The astronomical sky above Edinburgh and Lothian – February 2025

A parade of all seven planets will be in the February sky plus an occultation of
Mars and Venus at greatest brilliancy all year make for a memorable month of
sky watching.

The Sun leaves Capricornus (The Sea Goat) on 15 February at 10:16 pm and enters
Aquarius (The Water Bearer) and recedes from Earth by 816,482 km over the
month. Daylight lengthens from 08:39 (8.658 hours) on 1 February to 10:39
(10.651 hours) on 28 February so we lose two hours of night time by the end of
February.

We should add a ‘Happy Groundhog Day’ for 2 February. Although it has no
astronomical significance, Groundhog Day is a cross-quarter day: halfway
between the December (winter) Solstice and the March (vernal/spring) Equinox.
So, astronomically speaking, there will always be 6 more weeks of winter!

Lunar perigee (closest to Earth) occurs on 2 February at 2:39 am and finds the
Moon some 367,484 km away from Earth—around 16,916 km closer than
average—subtending an angle of 32.5 arc-minutes. The first quarter Moon shows

up on 5 February at 8:02 am in Aries (The Ram). The full Snow Moon makes an appearance on 12 February at 1:53 pm in Leo (The Lion). Lunar apogee (furthest from Earth) that occurs on 18 February at 1:07 am and takes the Moon to 404,847 km away from Earth—around 20,447 km further than average—subtending an angle of 29.5 arc-minutes. The Moon enters last quarter on 20 February at 5:33 pm in Scorpius (The Scorpion). Finally, the new Moon appears on 28 February at 12:45 am in Aquarius (The Water Bearer) beginning a new synodic month which will last 29 days, 10 hours and 13 minutes.

As detailed in our ephemeris, the Moon appears alongside several bright stars in February over Edinburgh and Lothian: the Pleiades (M45 and a star cluster known as the 'Seven Sisters' in the Occident and 'Subaru' in the Orient), Pollux in Gemini (The Twins), Regulus in Leo (The Lion), Spica in Virgo (The Maiden) and Antares in Scorpio (The Scorpion) will all conjunct with the Moon during February, although some will be very low on the horizon as they set.

Our planetary parade of 6 solar system objects remains for all of February.
From east to west we will see Mars, Jupiter, Uranus, Venus, Neptune and Saturn.
Uranus and Neptune will require a telescope or binoculars. Late in the month Saturn will be replaced by Mercury and, over 3–4 days, all 7 planets will be

in the sky after sunset. Observing Mercury and Saturn at this time will be
difficult as observers will be in astronomical twilight but these two planets
set between 6:45 and 7:15 pm allowing the skies to darken a little from sunset
around 5:45 pm. To help with observing this rare opportunity, I have adjusted
the sky map for a single date and time to show the location of each object.
Once the Sun has set, though, Venus will still be observable for 3 hours and
Jupiter and Mars will be visible for many more hours.

For the inferior planets: Mercury is furthest from the Earth at the start of
the month in Capricorn (The Sea Goat) and ends in Pisces (The Fishes). The
'Swift Planet' comes closer by 44,420,245 km. As a result, Mercury increases in
brightness from -0.93 to -1.07 magnitudes (1.14 times in luminosity) over the
month. Mercury reaches superior conjunction on 9 February then is lost to us
behind the Sun but emerges late in the month to replace Saturn, briefly, in the
planetary parade mentioned above. Venus will be 2.3 degrees north of the waxing
crescent Moon as both set in the west on 1 February. Venus remains in Pisces
(The Fishes) and comes closer to Earth by 26,961,820 km. The 'Evening Star'
planet, begins the month at -4.75 magnitudes, brightens to a greatest
brilliancy of -4.86 magnitudes overnight on 18 February and then fades slightly
to close out the month at -4.78 magnitudes. Thus, Venus looks

spectacular all
month after sunset until it sets after 9 pm. She reaches perihelion (closest to
the Sun) on 19 February.

For the superior planets: Mars remains in Gemini (The Twins) all month but
recedes by 26,683,132 km. Mars decreases in brightness from -1.07 to -0.28
magnitudes (0.48 times in luminosity) over the month. The ‘Red Planet’ will be
occulted by the waxing gibbous Moon as it rises in the evening of 9 February.
Due to orbital geometry, he appears stationary on 24 February before returning
to a direct orbit. Jupiter remains in Taurus (The Bull) all month but recedes
by 64,984,085 km and decreases in brightness from -2.52 to -2.30 magnitudes
(0.82 times in luminosity). The ‘Giant Planet’ also undergoes a stationary
inflection before returning to direct orbit on 4 February. On 6 February,
Jupiter will bisect the waxing gibbous Moon and Aldebaran, the brightest star
in Taurus (The Bull).

Saturn remains in Aquarius (The Water Bearer) all month and recedes by
26,251,746 km but, given the great distance, barely changes from 1.11
magnitudes. Uranus begins the month in Aries (The Ram) and moves into Taurus
(The Bull) mid-month and recedes by 70,639,316 km. Even so, this barely affects
the brightness of an average of +5.75 magnitudes. The ‘Green Planet’ reaches

eastern quadrature on 11 February making the line between Sun, Earth and planet a perfect right angle. Neptune remains in Pisces (The Fishes) all month but recedes by 38,507,195 km and remains steady at +7.8 magnitudes.

