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SKY GUIDE

Astronomical guide for
April 2025

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

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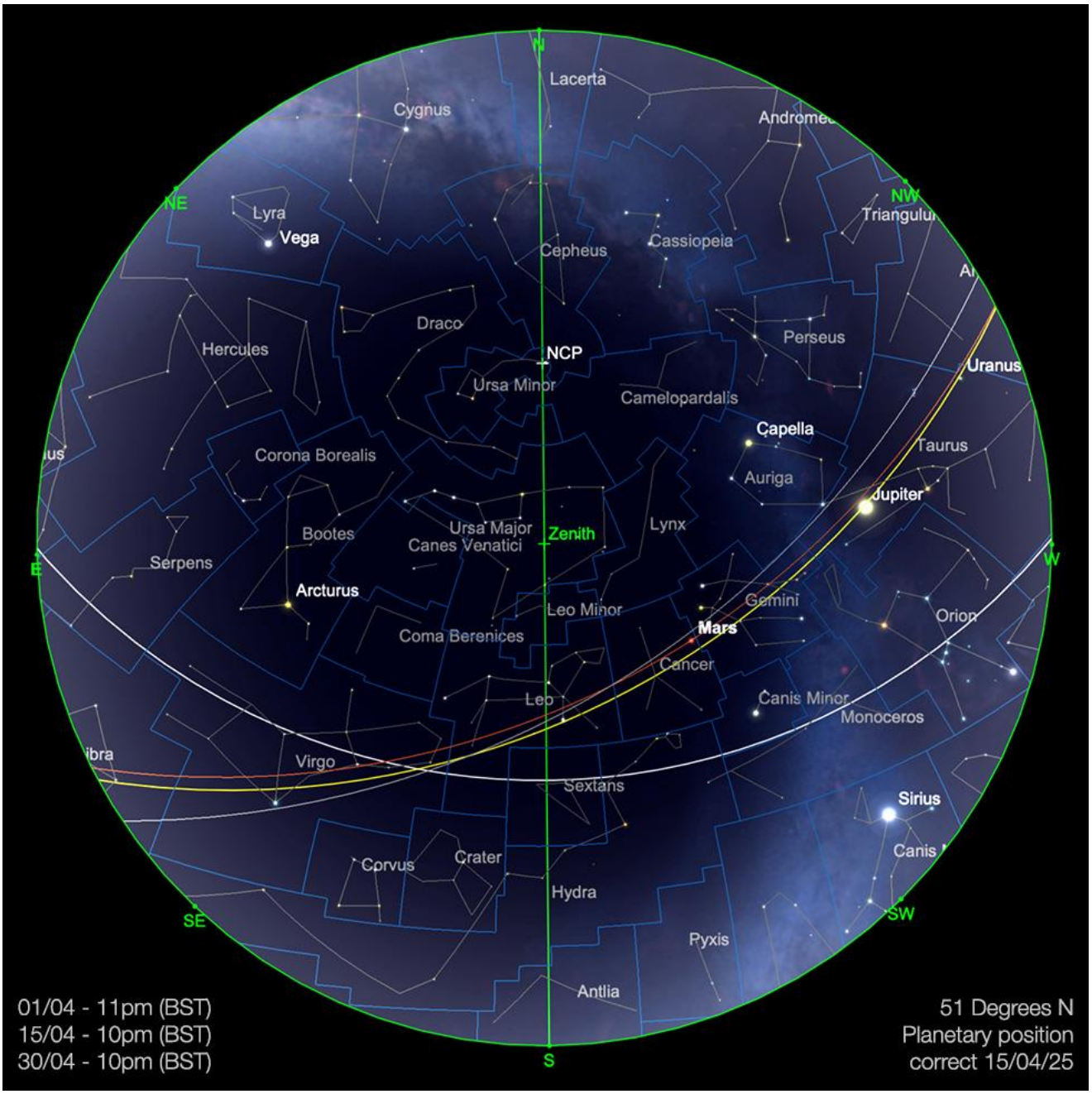
Expand your horizon



April has arrived, and for those of us in the Northern Hemisphere, the Vernal Equinox is now behind us. This means the Sun has moved into the northern celestial hemisphere, bringing longer daylight hours and a gradual reduction in darkness. In this regard, April presents both advantages and challenges. While it ushers in more favourable weather, particularly in temperate regions, those living at higher northern latitudes must contend with increasingly limited hours of darkness, especially as the month progresses.

Despite the popular saying about "April showers," statistical data—particularly across Europe—suggests this may be more myth than reality. In fact, April is often drier than the preceding months. Nevertheless, as we look forward to improved weather, wherever you find yourself, there's plenty to see in the skies above us this month. .

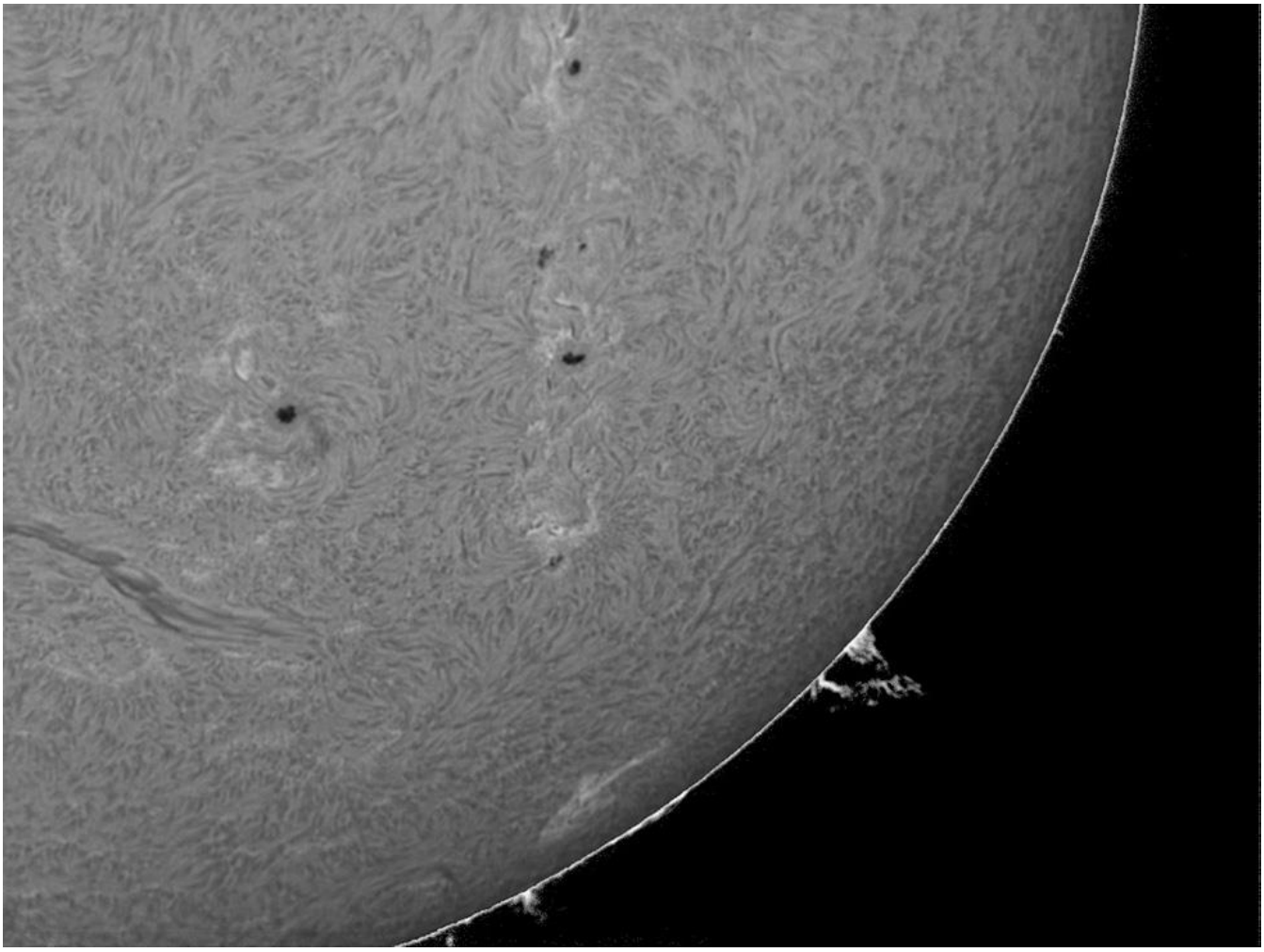
The Sun

Our parent star continues to exhibit activity that exceeds expectations. Sunspot numbers in February were once again higher than predicted, and at the time of writing, March appears to be following similar trends.

Websites such as www.spaceweather.com and Michel Deconinck's monthly newsletter, Aquarellia Observatory Forecasts, offer valuable insights into various aspects of solar observations, providing a comprehensive view of the Sun's current state.

For those interested in receiving advance warnings of potential auroral activity, signing up for the AuroraWatch app, developed by Lancaster University in the UK, is highly recommended. Mid-March saw some reasonable (albeit brief) lower level auroral displays - though these occurred around Full Moon, so went largely unreported. As with recent months, the current peak in solar activity suggests that further displays may be imminent.

At time of writing, the Partial Solar Eclipse of late March has not yet occurred. We shall bring readers some images of this event, closer to the event, if the weather is kind.



