Astronomical sky over Edinburgh and Lothian – March 2025

In March, we lose our parade of planets but gain the Spring equinox, a total Lunar eclipse and a partial Solar eclipse.

The Sun leaves Aquarius (The Water Bearer) on 11 March at 11:43 pm and enters
Pisces (The Fishes) and recedes from Earth by 1,254,810 km over the month.
Daylight lengthens from 10:44 (10.728 hours) on 1 March to 13:04 (13.063 hours)
on 31 March so we lose 2 hours and 20 minutes of night time by the end of
March. The Vernal Equinox occurs on 20 March at 9:01 am in Pisces (The Fishes).
On that day, the Sun will rise directly in the east and set directly in the
west and day and night will be equal for everyone on Earth. So begins the
season of astronomical spring (in the northern hemisphere) which will last for
92 days, 17 hours and 40 minutes.

Edinburgh and Lothian will experience a partial Solar eclipse on 29 March
lasting 1 hour and 58 minutes. The eclipse magnitude will be 0.51 which is the
fraction of the Sun’s diameter covered by the Moon. The

eclipse begins at 10:08 am, peaks at 11:07 am and ends at 12:05 pm. Always remember, though, to wear suitable eye protection when viewing any type of solar activity.

Lunar perigee (closest to Earth) occurs on 1 March at 9:15 pm and finds the Moon some 361,980 km away from Earth—around 22,420 km closer than average—subtending an angle of 33.0 arc-minutes. The first quarter Moon shows up on 6 March at 4:32 pm in Taurus (The Bull). The full Worm Moon makes an appearance on 14 March at 6:55 am in Leo (The Lion). Lunar apogee (furthest from Earth) that occurs on 17 March at 4:29 pm and takes the Moon to 405,729 km away from Earth—around 21,329 km further than average—subtending an angle of 29.4 arc-minutes. The Moon enters last quarter on 22 March at 11:29 am in Sagittarius (The Archer). The new Moon appears on 29 March at 10:58 am in Pisces (The Fishes) beginning a new synodic month which will last 29 days, 8 hours and 33 minutes. The Moon isn't done, however, as it undergoes a second Lunar perigee (closest to Earth) on 30 March at 5:20 am which finds the Moon some 358,135 km away from Earth—around 26,265 km closer than average—subtending an angle of 33.4 arc-minutes. This means that the new Moon will be at 'perigee syzygy' which, technically, makes it a 'New Supermoon'.

Since the Worm Moon is close to apogee, this qualifies it as a

‘Full Micromoon’
and so the Lunar disk will appear smaller. Within minutes of the Full Moon,
however, a total Lunar eclipse tales place but the Moon is setting so it may
look bigger because of atmospheric distortion! The penumbral eclipse over
Edinburgh and Lothian begins at 3:57 am on 14 March, and reaches totality at
6:26 am. However, since the Moon is setting you will see just 10 minutes of
totality of the 2 hours and 40 minutes eclipse duration.

If you are unsure of constellations, be sure to check out Regulus, the
brightest star in Leo (The Lion) which will be 2.2 degrees south of the
almost full Moon on 12 March. Also Spica, the brightest star in Virgo (The
Maiden), will be 0.3 degrees north of the the waning gibbous Moon on 16 March.

For the inferior planets: Mercury reaches perihelion (closest to the Sun) on 4
March in Pisces (The Fishes) where it lurks all month long. The ‘Swift Planet’
passes through greatest eastern elongation on 8 March and will visible low in
the west after sunset. It turns from prograde to retrograde, in orbit, on 15
March and is lost in the Sun’s glare at inferior conjunction on 24 March. It
comes closest to Earth on 28 March but, contrarily, loses brightness over the
month diminishing from -1.1 to +2.8 magnitudes. This is because of the amount of
sunlight reflected off the surface.

Venus reverses orbit to retrograde (as seen from Earth) on 2 March. She approaches the Earth—coming closest on 22 March—but does diminish in brightness after last month's greatest brilliancy losing 0.5 magnitudes over the month. Venus will still be a spectacular as the 'Evening Star' after sunset. Although she, too, remains in Pisces (The Fishes) she does cross over into Pegasus (The Winged Horse) when it reaches inferior conjunction on 23 March and is also lost in the Sun's glare. Venus returns to Pisces (The Fishes) to close out the month.

