degrees high in the east as the Sun rises (as observed from 51° N).



Saturn and inner moons, sunrise, 31st May. Image created with SkySafari 5 for Mac OS X, ©2010-2016 Simulation Curriculum Corp., skysafariastronomy.com.

Uranus and Neptune

Uranus is technically visible in the evenings at the very beginning of May. Though as it reaches Superior Conjunction on 22nd May, when it is positioned almost directly behind the Sun from our perspective. Consequently, it will be impossible to observe for the majority of the month, as it transitions from the evening to the morning sky. For most of the month, it remains too close to the horizon and the solar glare for productive viewing.

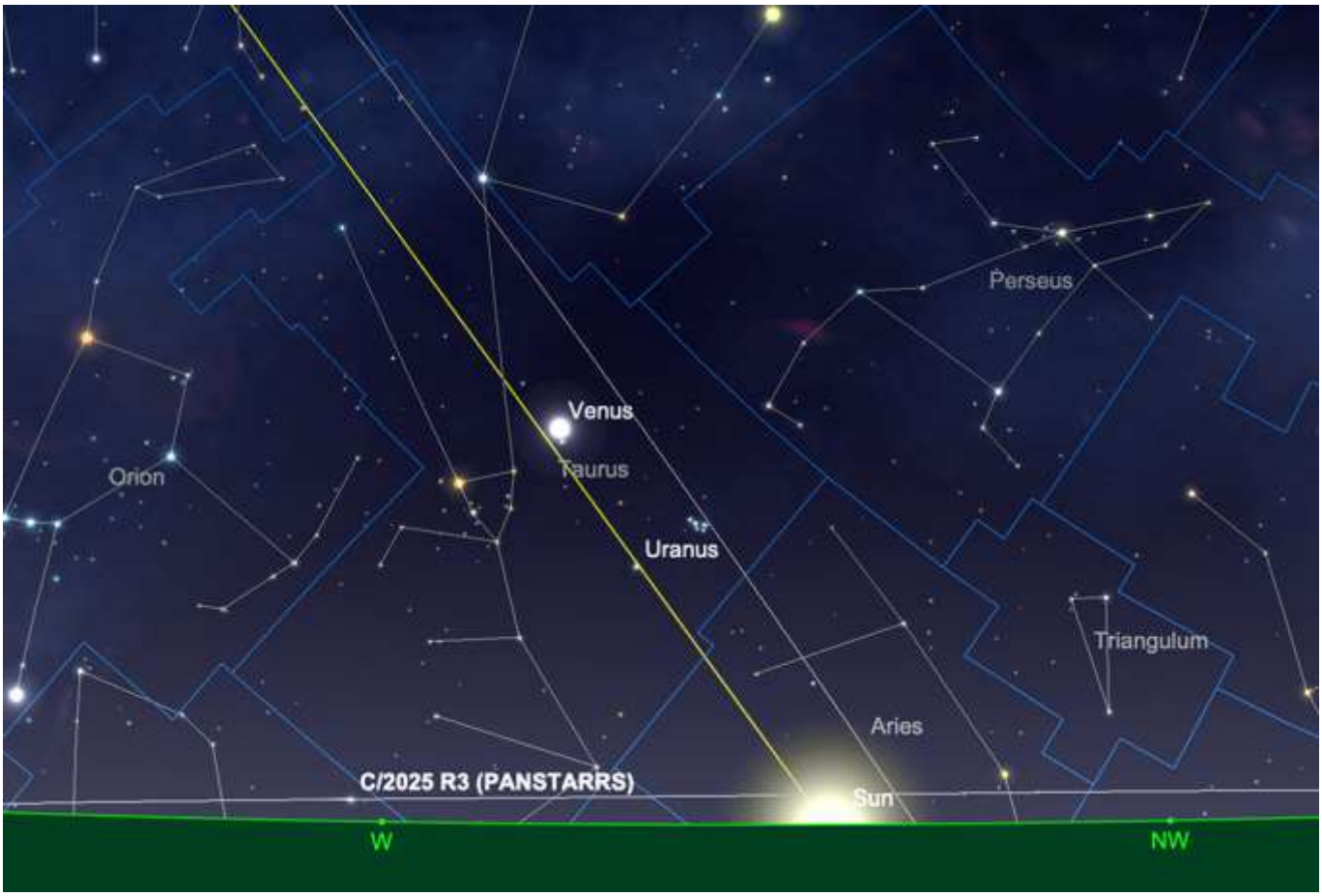
Neptune resides in the constellation of Pisces and is a morning object throughout May. However, its extreme distance and faintness make it a challenging target, especially as it remains low in the sky during the brightening dawn. While situated to the east of Saturn, the short hours of true darkness in median to higher northern latitudes, during May, make finding this ice giant a difficult-to-impossible task. We will have to bide our time a little, as far as meaningful observations of the two true outer planets are concerned.

Comets

Mentioned in last month, sky guide, Comet C/2026 A1 (MAPS) reached a rather ignominious and, completely disintegrating as it reached perihelion in April. This so-called “Sungrazer” well and truly lived up to its name. While it is possible for sungrazing comets to survive their closest approach to the Sun, sadly this one did not.