Solar surface and atmospheric activity 18th March 2025, captured with a Lunt LS60 Tha PT H-Alpha telescope. Image credit: Kerin Smith

The Moon

April begins with the Moon as a Waxing Crescent, just over a day old, positioned in the constellation of Taurus on the 1st. It will be visible in the western sky after sunset, positioned near the Pleiades star cluster (Messier 45), making for a stunning visual pairing, just after dark. The next evening, on the 2nd, the Moon is still found in Taurus, appearing alongside the brilliant Jupiter—offering a beautiful sight to the naked eye

As the evenings progress, the Crescent Moon becomes more pronounced, climbing higher in the sky each night. This month, the Moon is in one of its "High Spring Crescent" phases for observers in the Northern Hemisphere, providing excellent opportunities for telescopic observations.

Continuing along the ecliptic, the Moon moves through Gemini and Cancer, the dwindling Mars in Gemini on 5th April. This evening will coincide with the Moon coming to First Quarter phase.

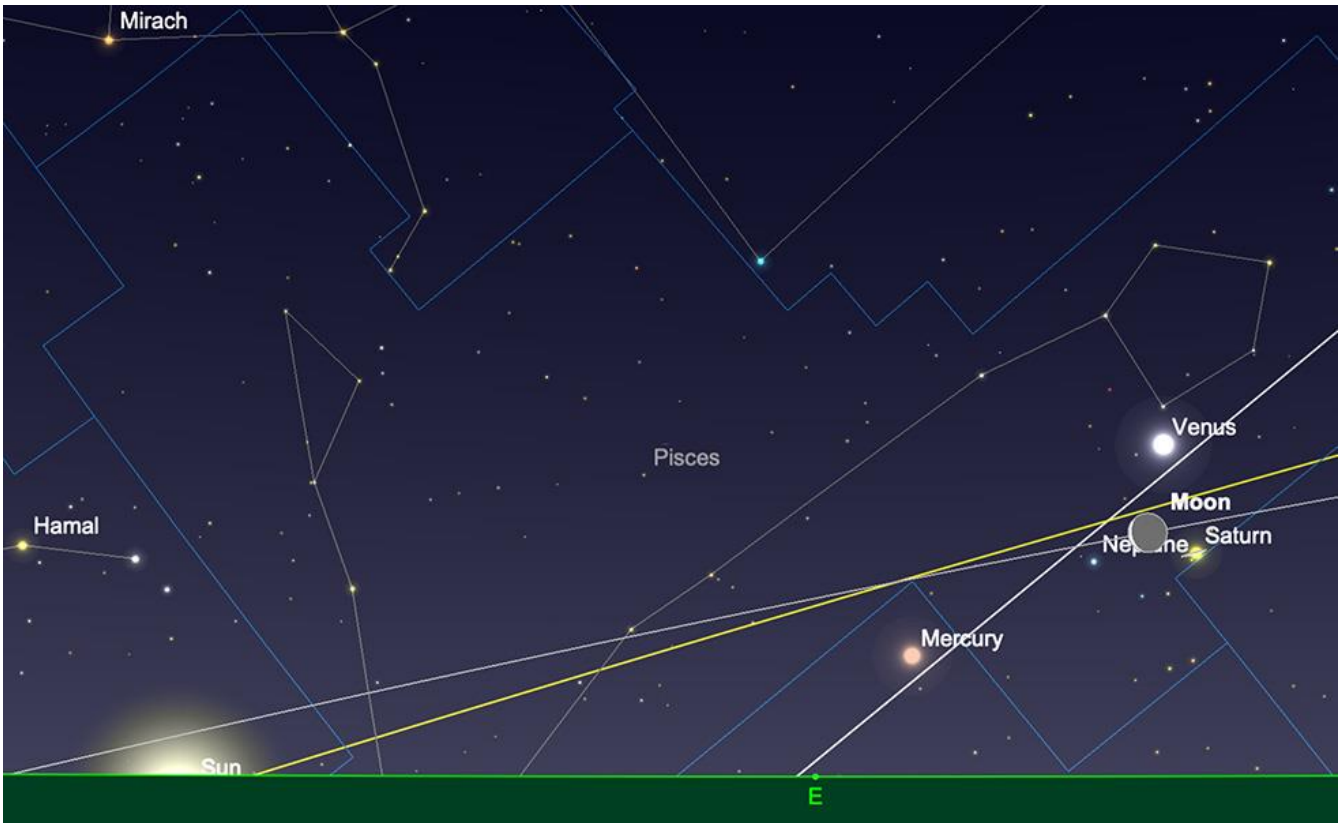
The Full Moon occurs on 13th April in the constellation Virgo. Unlike the March 2025 Full Moon, this Full Moon will not undergo any eclipse, but it will still provide a striking sight in the night sky all night long. Unfortunately, this means that mid-month is somewhat sub-optimal for deep sky observers and imagers.

As the month progresses, the Moon continues its journey through Virgo, Libra, and Scorpius ,before reaching its Last Quarter phase on 21st April, in the constellation Capricornus.

During this part of the month, the Moon rises later each night, offering darker skies for deep-sky observations and imaging in the earlier evening.

In the final week of April, the Moon moves through Aquarius and Pisces, where it comes together as a very old, slim crescent alongside the morning planets, Venus, Saturn and Mercury, before arriving back in Aries, where it meets the Sun. This New Moon on 27h April marks the beginning of the next lunar cycle, making this period ideal for stargazing with minimal moonlight interference.

In the last few days of the month, a slender Waxing Crescent reappears in the western sky at twilight, gradually ascending as it begins its next cycle around the ecliptic.



The Moon, alongside Mercury, Venus, Saturn (and Neptune), sunrise, 25th April. Image created with SkySafari 5 for Mac OS X, ©2010-2016 Simulation Curriculum Corp., skysafariastronomy.com.

Mercury

Observing Mercury in April 2025 offers a notable opportunity for early risers in the Northern Hemisphere, particularly around its greatest western elongation on 21st April. During this period, Mercury reaches its maximum angular distance from the Sun, making it more visible in the pre-dawn eastern sky.

In early April, Mercury begins to emerge from the Sun's glare, low on the eastern horizon approximately 30 minutes before sunrise. However, initially, it shines at around magnitude +2.8, making it an extremely faint object against the twilight and impossible to observe in the early part of the month.

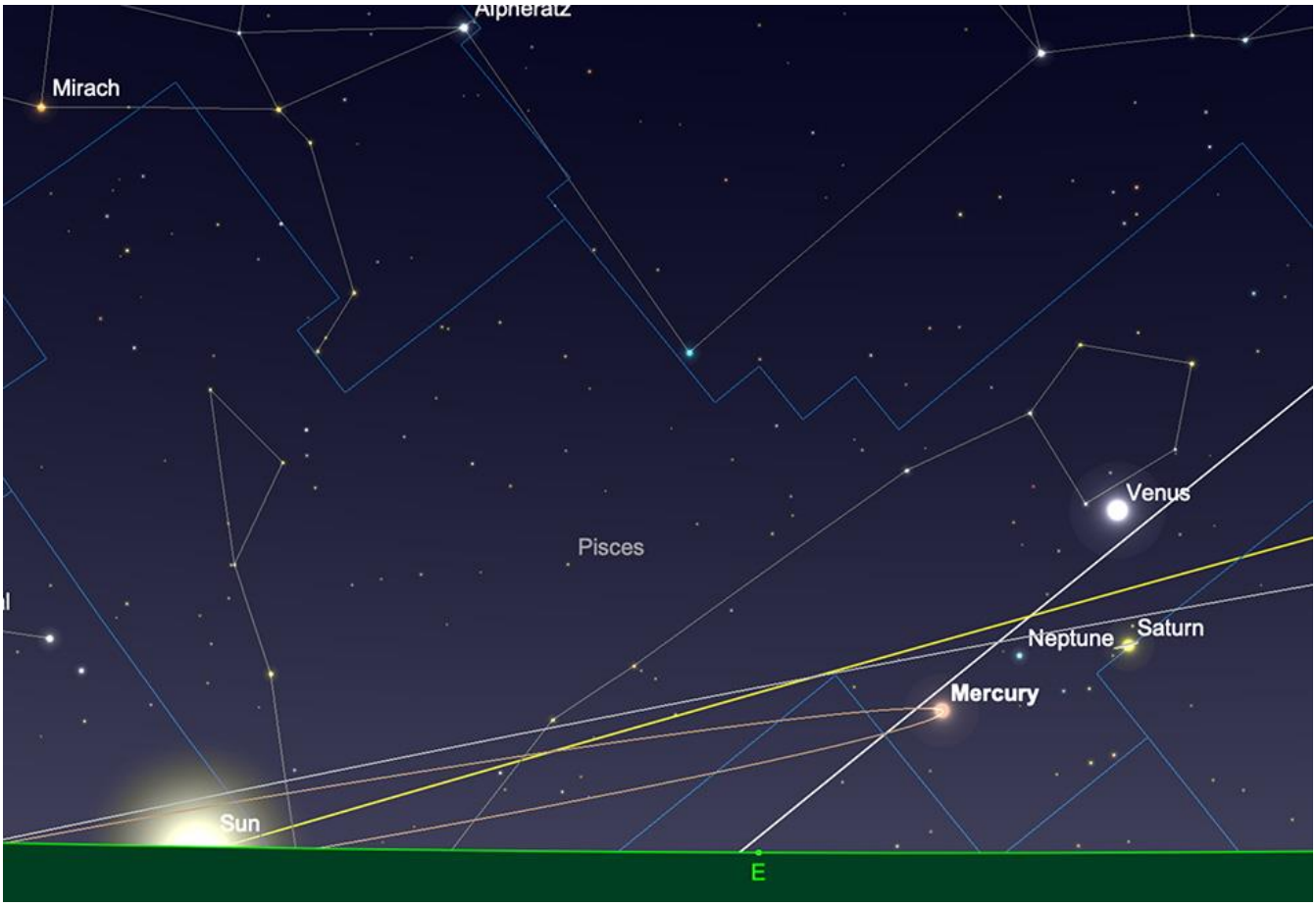
In mid-April, Mercury forms a close conjunction with Saturn. On the morning around the 10th April, when they are at their closest, the two planets rise together about an hour before sunrise. Mercury will technically be visible to the left of Saturn, with both shining at a magnitude of +1.2. While this conjunction provides an opportunity to observe both planets in close proximity, as with Mercury's elongation, viewing conditions in the northern hemisphere will be less than favourable, due to the low altitude of both worlds and the encroaching dawn light.