For the superior planets: Mars remains in Gemini (The Twins) all month but recedes by 41,401,934 km so decreases in brightness from -0.28 to +0.44 magnitudes. The 'Red Planet' will be 1.7 degrees south of the waxing gibbous Moon on 9 March and 3.9 degrees south of Pollux on 29 March. Jupiter remains in Taurus (The Bull) all month and recedes from Earth by 72,751,969 km so decreases in brightness from -2.3 to -2.1 magnitudes. The 'Giant Planet' also reaches eastern quadrature, where the Earth-Sun-Jupiter angle in 90 degrees, on 2 March.

Saturn remains in Aquarius (The Water Bearer) all month and is furthest away from Earth on 12 March when it reaches conjunction (with the Sun) and is lost to us. Over the whole month, it ends up closer to Earth by 48,722,268 km.

Given the great distance, barely changes from +1.1 magnitudes. Saturn's famous rings start to disappear in March and this will last through November. They don't physically disappear, of course, but appear 'edge on' from Earth. Uranus begins the month in Taurus (The Bull) and recedes by 66,358,911 km. Even so, this barely affects the brightness of an average of +5.8 magnitudes. Neptune remains in Pisces (The Fishes) all month and recedes by 57,449,979 km and remains steady at +7.8 magnitudes. The 'Blue Giant' will be reach conjunction on 19 March and be furthest from Earth the next day.

There are no comets or meteor showers of note this month visible from Edinburgh and Lothian. Interested readers will also know that asteroid 2024 YR4 has been downgraded to 'not a threat' and will not hit Earth in 2032.

A nova (from the Latin for 'new') is a type of transient astronomical event whereby progenitor white dwarfs expand their hot outer layers and luminosity increases. Typically, this occurs once but there are a few recurrent novae and 'T Coronae Borealis' (T CrB), better known as the 'Blaze Star', is one such object which erupts every 80 years. It last erupted in 1946, 78 years ago, but it usually dims for just over a year before the nova occurs. For the Blaze Star, this dimming started back in March 2023 so astronomers are anticipating a rapid increase in brightness. However,

predicting the exact time
is difficult so we wait with baited breath. The Blaze Star is actually a
binary system located 2,500 light years away in the constellation Corona
Borealis (The Northern Crown), which is visible on our skymap in the east. The
principal star, Alphecca, which shines around 2.2 magnitudes is visible with
the naked-eye. T CrB will be expected to brighten to about 2 magnitudes
(similar to Polaris) and last a few days with the naked-eye and a week with
binoculars.

At the time of our sky map, some constellations visible are Ursa Major (The
Greater Bear) at zenith, Cepheus (The King) in the north, Bootes (The
Herdsman) in the east, Auriga (The Charioteer) in the west, and Hydra (The
Female Water Snake) in the south. The ecliptic hosts Virgo (The Maiden), Leo
(The Lion), Cancer (the Crab), Gemini (The Twins), Taurus (The Bull) and Aries
(The Ram).

For half the night, we can also see 2 large pseudo-constellations: the
'Winter Triangle' comprises the bright stars Procyon in Canis Minor (The Lesser
Dog), Sirius in Canis Major (The Greater Dog) and Betelgeuse in Orion (The
Hunter). The 'Winter Hexagon' encompasses 6 other constellations and comprises:
Procyon, Sirius, Rigel in Orion (The Hunter), Aldebaran in Taurus (The Bull),

Capella in Auriga (The Charioteer) and Pollux in Gemini (The Twins).
Circumpolar constellations—always above the horizon at the latitude of
Edinburgh and Lothian—include Draco (The Dragon), Perseus (The Hero),
Cassiopeia (The Seated Queen) and Camelopardalis (The Giraffe).

Edinburgh and Lothian

(55.95°, -3.19°, 10.00m for 15 March 2025 10:00 pm)