The comet C/2025 R3 PanSTARRS is currently receding from its ultimate display, having reached a peak brightness of approximately magnitude +1.4, during its closest approach to Earth on 26th April 2026. This surge in luminosity was significantly aided by forward scattering as the comet passed between our planet and the Sun allowing the dust in its tail to catch and redirect sunlight with exceptional efficiency. Sadly, this comet is really now the preserve of those in the southern hemisphere and equatorial regions of Earth. For those observing from the northern hemisphere during the first week of May, the comet is transitioning from a morning object into an evening target, but skirts the horizon at sunset - it’s altitude making it impossible to observe. The comet resides near the borders of Taurus and Eridanus but, its declination is dropping rapidly which means it will sit lower on the horizon each successive evening, fading as it does.

The next comet that will be making a reasonable showing will be the periodic comet 10/P Tempel. This periodic comet returns to our part of the solar system every five years or so. It will be peaking at around +6.9 magnitude in late July and early August.



C/2025 R3 at sunset, 1st May (as seen from 51° north). Image created with SkySafari 5 for Mac OS X, ©2010-2016 Simulation Curriculum Corp., skysafariastronomy.com.

Meteors

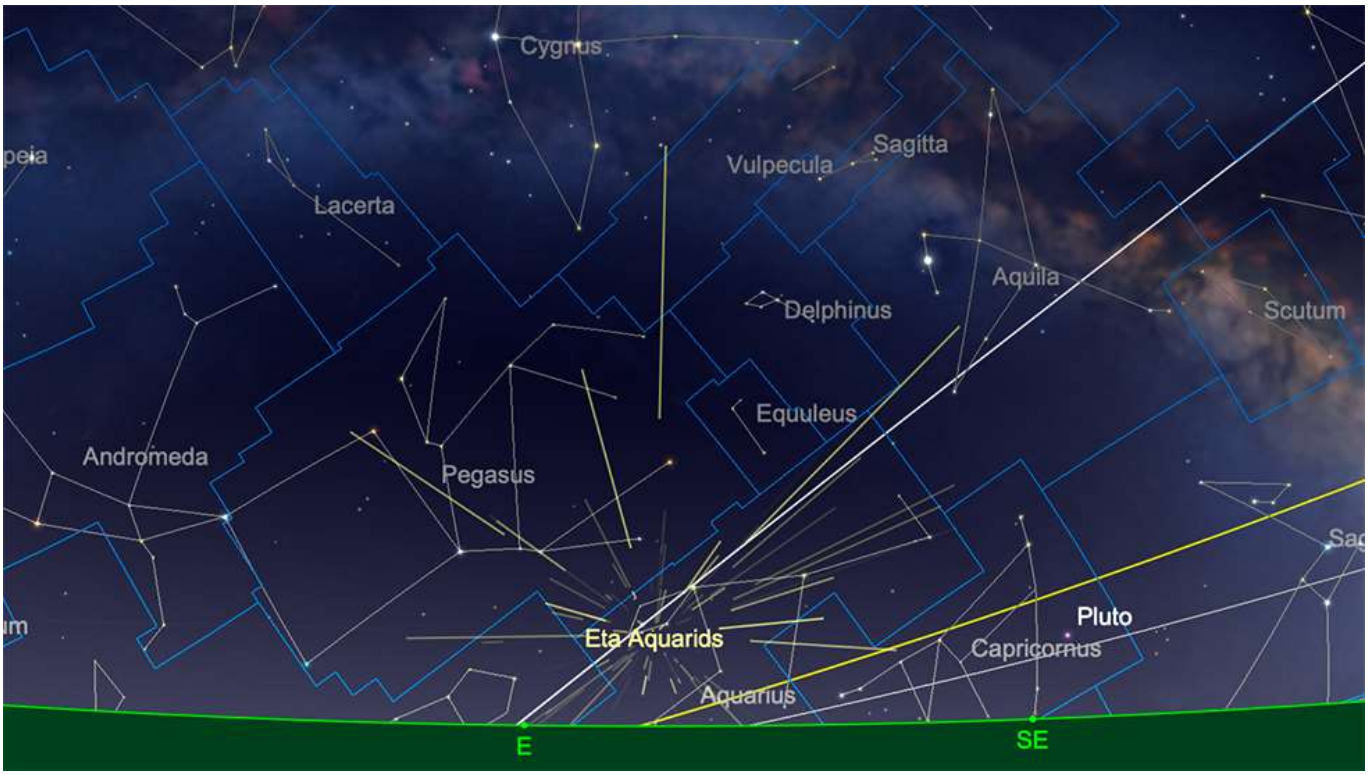
The regular Eta Aquariid meteor shower is active between 19th April and 28th May this year, with the peak expected during the pre-dawn hours of 5th and 6th May.

This shower originates from the particulate stream left by Halley's Comet (1P/Halley), representing one of two annual intersections with this specific debris trail. In May 2026, the Zenithal Hourly Rate is forecasted at approximately 40-50 meteors per hour. Viewing quality is restricted by the lunar cycle - following the Full Moon on 1st May, the waning gibbous moon will be present during the peak activity nights. This results in significant background illumination that will mask fainter meteors and decrease the visible frequency for observers.

The radiant point is positioned in the constellation Aquarius, specifically near the star Eta Aquarii. In Northern Europe, this radiant rises above the horizon in the early morning, but maintains a low elevation, which usually results in a lower observation rate when compared to southern latitudes.