As the month progresses, Mercury brightens, reaching magnitude -0.3 by the time of its greatest elongation on 21st April. At this greatest elongation, Mercury stands 27 degrees west of the Sun. However, this particular elongation favours observers in the Southern Hemisphere, where Mercury will appear higher in

the sky before sunrise. In the temperate northern hemisphere, despite brightening significantly, Mercury will be challenging to observe due to its aforementioned very low altitude in the brightening dawn sky.

For those attempting to spot Mercury from the UK, the mornings around 21st April offer the best chance. Look towards the eastern horizon about 30 minutes before sunrise, ensuring you have an unobstructed view free from buildings or trees. Using binoculars will aid in locating the planet, but exercise caution and cease viewing as the Sun approaches the horizon to avoid eye damage.

While April 2025 presents opportunities to observe Mercury during its morning apparition, observers in the mid-northern latitudes will find it challenging due to the planet's low position in the sky and the glare of morning twilight. Optimal viewing conditions occur later in the month, but even then, patience and a clear eastern horizon are essential to viewing Mercury at all.



Mercury at greatest western elongation, sunrise, 21st April. Image created with SkySafari 5 for Mac OS X, ©2010-2016 Simulation Curriculum Corp., skysafariastronomy.com.

Venus

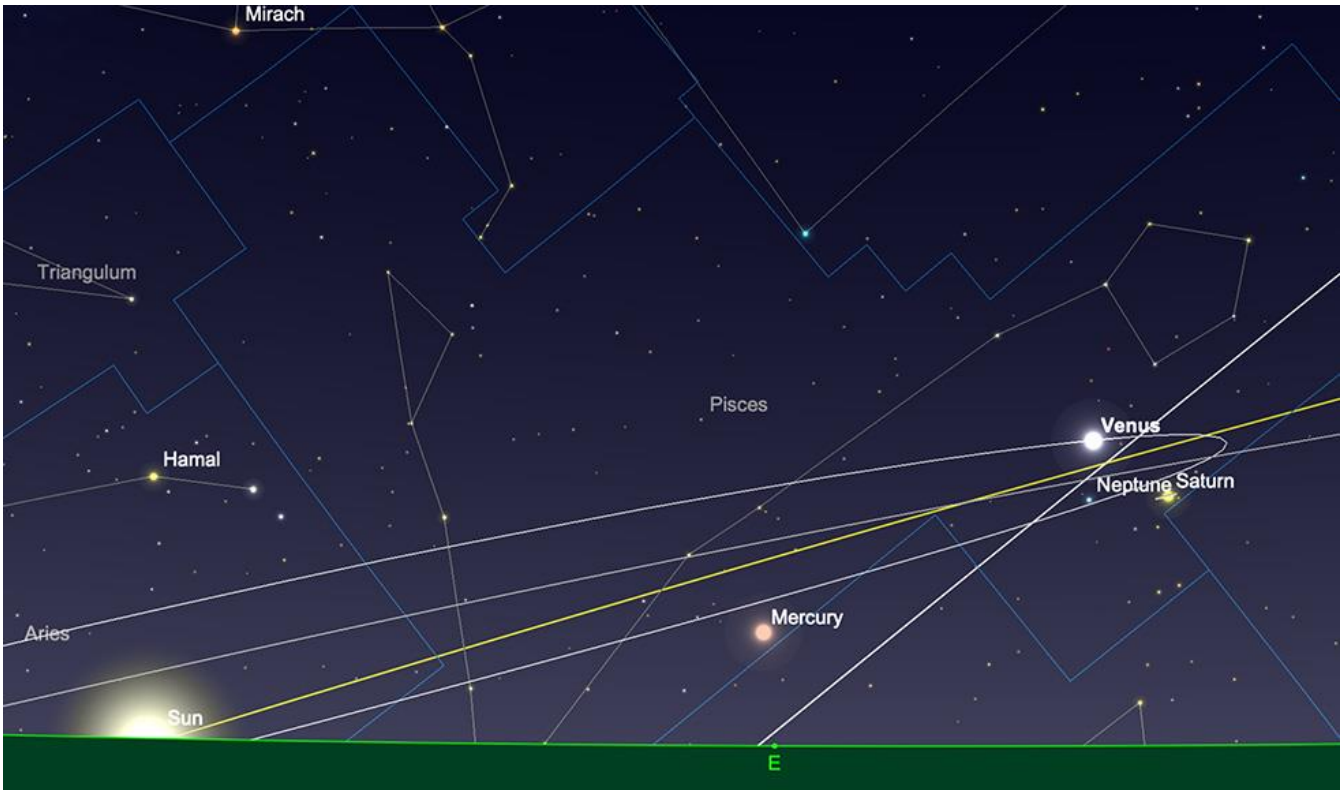
After its inferior conjunction on 22nd March 2025, where it passed between the Earth and the Sun, Venus re-emerges as the "Morning Star" in early April. In early April 2025, Venus transitions from its brief period of invisibility to becoming a prominent feature in the pre-dawn sky, in Pisces, for observers in the Northern Hemisphere - shining at -4.2 magnitude on the morning of the 1st, when it can be found at around 10 degrees altitude (as observed from 51 degrees N), as the Sun rises. Stuck in the same shallow-rising part

of the ecliptic (for northern hemisphere observers) as its neighbour Mercury, Venus is a little further west and higher in the sky as a result, but still very low in comparison to its excellent recent evening apparition.

By mid-April, Venus shines brilliantly at magnitude -4.5, making it the brightest object in the morning sky aside from the Moon. It rises approximately an hour before sunrise, positioned low in the eastern horizon, still within Pisces. As the month progresses, Venus rises earlier each day, increasing its separation from the Sun and subsequent prominence in the pre-dawn sky.

A notable event occurs on 25th April, when a slender waning crescent Moon passes close to Venus in the early morning hours. This conjunction offers a picturesque sight, with the two celestial bodies appearing in close proximity against the backdrop of the eastern sky.

Towards the end of April, Venus continues to ascend higher in the sky before dawn, maintaining its striking brightness. Its apparent size and phase evolve during this period, providing reasonable opportunities for telescopic observation. Observers can witness Venus's crescent phase becoming broader and more illuminated as it moves further from Earth on its interior orbit.



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

Mars

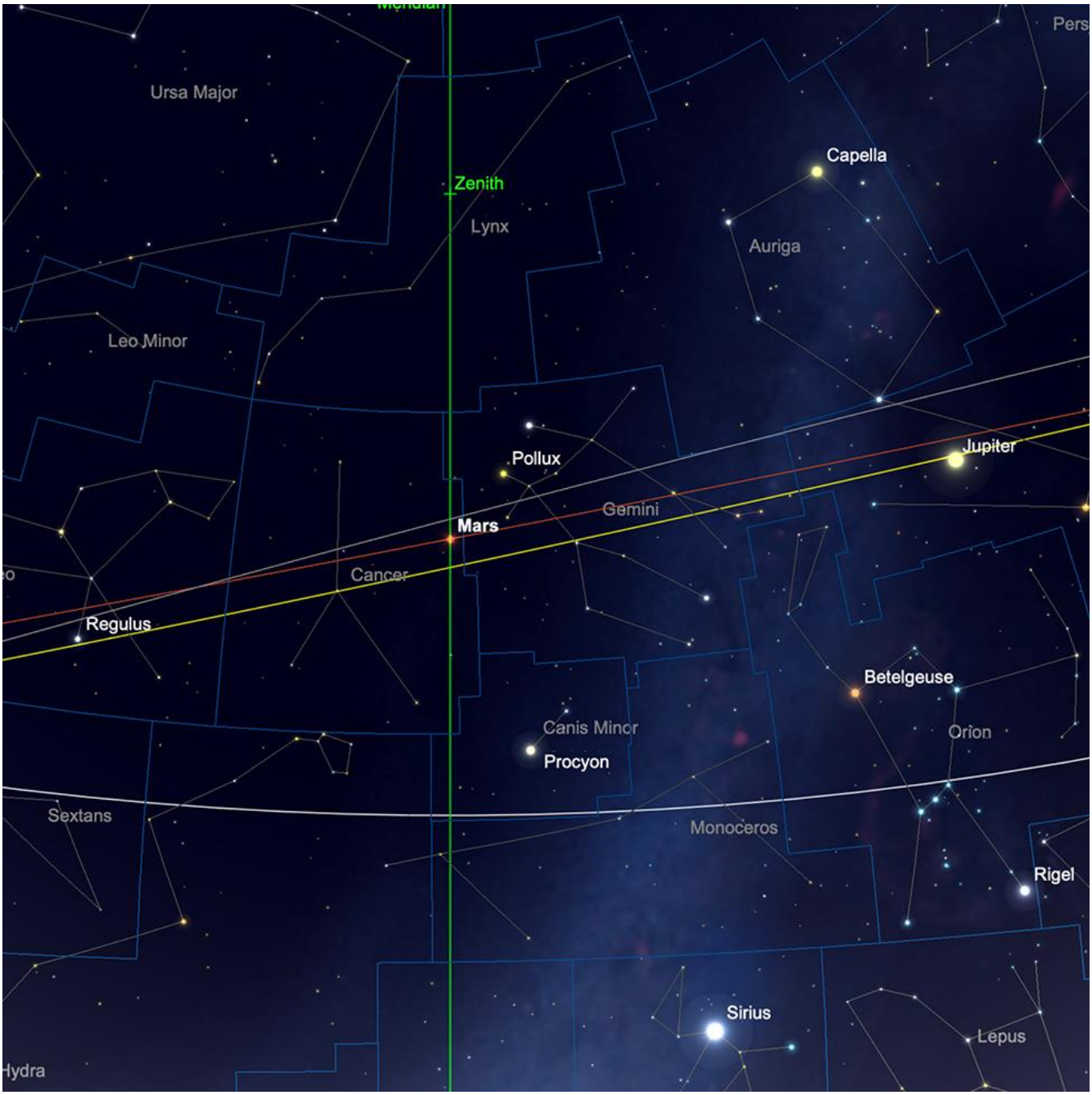
In April 2025, Mars continues to recede from its recent opposition, becoming less prominent in the night sky. At the start of the month, it resides in the constellation Gemini, shining at magnitude +0.5, with an angular diameter of approximately 8.2 arc seconds.