Despite the low altitude of the radiant from more northerly observing sites, Eta Aquariid meteors are noted for their high velocities and the tendency to leave luminous trains across the sky. The annual interaction with these particles allows researchers to monitor the long-term gravitational perturbations and dispersal patterns of the 1P/Halley stream. The meteors that we see this year are not necessarily those laid down by the comet's most recent visit to

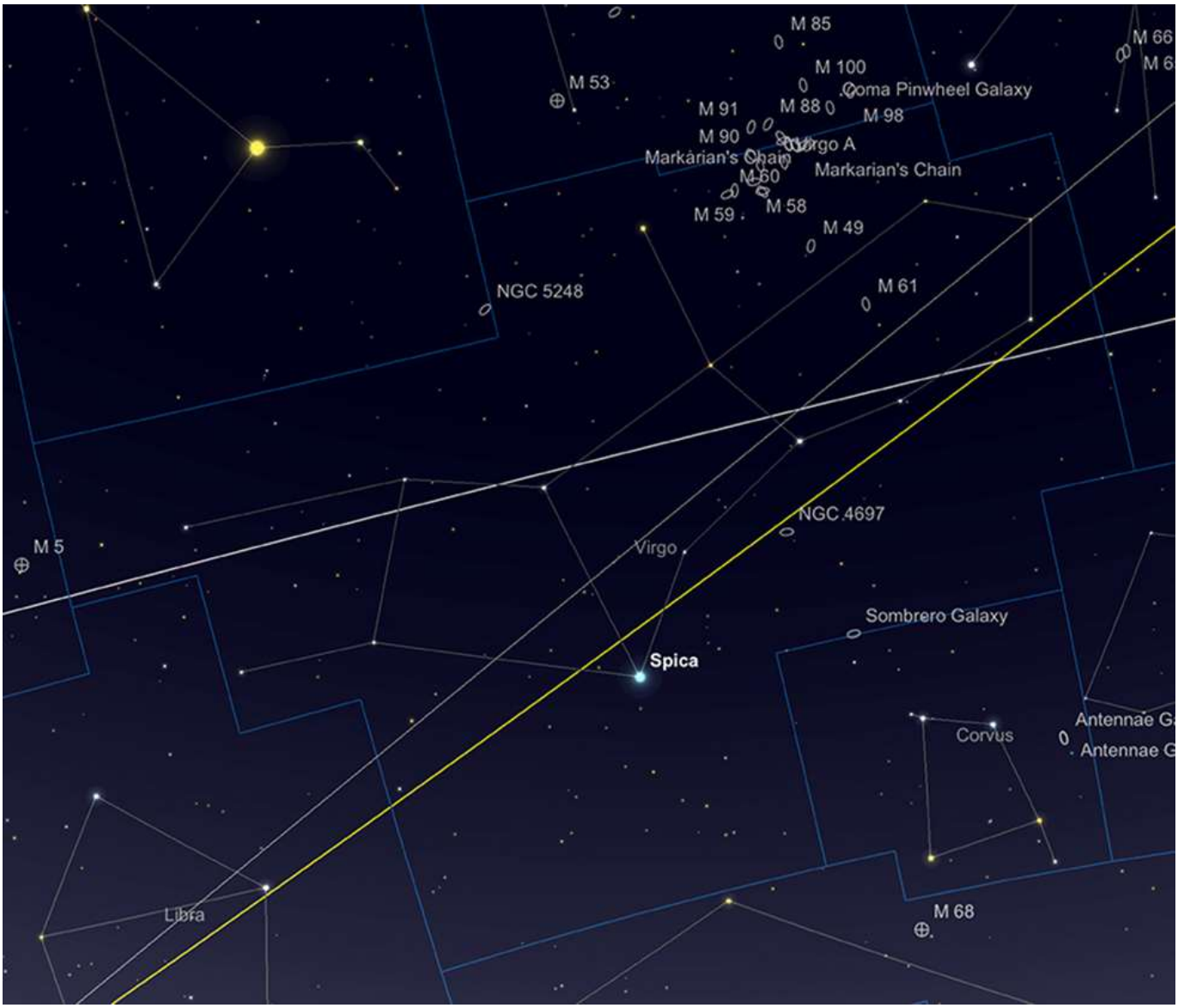
the inner solar system, which occurred in 1985 and 1986. Those meteors that we see today, may well have been deposited centuries ago.



The Eta Aquariid radiant rising, moonset 6th May. Image created with SkySafari 5 for Mac OS X, ©2010-2016 Simulation Curriculum Corp., skysafariastronomy.com.

Deep Sky Delights: Galaxy Season part 3, Virgo

Picking up from where we left off Leo last month, we move south and east, over the border into the large and extremely galaxy-rich constellation of Virgo.



The Constellation of Virgo. Image created with SkySafari 5 for Mac OS X, ©2010-2016 Simulation Curriculum Corp., skysafariastronomy.com.

From an astronomical standpoint, Virgo is one of the most prominent and recognisable constellations in the night sky, particularly for observers in the Northern Hemisphere during the spring months. It is the second-largest constellation by area, occupying a substantial portion of the celestial sphere and is located along the ecliptic, making it one of the twelve zodiac constellations through which the Sun, Moon and planets appear to travel.

The name Virgo is derived from the Latin word for “virgin” and the constellation has long been associated with female figures in mythology across various ancient cultures. While the constellation itself is a grouping of stars with no intrinsic meaning, early civilisations often sought to interpret such patterns by linking them to figures in mythology and Virgo came to be associated with goddesses of fertility, agriculture and justice.

In Greek mythology, Virgo is most commonly identified with Dike, the goddess of justice, who was said to have lived among humans during the Golden Age, a mythical time of peace and prosperity. As humanity grew increasingly corrupt and violent, Dike is said to have retreated to the heavens in despair, where she became immortalised as a constellation. In some versions of the myth, Virgo is instead associated with Astraea, another goddess of justice who also abandoned the Earth in the face

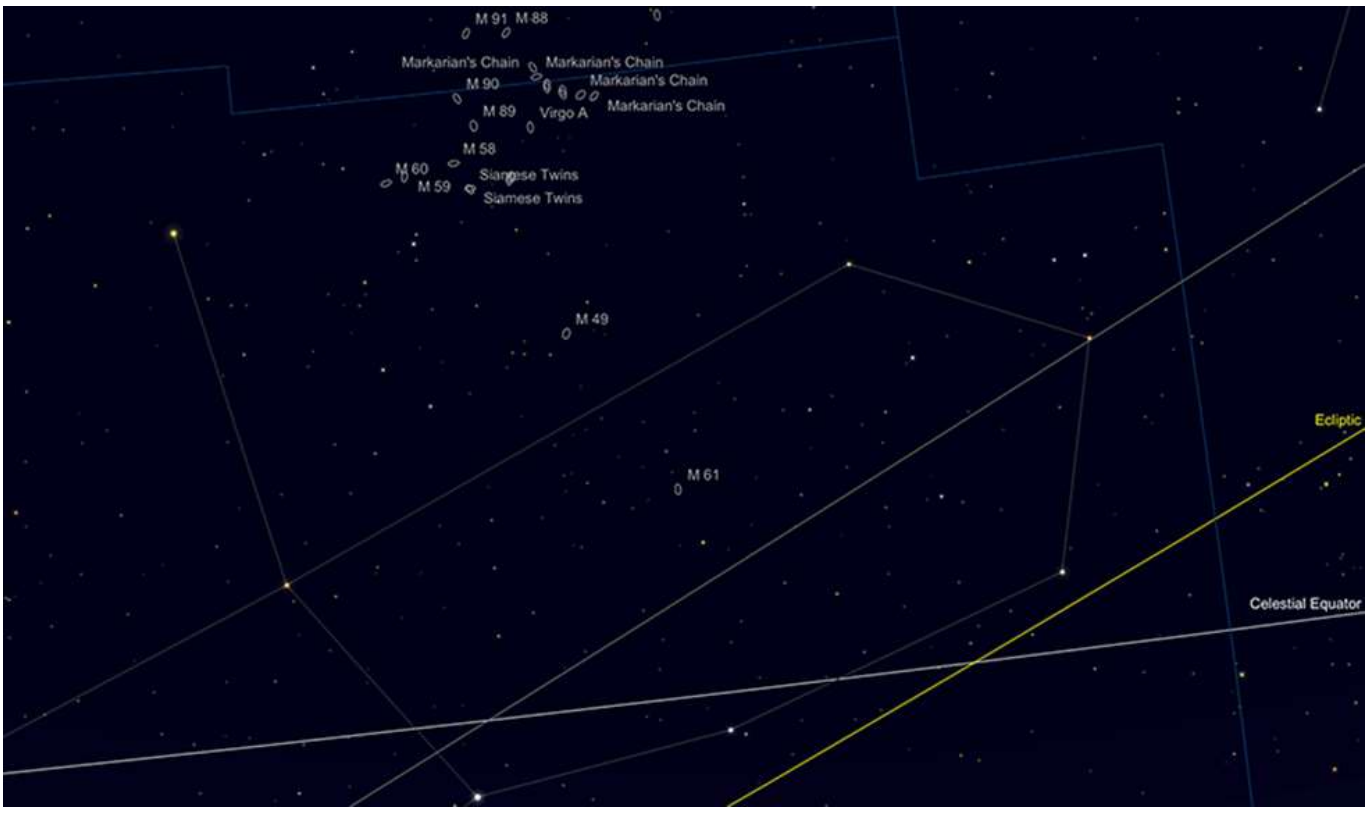
of human wickedness. This symbolic connection to virtue and innocence is reflected in the constellation's name and enduring imagery.

Virgo is also linked to Demeter, the Greek goddess of agriculture and to her daughter Persephone, whose annual descent into and return from the underworld symbolised the seasonal cycle of growth and harvest. In this interpretation, the constellation's reappearance in the spring sky may have been seen as heralding the return of fertility to the land.

The brightest star in Virgo is Spica, which derives its name from the Latin for "ear of wheat" and reinforces the constellation's long-standing association with agriculture and the harvest. Astronomically, Spica is a first-magnitude star and a useful marker for locating Virgo in the sky, lying close to the ecliptic and frequently used in celestial navigation.

In ancient Egypt, Virgo was sometimes associated with the goddess Isis, while in Babylonian tradition it was linked with the goddess Shala, who held a spike of grain. These associations again emphasise the constellation's enduring connection with themes of growth, nourishment and divine feminine power.