On the evening of 5 April, Mars will be in conjunction with the Moon, offering a picturesque pairing in the night sky. This provides an excellent opportunity for astrophotographers and observers to capture the Red Planet alongside our natural satellite.

As April progresses, Mars moves eastward into the constellation Cancer. By mid-month, it dims further to magnitude +0.7 and its apparent size decreases to about 7.3 arc seconds. The planet sets earlier each evening, making the window of potential observation shorter.

By the end of April, Mars will have diminished further in brightness to magnitude +0.9 and presenting an angular diameter of around 6.6 arc seconds. Its lower altitude and reduced brightness will make it yet more of a challenging target for observation.

Observers wishing to view Mars during April should aim for the early evening hours, shortly after sunset, when the planet is still reasonably high above the western horizon. Using a telescope with moderate magnification may reveal some surface details, though the diminishing size and brightness will limit the extent of visible features.



Mars at transit, April 15th. Image created with SkySafari 5 for Mac OS X, ©2010-2016 Simulation Curriculum Corp., skysafariastronomy.com.

Jupiter

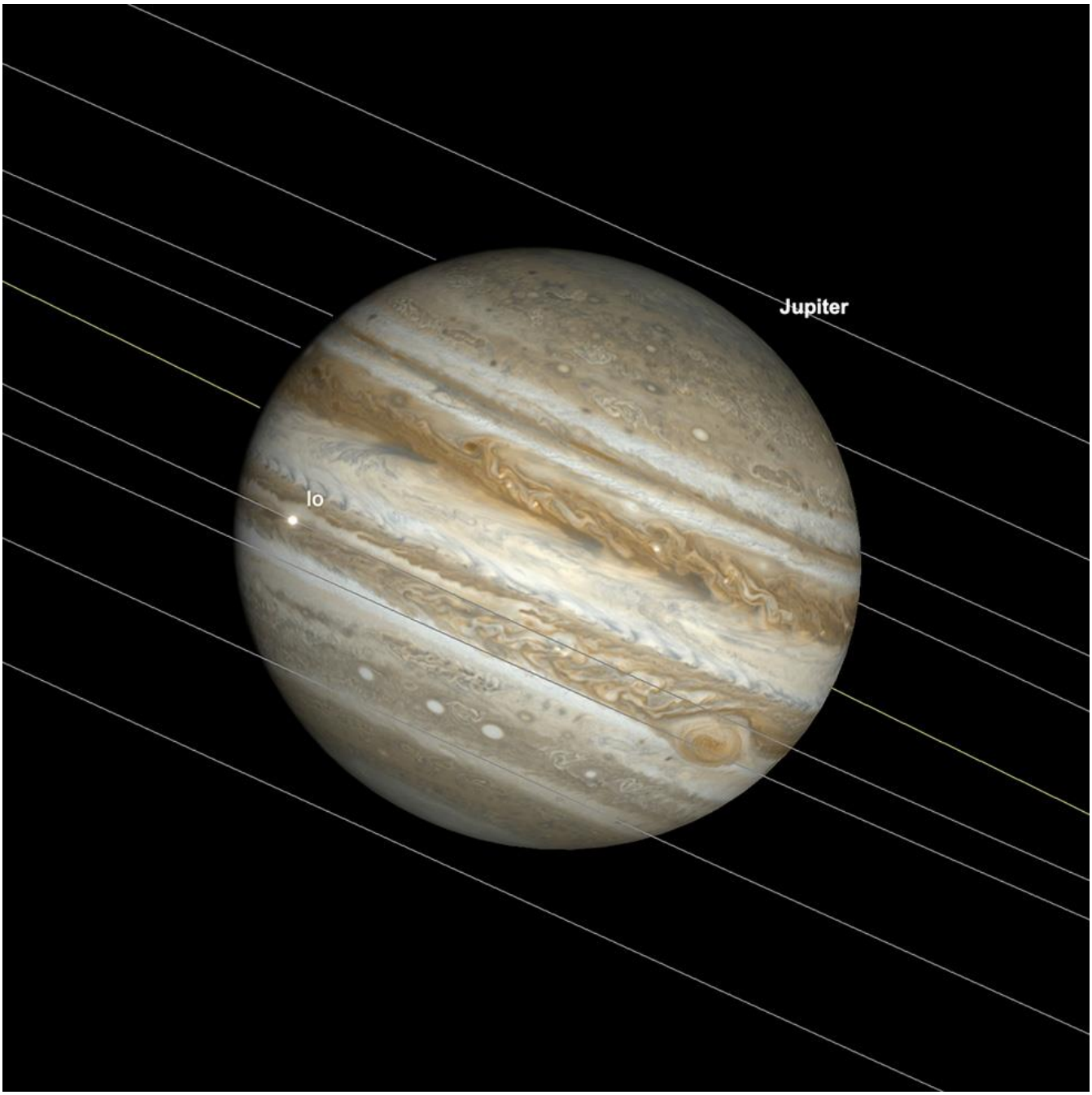
In April 2025, Jupiter continues to be a prominent feature in the evening sky, though the window for observation closes, as the month progresses. Situated in the constellation Taurus, it shines brightly at magnitude -2.1 at the start of the month, with an angular diameter of approximately 36 arc seconds. As Earth and Jupiter draw further away from each other, its apparent size decreases - though it is such a large world, that this never really offers much impediment to opportunities for observation. The planet will set around 6 hours after the Sun on the 1st April, standing over 51 degrees high at sunset (as observed from 51 degrees north).

By mid-April, Jupiter's brightness decreases slightly to magnitude -2.0, and its angular diameter shrinks minutely to around 34.8 arc seconds. Observers with telescopes can enjoy views of its dynamic cloud bands and the ever-changing positions of its four Galilean moons: Io, Europa, Ganymede, and Callisto. These moons present various transits and occultations throughout the month, providing captivating sights for both beginning and seasoned astronomers.

The Great Red Spot (GRS), Jupiter's iconic storm, remains a highlight for observers. To determine the precise transit times of the GRS across Jupiter's central meridian, enthusiasts can consult tools like the one provided by Sky & Telescope. These resources offer accurate predictions, enhancing the viewing experience.

A few notable events involving the Galilean moons occur in April. On the evening of 4th April, a mutual Great Red Spot and Io transit occurs, stating around 11.30pm (BST). This is followed by another GRS and Io transit in the early evening of the 6th. There is another GRS, Io and Io Shadow transit, occurring on the evening of the 22nd, starting at a little before 7pm (BST). Yet another GRS, Io and Io Shadow transit, occurs around sunset on the evening of the 29th, starting at a little after 7.30pm (BST)

By the time we get to the end of the month, Jupiter will set just under 4 hours after the Sun, standing around 31 degrees above the horizon (as observed from 51 degrees north).



Jupiter, GRS and Io Transit, early evening, 6th April. Image created with SkySafari 5 for Mac OS X, ©2010-2016 Simulation Curriculum Corp., skysafariastronomy.com.