The so-called "Bowl of Virgo", which comprises of the most northerly section of the constellation is where the majority of the objects discussed below lie. So crammed in are these galaxies that it is difficult to see in the larger scale map above exactly where these mass of objects lie in relation to one another. The image below is a more detailed depiction of the "Bowl' area, which really gives an indication how crowded this area is.



The Bowl of Virgo. Image created with SkySafari 5 for Mac OS X, ©2010-2016 Simulation Curriculum Corp., skysafariastronomy.com.

The galaxies shown in the map above are just the brightest and easiest to observe in this area of sky. There are many more fainter galaxies lurking in the background, making up the Virgo cluster of galaxies. Indeed, it is thought that the interlinked Virgo Supercluster, which

comprises of galaxies in neighbouring Leo, right the way through Ursa Major and our own local group of galaxies, is one of the largest structures in the known Universe.

Just under a degree SSW of M88, where we left off last month, lies the small +10.19 mag spiral galaxy of NGC 4477, which in turn marks the beginning of a glorious 1.5 degree long arc of galaxies known as Markarian's Chain. This gently curving line of galaxies is one of the finest sights in the sky and an almost peerless photographic subject from a galaxial point of view.

Markarian's Chain comprises of the aforementioned NGC 4477 at the Northerly end and the major galaxies M84 (elliptical, +9.10 mag), M86 (lentinicular, +8.89 mag), at its Southerly tip. Galaxies NGC 4473 (elliptical +10.19 mag), NGC 4461 (spiral +11.19 mag), NGC 4458 (elliptical +12.10 mag), NGC 4438 and NGC 4435 (both spiral, +10.80 mag, together known as "The Eyes"). The Chain spills over the Coma Berenices border into Virgo, where the largest part of it resides.

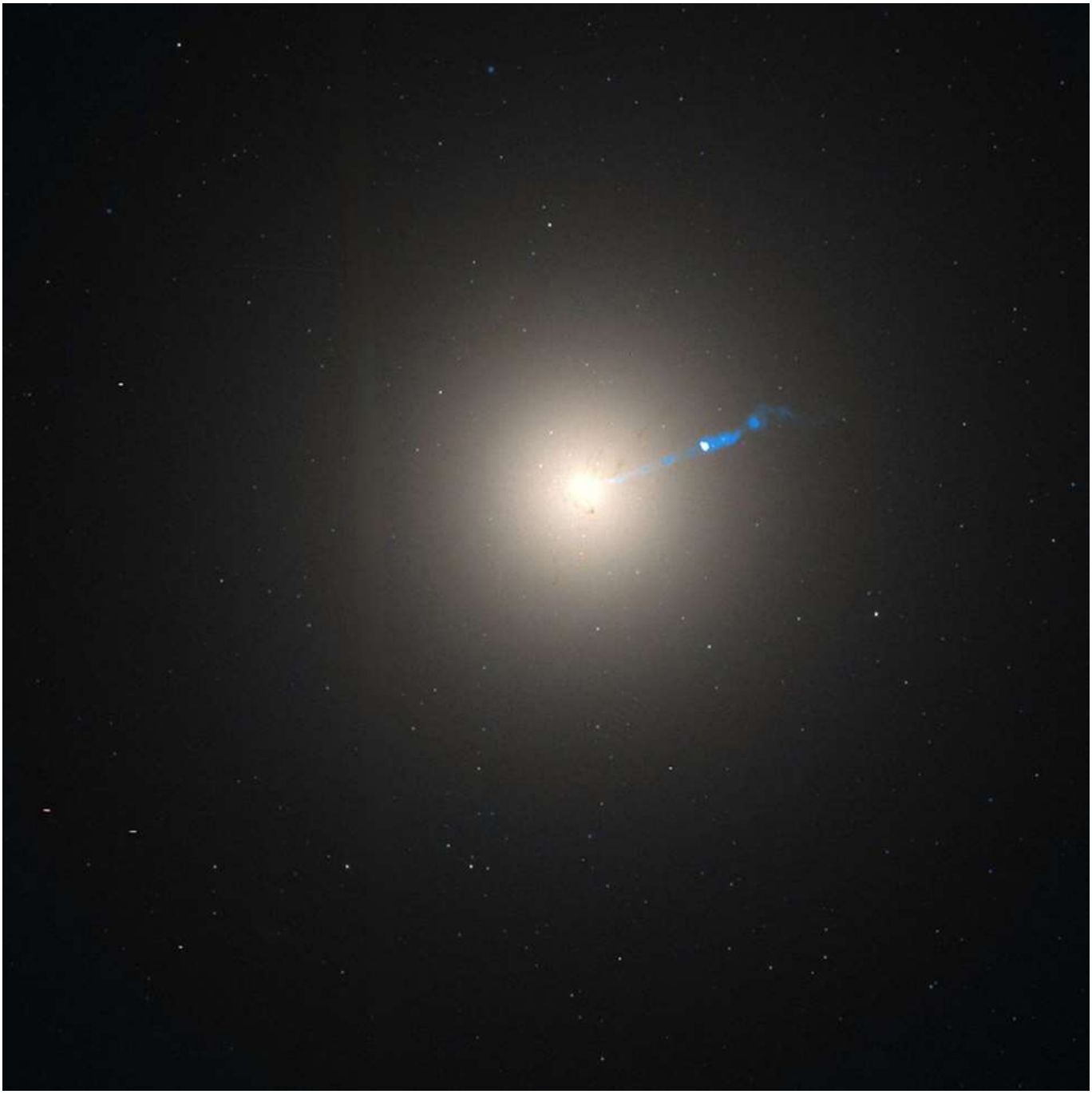
Markarian's Chain is named after the Armenian Astrophysicist Beniamin Markarian, who in the early 1960s first suggested a common motion for all these galaxies. Observations have proved than all the above galaxies are in fact gravitationally interacting with each other, though there are outlying and closer objects - most noticeably the spiral NGC 4388 which may, or may not, be a part of the system - which also populate the area.

Markarian's Chain by Mark Blundell. Image used with kind permission.

Frankly, it's difficult to pick out clear highlights in Markarian's Chain, but special mention must go to the eerily-named "The Eyes" galaxy pairing of NGC 4438 and NGC 4435. This pairing do appear like a pair of eyes peering back at an observer through the gloom and were first nicknamed this by late-19th and 20th century astronomer L.S. Copeland. Looking at these two objects in even a relatively small telescope will confirm this nickname's accuracy - the similar galaxial core brightness and angular orientation of both objects help to complete the illusion. Both galaxies it is clear have gone through some sort of interaction in the recent past as astrophotography reveals a large amount of stellar and dark material spilling from NGC 4438's disk.

A degree to the SE of the eyes lies the vast elliptical galaxy M87, otherwise known simply as Virgo A. This enormous object is easily picked up in amateur instruments from even fairly light polluted environments, shining as it does at +8.60 mag. M87 was discovered and catalogued by Messier in 1781.

To call M87 vast is to somewhat understate the case: it is estimated to be anything up to 200 times the mass of our own Milky Way galaxy and has over 12,000 globular clusters in orbit around it, compared to our galaxy's rather paltry estimated 150-200. M87 also appears to be close to the gravitational centre of the Virgo-Coma Supercluster and may be the key gravitational driver of the whole system. Astrophotography reveals a large jet emanating from M87's centre. This was first recorded by Lick Observatory Astronomer H.D. Curtis in 1918 and a corresponding much fainter opposite jet was discovered in 1966. These jets mark at their epicentre one of the most massive black holes so far postulated - a 2-3 billion solar mass object, condensed to about the volumetric size of our solar system. It is thought to be this object that makes Virgo A one of the most energetic sources of X-Rays, Radio Waves and Gamma Rays in the sky.



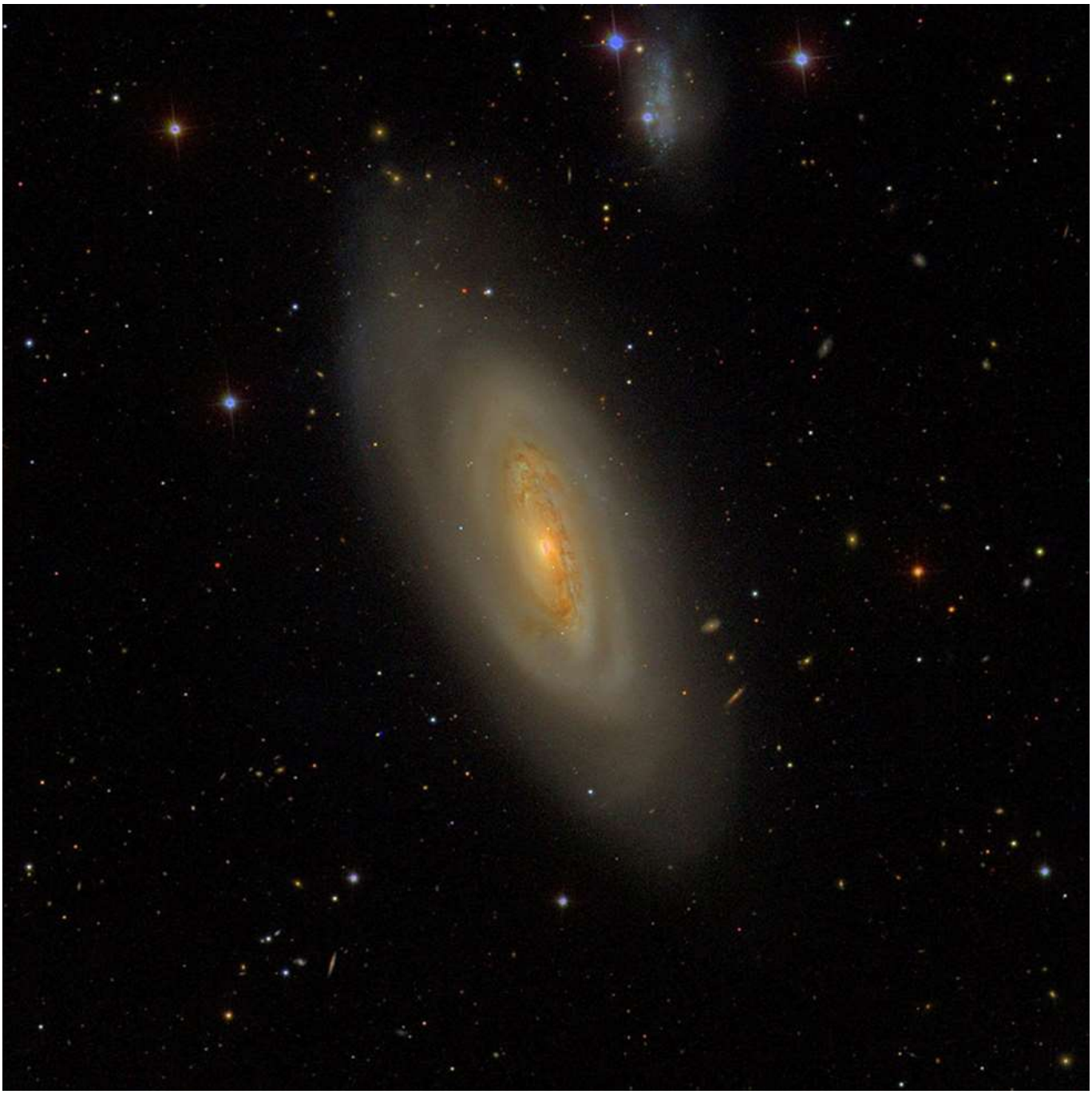
Virgo A, Hubble Space Telescope image, ESA/NASA. Public Domain.