Saturn

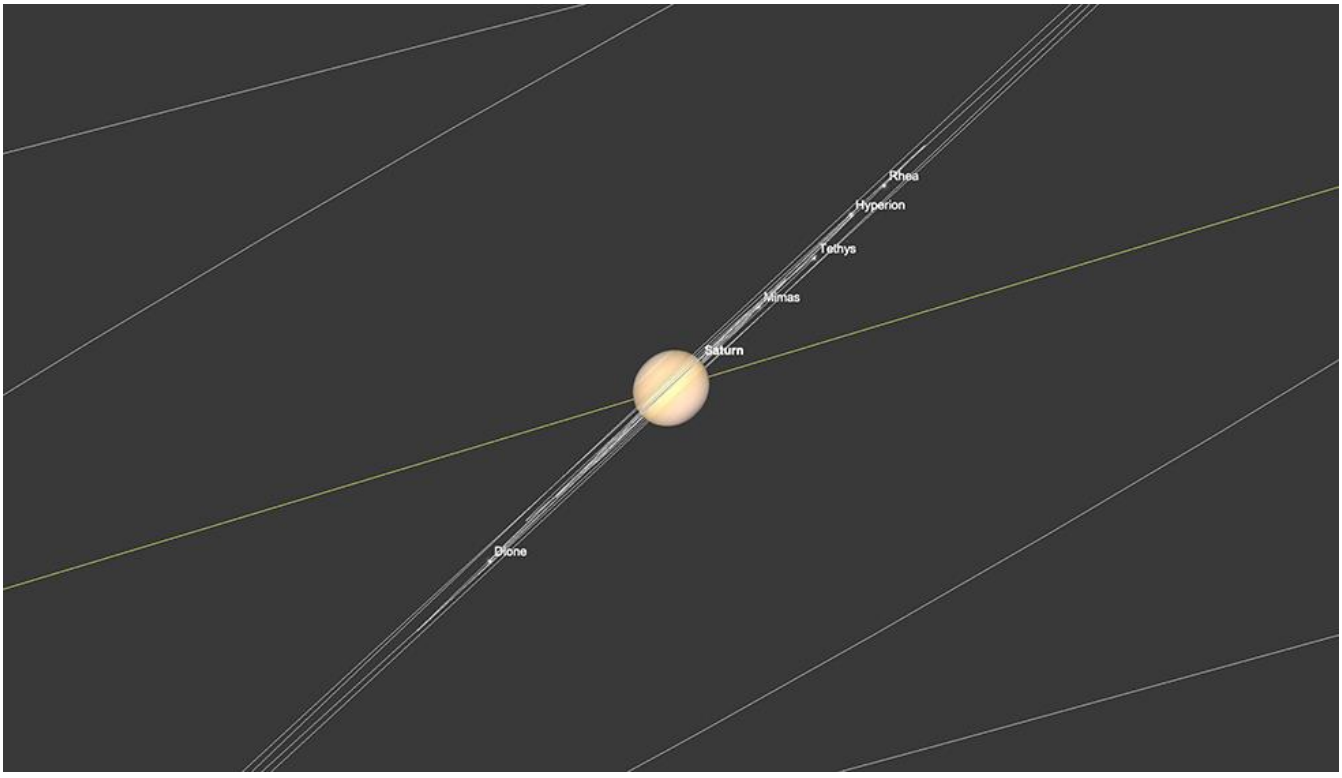
Saturn remains a difficult target throughout April 2025, having only recently emerged from superior conjunction, which took place on 12th March. Now a morning object, it rises shortly before dawn but remains very low on the horizon, making observation challenging. By mid-April, Saturn shines at around magnitude +1.2, with its disc spanning approximately 15.7 arc seconds, though its low altitude will limit the clarity of views.

As previously mentioned, Saturn’s conjunction with Mercury is arguably its highlight for the month, but this will be a very challenging event to observe.

The planet continues to climb slightly higher in the pre-dawn sky as the month progresses, but it will not be well-placed for detailed observation until later in the year. Observers in the Northern Hemisphere, in particular, will struggle to get a clear telescopic view, due to Saturn's position in a shallow-rising part of the ecliptic.

Following the ring-plane crossing on 23rd March 2025, Saturn's rings now appear extremely thin, with their nearly edge-on orientation offering a strikingly different perspective compared to their usual grandeur. While the ring-plane crossing itself was largely unobservable due to Saturn's proximity to the Sun, it will be interesting to see how they appear - if you can find the planet at all in a telescope during early April.

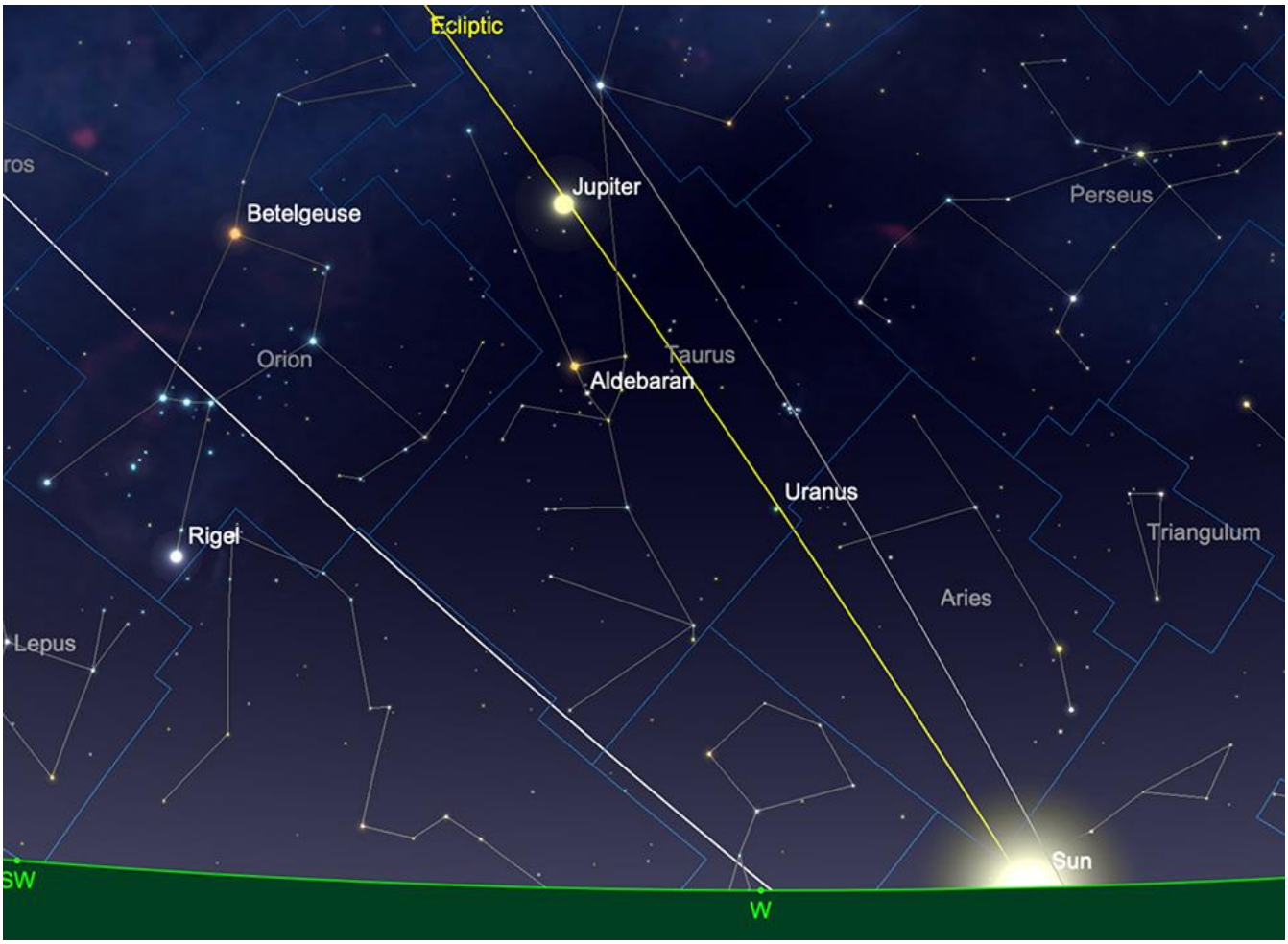
For now, Saturn remains a difficult but rewarding challenge for the dedicated observer. Patience will be key, as it will take a few more months before the planet becomes a more prominent feature in the night sky once again.



Saturn and Moons, sunrise, 1st April. Image created with SkySafari 5 for Mac OS X, ©2010-2016 Simulation Curriculum Corp., skysafariastronomy.com.