This remarkable monster galaxy can be easily spotted in decent sized binoculars from a reasonable location and is one of the most straightforward galaxies to observe in the sky. To give a sense of scale, M87 lies 55 million light years away and its outer extents observable from here on Earth cover an area of sky larger than the full Moon. If put in place of M31, the Andromeda Spiral, in our skies, M87 would probably fit into an area the size of the Square of Pegasus - it's that big! However, even the mighty M87 pales in comparison to the galaxy IC1011 (also in Virgo) which takes the prize of the largest galaxy currently known at a staggering 6 million light years across - 60 times the size of our Milky Way's 100,000 light year span.

Just over a degree E of M87 lies another elliptical galaxy: M89. This Messier-discovered object is fairly bright and compact at +9.80 mag and 3.5 x 3.5 arc minutes in size. M89 is a remarkably spherical object, or at least appears to be from our perspective. This is unusual, as most elliptical galaxies do appear slightly elongated. M89 is rather special in terms of its conformity. This makes for an easily observed object in most telescopes, but unfortunately, a rather bland experience.

M89, Hubble Space Telescope image, Hubble/ESA. Creative Commons.

Whereas the unfortunate M89 is fairly bland, its neighbour, M90, to be found 3/4 of a degree to the N is anything but. At +9.50 mag and an angular size of 9.5 x 4.4 arc minutes, it is a touch difficult in binoculars in comparison with its two elliptical neighbour, but is well-seen as an elongated spiral in larger telescopes. M90 is fairly unique amongst Messier galaxies, as its spectral shift is very pronounced towards the blue side of the spectrum, suggesting it is rapidly approaching us in relation to the rest of the cluster. This may be due to it having broken free of the gravitational bounds of the cluster, or indeed it may be considerably closer than the 50-or-so million light years distance it is thought to lie. Another interesting feature of M90 is that star formation appears to have ceased almost entirely within the system. As such it is referred to as a "Fossil Galaxy". M90's swift flight through the interstellar medium is thought to have stripped it of much of its star forming material via the process known as "Ram Pressure Stripping". This appears to also have been compounded by several supernovae in its central arm regions, which would naturally be richer in this material. The combined stellar winds from these events have blown much of the material out of the galactic disk and out of the gravitational influence of the galaxy.



M90. Image credit: Sloan Digital Sky Survey [www.ssds.org] Creative Commons.

One and 1/3 degrees S of M90 lies another spiral galaxy, M58. Although M58 is a little fainter than M90, at +9.69 mag, it appears, due to its compact size - 6.0 x 4.8 arc minutes - a little brighter overall. M90 is a barred spiral, though due to the relative brightness of its spiral arms, the bar appears a little obscure, particularly in smaller telescopes - though these will show its disk shape well. Larger instruments will start to resolve the mottled internal structure and arms better, with the central bar becoming more obvious in instruments of the 8-10-inch class. M58, alongside M90 is a relatively poor galaxy for star formation and seems to be a victim of the dreaded Ram Pressure Stripping as well. Lying some 62-68 million light years away (sources differ) it is suggested that at the time of its discovery by Messier in 1779, it was the furthest observed object in the Universe.

M58 taken with the 0.8m Shulman Telescope. Image credit: Adam Block/Mount Lemmon SkyCenter/University of Arizona - http://www.caelumobservatory.com/gallery/m58.shtml. Creative Commons.

Just over a degree to the E of M58 lie the first of two elliptical galaxies, M59 and M60 (a little under half a degree further E). These two galaxies were first discovered by Johann Gottfried Koehler in April 1779, Messier listing them shortly after. Both men were principally concerned with comet watching rather than any notion of "Deep Sky" objects - ironically their discoveries of these pesky objects getting in the way of "true" comets would ultimately be of much greater cosmic significance.

Of the two galaxies, M60 is dominant, being +8.8 mag to M59's +9.6 and slightly larger at 7.6 x 6.2 to M59's 5.4 x 3.7 arc minute size. Still, M59 in a large telescope is a fine object, displaying a bright outer halo, though M60 trumps it in imaging terms, which reveal a closely

packed spiral companion galaxy, NGC 4647, at +11.30 mag, to its NW, overlapping the larger elliptical's outer regions. It is possible to see this attendant galaxy with large telescopes (12-inch+) from a dark site, but it will be difficult with anything smaller. It is debated whether or not NGC 4647 is truly interacting with M60, as evidence, bar the obvious visual closeness has been scant. However, latest observation by the Hubble Space Telescope suggest that interaction is possibly at the beginning stages and the two objects are not simply line of sight co-incidental.