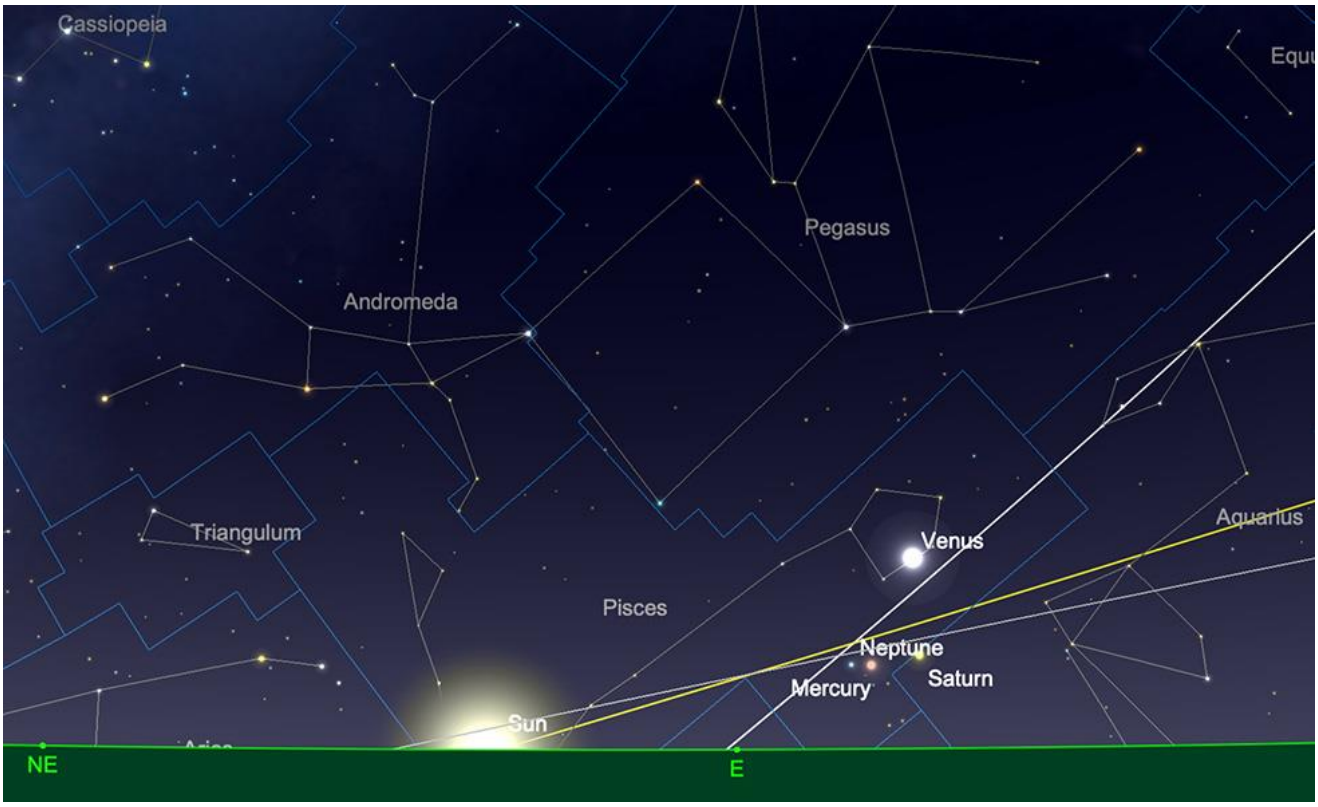
Uranus and Neptune

Uranus is technically observable during the beginning of April as an evening target in Taurus. The planet is still above the horizon as astronomical dusk starts, but the later in the month it gets, the closer Uranus gets to the Sun and the briefer the opportunity for observation becomes. while Uranus will not reach superior conjunction until mid May 2025, it is obvious that the window for meaningful observation is drawing to a rapid conclusion.



Uranus at sunset, 15th April. Image created with SkySafari 5 for Mac OS X, ©2010-2016 Simulation Curriculum Corp., skysafariastronomy.com.

Neptune, on the other hand is slowly emerging from its own recent superior conjunction, as a morning target. It can be found alongside Mercury, Venus and Saturn in Pisces, during April. However, as previously discussed, this area of sky is quite a challenging one to observe even the brightest planets in, let alone a world as faint as Neptune. Subsequently, Neptune remains unobservable for a significant period to come.



Neptune's position at sunrise, 15th April. Image created with SkySafari 5 for Mac OS X, ©2010-2016 Simulation Curriculum Corp., skysafariastronomy.com.

Comets

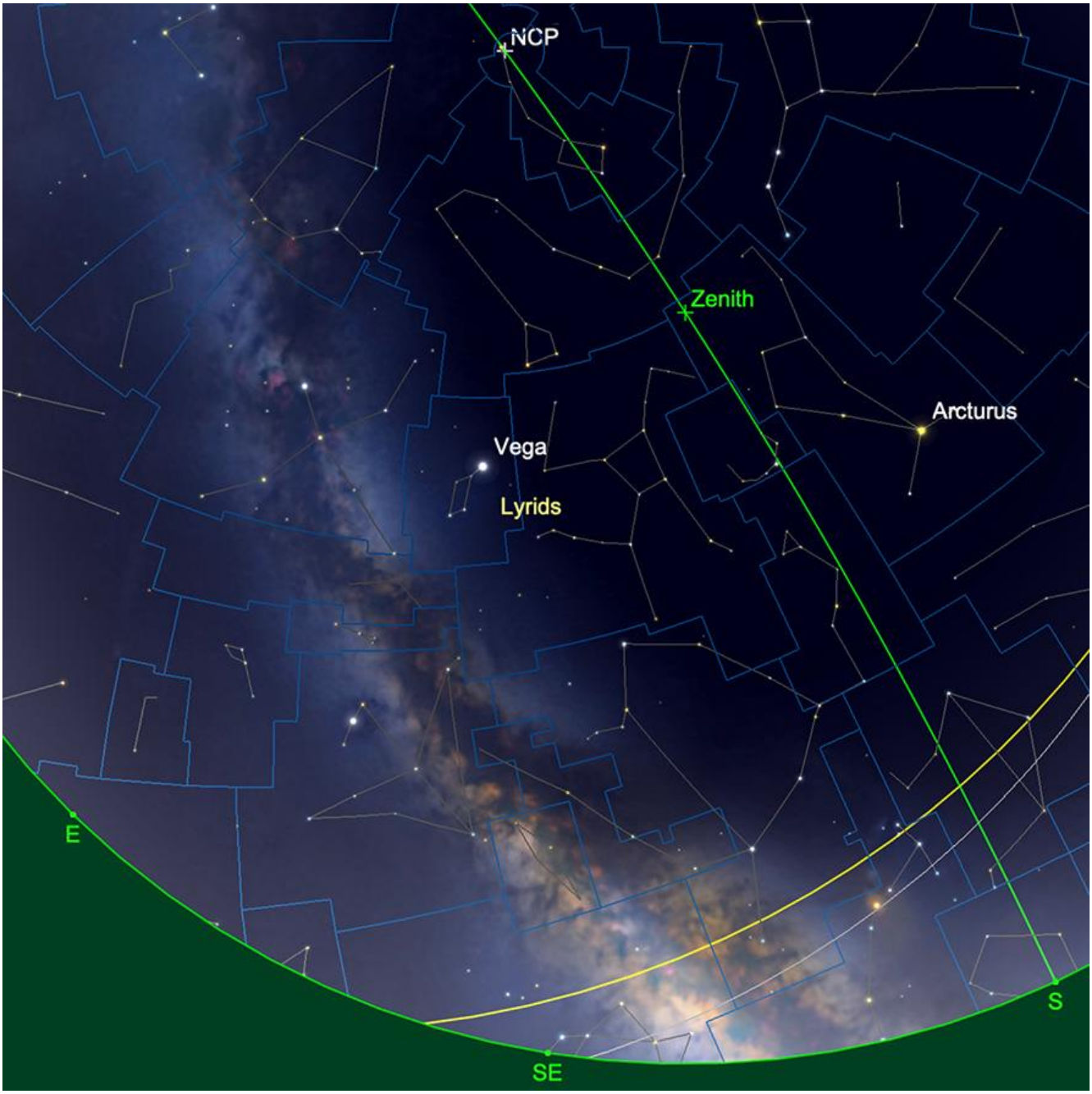
There are no bright comets currently observable. Periodic comet Comet 29P/Schwassmann-Wachmann will be hanging around the “forepaw” of Leo (marked by the star Subra, Omicron Leonis) for much of April. But this comet, while occasionally undergoing outbursts, never normally attains a magnitude brighter than 12th.

Meteors

Peaking on the night of the 21st-22rd April, the Lyrids are a regular, reliable shower. While rarely as spectacular as the major showers such as the Perseids and Geminids, they are nonetheless worthwhile looking out for. This year, the Moon - the ever-present nemesis of meteor showers - will rise a little after 4am, leaving the radiant to rise, free of moonlight for a significant part of the night.

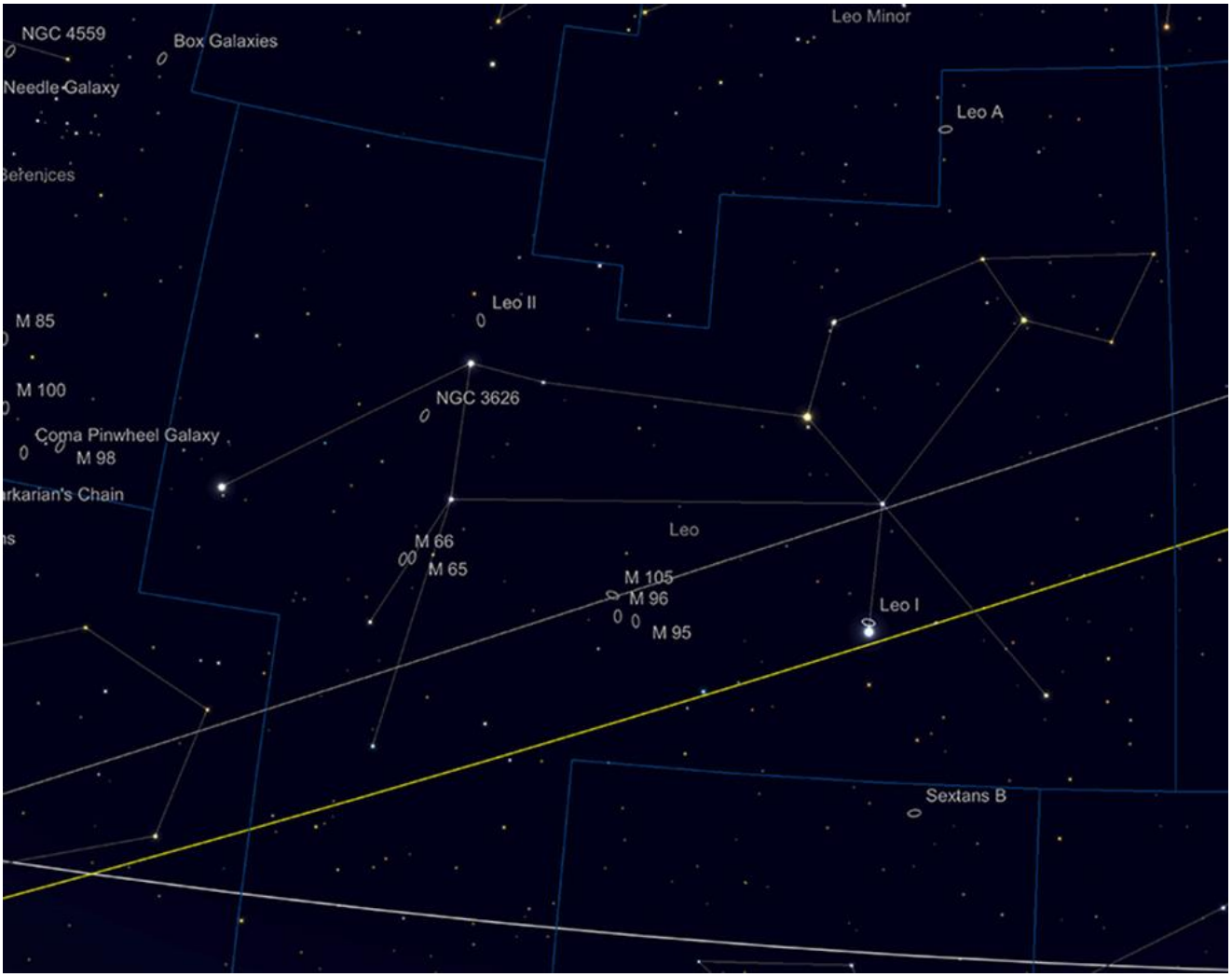
The Lyrid meteor shower originates from its parent comet, C/1861 G1 (Thatcher), which is a medium-period comet set to return around 2276. When these comet remnants collide with the Earth's atmosphere, they do so at a relatively gentle pace of 48 kilometers per second. Consequently, the resulting meteors tend to have modest kinetic energy. Additionally, due to their small grain sizes, Lyrid meteors generally aren't exceptionally bright, averaging around +2.0 magnitude. However, approximately every 30 to 60 years, Earth encounters a denser portion of Comet Thatcher's debris field, leading to zenith hourly rates that can reach several hundred. In typical years, the Lyrid meteor shower peaks at a zenith hourly rate of