M59 (top) and M60 (middle) by Mark Blundell. Image used with kind permission.

Both M59 and M60 are thought to contain supermassive black holes in the order of mass equal or larger than the mass of M87's - with M60's thought to be a huge 4.5 billion solar masses.

If we trace a line back West from M60, to M 59, then back to M58, we have a starting point for the identification of the next target for this month, the Siamese Twins Galaxy or Butterfly Galaxy. This is in fact two objects, NGCs 4567 and 4568, which can be found just over half a degree to the SSW of M58. These objects are +11.30 and +10.80 mag respectively and can be resolved as a V-shaped patch of light in smaller telescopes. Larger (8-10-inch class)

instruments will clearly resolve the objects as a much more rounded "V" - very reminiscent of a butterfly in flight, in fact. Larger instruments under good conditions will start to resolve some variance of brightness within the disks, but it is in astrophotography that this target really begins to show its true awesome beauty. Images reveal the early onset of a collision between these two spiral galaxies, which has been confirmed by professional infrared observations.

NGC4567 and NGC4568. Image credit: Goran Nilsson & The Liverpool Telescope. Creative Commons.

Following a line from M58, through the Siamese Twins, extending SSW by just over 3 and 1/2 degrees, we come to the penultimate object for discussion this month, the bright elliptical galaxy M49. M49 was discovered by Messier on 19th February 1771 and was the first of the Virgo group to be added to his list of objects. At +8.39 mag and 10.2 x 8.3 arc minutes dimensions, this galaxy is large, but still pretty bright - certainly conspicuous enough in binoculars under average conditions. Indeed, M49 is the brightest of all the Virgo cluster, though M87 does give it a run for its money. It was thought that both objects were of similar size and mass, but observations have now proved than M87 is by far the larger and heavier of the two galaxies. By comparison, M49 has "only" 6000+ globular clusters to M87's 12000+.

4 degrees to the SSW of M49, extending the imaginary line we stared from M58, we come to the final objects in this month's epic tour of just some of Virgo's Deep Sky delights. This object is one of the most beautiful and the most active, M61.

M61 was discovered by Barnabus Oriani on 5th May 1779 and was also noted on the same night by Messier, who classed it as a possible comet. Less than a week later, Messier had realised that M61 was a static object, so then added it to his list.

At +9.69 mag and 6.5 x 5.9 arc minutes, M61 is a fairly compact galaxy, having a bright star-like core, surrounded by evidence a its face on spiral nature, which is visible in smaller telescopes as a tenuous halo, but is resolved much more readily and successfully by the 12-inch+ class of telescope into a definitive spiral. In fact, M61 is another barred spiral, but this bar is very compact in comparison to virtually every other barred spiral galaxy previously mentioned here. Again, M61 is a worthy target for astrophotographers, who will pick up this compact spiral's structure well in long duration photographs.

M61 is unusual in being one of the most active star-forming galaxies in the Virgo cluster. Likewise, it holds the joint record with M83 as being the most active Messier object for Supernovae, with six being observed in the past century.

M61. Image credit: ESO/VLT. Creative Commons.

From M61, we can trace a curving arc to the SE in the direction of Spica, Virgo's principle star, which takes in a few of Virgo's lesser galaxies, the elliptical +9.50 NGC4636 is exactly 5.5 degrees SE of M61, followed by the +10 mag spiral NGC4753, then reaching NGC4697, which is a brighter elliptical galaxy, discovered by William Herschel in 1784. This galaxy is fairly easy in small telescopes, as is its neighbour NGC4699, an attractive but compact spiral, which lies just under 3 degrees due South.

At the bottom of this arc, 3 and 3/4 degrees to the SW of NGC4699, lies one of the jewels of the night time sky, M104, the Sombrero Galaxy. The Sombrero was discovered in 1767 by Pierre Machain and though noted by Messier in an addendum to his original list, had to wait until Camille Flammarion rediscovered it in Messier's original notes in the early 1920s for it to be officially added as a Messier object. William Herschel made an independent discovery of it in 1784 and remarked upon the appearance of a "dark stratum" in the object. We now know this to be a prominent dust lane which rings the outer spiral structure of the Sombrero and gives it its distinctive - and apt - nickname.

The Sombrero is bright for a galaxy at + 8 mag and a decent size, (though hardly over-large) at 8.6 x 4.2 arc minutes in dimensions. It can be found in telescopes and binoculars of all sizes, though contrary to what is stated in many publications (which tend to overstate the size of telescope required), a good quality 4-inch refractor and a dark observing site and decent dark adaption will be needed to see its dust lane. Admittedly, the lane is much easier with a reflector of 8-10 inches in aperture, which will also resolve the true shape of the Sombrero better, but this should not put off observer with smaller instruments from attempting to spot it. Once found, M104 will not be forgotten in a hurry, it is a lovely object. M104 is even more spectacular when imaged, though from UK locations astrophotography of this target has to be timed carefully, as it is only at a reasonable height from the horizon for a limited period.

The Sombrero Galaxy, HST Image. Public Domain.