around 20, although not all may be visible. With clear skies in your area, you could still capture the brightest Lyrids with short-exposure DSLRs or USB imagers equipped with All Sky Lenses.



The Lyrid radiant, on the borders of Lyra and Hercules. Image created with SkySafari 5 for Mac OS X, ©2010-2016 Simulation Curriculum Corp., skysafariastronomy.com.

Deep Sky Delights: Galaxy Season Part 2 - Leo



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

When gazing towards Leo, there can be little doubt we are now in the part of the year known as "Galaxy Season", as this area of sky is littered with them. Galaxy hunting is not solely the preserve of those with the supposedly prerequisite "Big Dob". Although to see much in the way of detail in many of the objects mentioned this month, aperture will certainly help, a good deal of these can be seen with smaller telescopes and large binoculars from decent, dark observing sites. However, patience and care will be needed to pick the faint glow of these fantastically distant objects from the background sky. However, to discern structure in many of the galaxies we will cover requires one of two things: a large telescope of at least 10-inches of aperture (preferably more), or reliance on accurate, autoguided long-duration exposure astrophotography. To appreciate the true beauty of these massive, yet seemingly delicate structures, you need one or the other - though their location and observation (yet again), will largely be down to sky conditions - with galaxies, the darker the better! Careful, gentle filtration will help with galaxy observation from more light polluted environments, but narrowband filters like the OIII, H-Alpha and others will rarely help as much for galaxy observation as they do for nebulous objects (except when a galaxy has particular emission regions, peculiar to these wavelengths of light). A good Skyglow, CLS or broader "Deep Sky" filter will help increase the contrast of an object against the background sky, without cutting off many of the useful wavelengths that the galaxy is transmitting on. A galaxy's spectral output is much broader than typical nebulosity, so gentle filtration produces the best results.

The first object on the list for observation is one of the most difficult to see, but probably one of the simplest to locate and the closest, galaxy-wise - the Leo I galaxy. Leo I sits a third of a degree north of Regulus, Alpha Leonis - the principle star of Leo (though some publications rate it as closer). Leo I is an elliptical galaxy of reasonable angular size (12 x 8.5 arc minutes) and of photographic magnitude +11.15. Leo I is a one of its furthest satellite galaxies of our own Milky Way, lying just over 800,000 light years from us. Leo I was first detected in the Palomar Sky Survey, taken with the observatory's 48-inch Schmidt Camera in 1950. Leo I's visual magnitude is deemed to be around +9.8 mag, which should put it easily within the reach of amateur instruments. However, Leo I's easy-to-find location is also its potential downfall from a visual perspective: it lies so close to Regulus that the neighbouring galaxy is almost drowned out by its glare. There are reports of the galaxy being found in 10-12-inch class telescopes, but it is very likely that an observer would have to place Regulus just outside of the field of view, using appropriate magnification, in order to see our galaxy's most distant satellite at all. Leo I will appear as a misty oval of light, with no great discernible structure even in large telescopes. The galaxy appears to have no attendant globular clusters and contains few stars of advanced metallicity, meaning the stellar population is comparatively young - probably little over twice the age of the Sun. The galaxy is surrounded by a halo of attendant gas, which it may (or may not) have formed from.

This unusual object will be a challenge, but if found, you will be witnessing the furthest reaches of our own galaxy's orbital sphere of influence and in all likelihood its youngest attendant.

Roughly nine degrees east of Leo I lie a spectacular grouping of galaxies: the Messier objects M95, 96 and 105 (and its attendant galaxies NGC 3377 and NGC3384). This group occupies a compact area of sky (about 3 x 1.5 degrees of sky) and can be found halfway on a line drawn between Regulus and Iota Leonis - one of the rear legs of Leo. Of the three galaxies, the beautiful M95 is the most Westerly. M95 is a barred spiral galaxy, placed almost face-on from our perspective. M95 was discovered - along with the nearby M96 - in 1781, by Pierre Mechain. Messier catalogued both objects less than a week after Mechain found them. At +9.69 mag, M95 is a relatively easy, compact object at 7.4 x 5 arc minutes in dimension. Lying 31 million light years away from us, it is the closest of its group by a million light years. As M95 is a barred spiral, it is likely that most observers with decent-sized telescopes will see the galaxy's central core region as a slightly elongated object, surrounded by a fainter haze of its arms. Long duration images of the system reveal its structure in all its glory - the two massive spiral arms shedding stars into further outlying feathered lesser arms. If, as it has been suggested, our own galaxy is a barred spiral, it could look much akin to M95 to outside observers, though our galaxy may have more in the way of outlying spiral structure in its arms.

M95 and M96 by Mark Blundell. Image reproduced by kind permission.

Next door to M95 by a mere two-thirds of a degree is another lovely spiral, M96. A similar angular size to its neighbour, it is slightly brighter at +9.3 mag. In contrast to M95, M96 appears to be dustier, but has a more compact core. It is often listed as a double barred spiral. This double barring, along with the wide spread of its arms and the galaxy's dusty nature make its spiral structure less well-defined than its neighbour M95's. Similar in angular size to M95, at 7.8 x 5.2 arc minutes, M96 appears as a more compact 3 x 5 arc minute object in a 10-12-inch-class telescope, its bright central core surrounded by a fainter ring of starlight which make up its arms. The reason it also appears slightly brighter than M95 in some listings is that the galaxy is considerably foreshortened in comparison to its neighbour. Some listings incline it as much as 53 degrees to our line of site, whereas M96 is also recorded as being at a less extreme 35 degrees! Whichever listing is correct, M96 is a great target for visual and photographic observations.

Just under a degree to the north of M96 sits the grouping of M105 and the nearby NGC 3384 and 3389. Of the three, M105 is the dominant and brightest at +9.3 mag. It is often described as the analogue of Elliptical galaxies - and as such is much studied. M105 is a later addition to the Messier list (added by 20th Century Astronomer Helen Sawyer Hogg), though discovered in 1781 by Mechain, Charles Messier did not confirm its discovery at the time and it was left out of his original listing. It's difficult to understand why Messier chose not to include M105, as it is prominent enough - a misty patch of light in small telescopes and a condensed glow, with a healthy-size core in larger instruments. Elliptical galaxies, but their nature are not generally thought to be as beautiful or as characterful as their spiral counterparts, but this should not put observers off trying to locate M105. Indeed, many Astronomers now consider Elliptical galaxies to be the ultimate evolution of galaxial structure after two spirals merge - the end result of the Milky Way's potential meeting with M31 may well result in a similar structure to M105. A clue to M105's past is that it contains few areas of star formation and a reasonably elderly stellar population, suggesting it is a more advanced galaxy in terms of age.

The second Elliptical in this close trio, NGC 3384, 7 arc minutes to the NE of M105, is almost as conspicuous as its neighbour at +9.89 mag, but is presented to us at a much more oblique angle. Appearing elongated, even in small telescopes, larger instruments can reveal a clear, bright core and the misty halo of NGC 3384's outer regions. So easy is it in comparison and proximity to M105, it is difficult to believe that Mechain and Messier overlooked it. William Herschel discovered it in 1784. Although listed as the catch-all description of an elliptical galaxy, the more precise description of NGC 3384 should be as a Lenticular. The galaxy has revealed a central bar structure in long duration astrophotography and like M105 shows an older star population than the mean average.

NGC 3389 is the most challenging of this trio to observe - whereas the two previously-mentioned ellipticals are bright and their structure obvious, NGC3389 is a whole two magnitudes fainter than either at +11.89 mag and much more the visual preserve of larger telescopes. NGC 3389 is a spiral galaxy and shows a much more blue, energetic cast in long duration images (maybe somewhat reminiscent of a mini M33). This is largely due to its disassociation with the group - although close in angular proximity to M105 and NGC 3384, NGC 3389 actually lies round 64 million light years distance, roughly twice that of its neighbours and has no connection to them. Instruments of the 10-inch+ range will show it, though it will be a struggle to observe in less powerful scopes. It appears as a pale misty patch to the SE of NGC 3384 and little detail is to be expected in most telescopes, though those owning larger instruments have reported a certain textured "lumpiness" to its appearance in the eyepiece.

At low power (sub x40) it is possible to squeeze M96, M105 and NGC3384 in the same eyepiece, as it is also possible to do with M95 and M96 - though owners of low focal ratio reflectors should be advised that it is often inadvisable to attempt to use such low magnifications, lest the shadow of the secondary mirror interfere with the view.

Leaving this group of galaxies aside, we return to the aforementioned Iota Leonis and trace a line back up one of the rear "legs" of Leo, until we come across the +3.34 mag star Chertan or Theta Leonis (sometimes known as Chort or Coxa). Tracing the line back to Iota Leonis, stop approximately halfway: here is location of the next group of galaxies, the M65 Triplet, more commonly known simply as the Leo Triplet. This triplet contains the Messier objects M65 and 66 and the elongated NGC 3628. All three objects are spiral structures, though unsurprisingly they present themselves to us in differing aspects.

M65 and 66 were discovered by Charles Messier in 1780, though their discovery is often misattributed to Mechain. Of the two, M65 is slightly smaller and fainter at + 9.30 mag. It has a bright central bulge and pretty luminous arms. Presented at a significant incline to our perspective, occupying an area of 9.8 x 2.9 arc minutes, M64 also features noticeable dusky lanes within its arms, though these may well be made more prominent by foreshortening. M66, on the other hand, is a broader barred spiral, brighter than its neighbour at +8.9 mag and taking up more area in the sky at 9.1 x 4.1 arc minutes. M66's spiral arms are not as regular as M65's, which seems to suggest total interactions with neighbouring NGC 3628 in the past, as does a displaced cloud of hydrogen, which has moved outwards, from its arms and now sits, motionless, around its galactic halo.

The Leo Triplet: M65, M66 and NGC3628, by Mark Blundell. Image reproduced by kind permission.

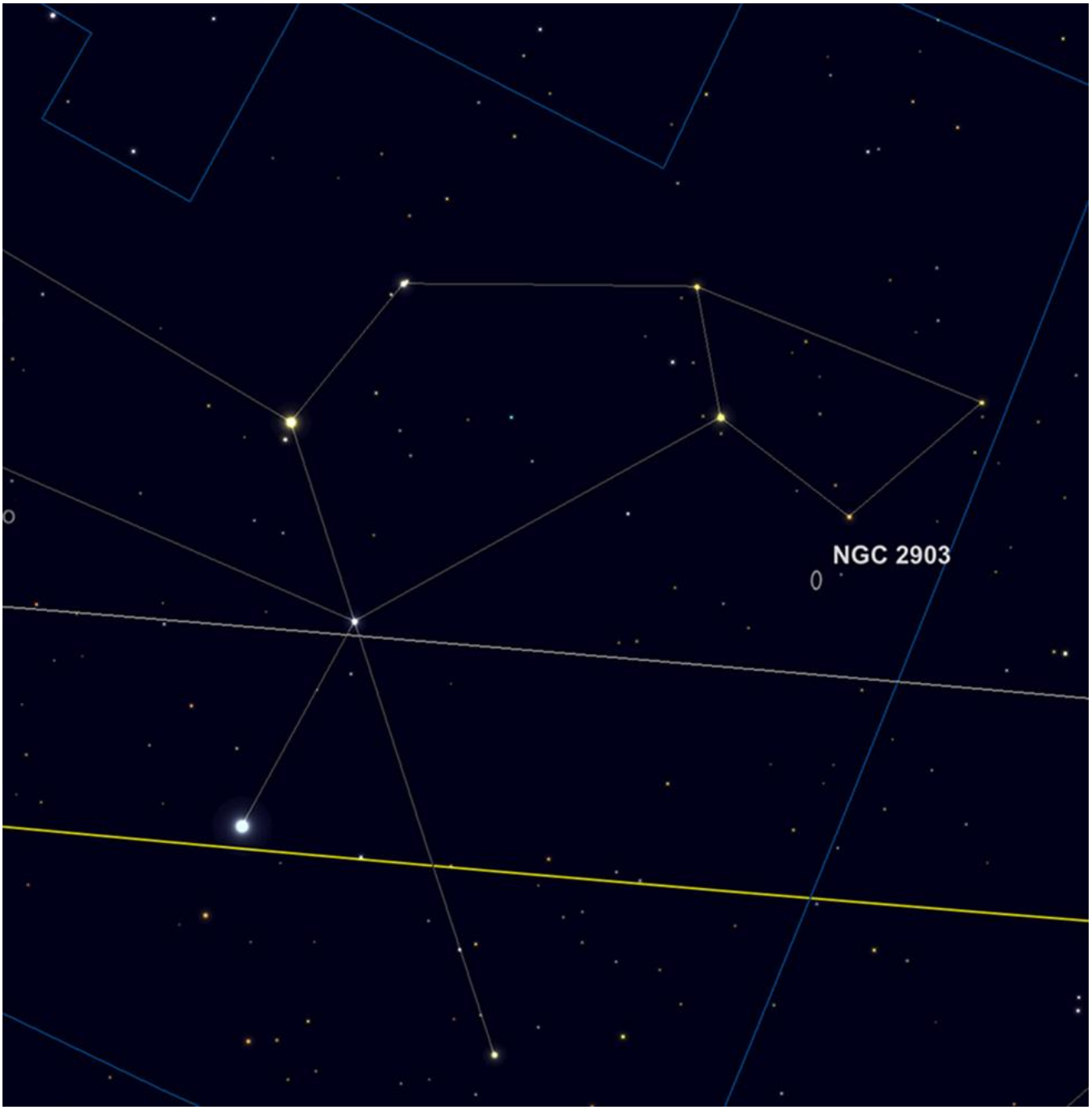
NGC 3628 is the faintest of the three at +9.50 mag and the longest at 13.1 x 3.1 arc minutes in dimensions. This is a fascinating spiral, which is presented edge on to us and is bisected through its centre by a long, dark dust lane. This is difficult in smaller telescopes, but becomes extremely prominent in larger telescopes. 10-12-inches of aperture will show it well, but in a telescope of 14-16-inches of aperture, it is unmistakable (in a similar way to NGC 891). Discovered by William Herschel in 1784, NGC 3628 is pretty obvious in relation to its neighbours, so again, it is mysterious why it wasn't discovered earlier. NGC 3628 has tidally interacted with M66, which has lead to a huge stream of stars breaking away in a staggering 300,000 light year long trail. This feature is only apparent in very long and well-processed astrophotographs, but is amongst the most spectacular and extreme pieces of evidence for gravitational interaction amongst galaxies in the sky.

All three galaxies can sit within the field of view of a low power eyepiece in a rich field instrument, but large binoculars will show them well as a triplet too. Sadly, NGC 3628's dark lanes won't be revealed by binoculars, but the Leo Triplet is well worth your attention, regardless of whatever optical aid you deploy.

All the galaxies mentioned so far, bar the outlying NGC 3384 and (confusingly) the much more local Leo I, are all members of the extended Leo I group of galaxies. For clarification, Leo I the galaxy and the Leo I group of galaxies are completely unrelated! The next group of galaxies we shall come to belong to the Leo II population, an associated, but separate group.

Moving Northwards from the M65 Triplet, we come to another compact triplet of galaxies, the spiral NGC 3632 and a close pairing of elliptical galaxies NGC 3607 and 3608. 2 1/2 degrees S from Zosma, Delta Leonis, (the base of the Lion's tale), the pairing of NGC 3607 (+ 9.89 mag) and NGC 3608 (+ 10.80 mag) can be found. Separated by just 5 arc minutes, the pair are easily located in small instruments, though it is the brighter (4.6 x 4.0 arc minutes) 3607 that is the more conspicuous. NGC 3632 is to be found three quarters of a degree to the east of this pairing. At+10.6 mag NGC 3632 was discovered by Herschel, again in 1784. It is a lovely, if compact, spiral and is also listed at number 40 on Patrick Moore's Caldwell Catalogue. Although recorded as an 11th magnitude object, it appears brighter due to the concentration of this light over its compact 2.7 x 1.9 arc minute area. Larger telescopes are needed to bring out any detail in its outlying spiral arms.

Finally, we come to a rather brighter galaxy, NGC 2903. This is a wonderful spiral structure and at magnitude 8.9, it is easily visible with a small telescope. With dimensions of 12.6 x 6.6 arc minutes, the galaxy is seen from a rather oblique angle, which contributes to its relatively high surface brightness. NGC 2903 is pretty easy to find, located as it is around 1 1/2 degrees below Leo's "chin" or "mouth" star, Lambda Leonis.



NGC2903 location - under the "chin" of Leo. Image created with SkySafari 5 for Mac OS X, ©2010-2016 Simulation Curriculum Corp., skysafariastronomy.com.

Sitting at a distance of 20.5 million light years, it is still fairly easy to see the dust lanes and emission nebulae. NGC 2905 is a prominent bright area in NGC 2903. NGC 2903 is thought to be about 80% as large as our own Milky Way Galaxy. The similarities continue with NGC2905's spiral structure and noticeable central bar. Hubble images show that NGC 2903's globular clusters seem somewhat brighter and more prominent than our Milky Way's globulars would be if viewed at a similar distance. This suggests they and their parent galaxy may be somewhat younger than our own.

NGC 2903 also appears very efficient in terms of star formation - its notable ring of material around its core being particularly rich in new stars. It is thought that the central bar's tidal forces are compressing this material and this is the driving mechanism behind this formation.

NGC 2903 by Mark Blundell. Image reproduced by kind permission.