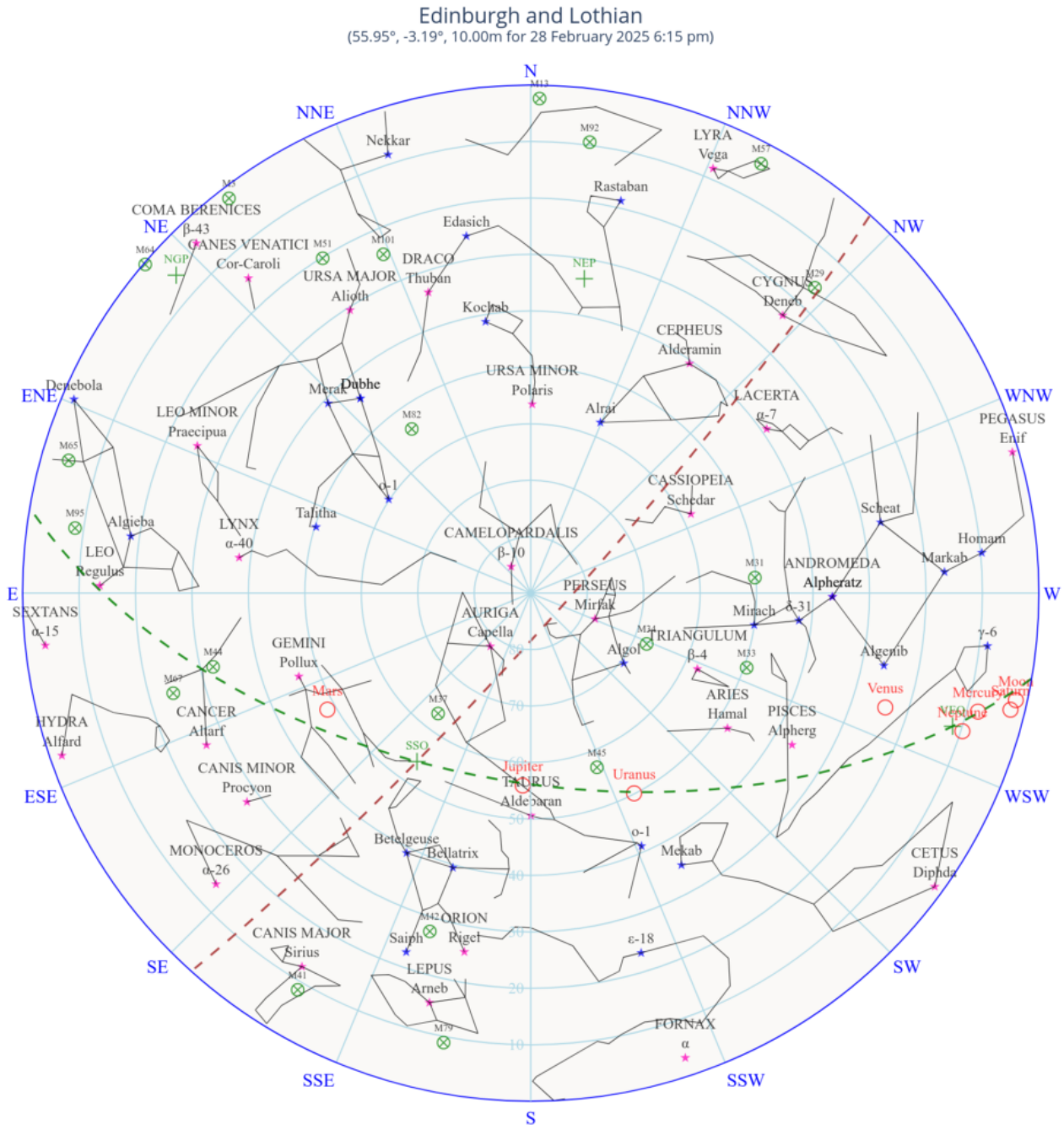
There are no comets or meteor showers of note this month visible from Edinburgh and Lothian. T CrB in Corona Borealis (The Northern Crown) continues to rise after 9 pm or so and offers a chance to spot the elusive recurrent nova that astronomers have predicted will occur ‘any time now’.

At the time of our sky map, some constellations visible are Camelopardalis (The Giraffe) at zenith, Draco (The Dragon) in the north, Leo (The Lion) in the east, Pegasus (The Winged Horse) in the west, and Orion (The Hunter) in the south. The ecliptic hosts Leo (The Lion), Cancer (the Crab), Gemini (The Twins), Taurus (The Bull), Aries (The Ram) and Pisces (The Fishes).

A couple of hours after sunset, 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 Cepheus (The King), Perseus (The Hero),
Cassiopeia (The Seated Queen) and Ursa Major (The Greater Bear).

Edinburgh and Lothian Ephemeris		
1 February 5:54 pm	Earth Mercury furthest apart at 211,188,657 km	Capricorn
1 February 8:30 pm	Venus 2.3° north of waxing crescent Moon	Pisces
1 February 10:05 pm	Moon crosses ascending node	Pisces
2 February 2:39 am	Lunar perigee 367,484 km	Pisces
4 February 9:11 am	Jupiter returns to direct orbit	Taurus
5 February 8:02 am	Moon at first quarter	Aries
6 February 1:30 am	Pleiades (M45) 2.5° north of waxing gibbous Moon	Taurus
6 February 10:00 pm	Jupiter between the waxing gibbous Moon and Aldebaran	Taurus
8 February 10:30 am	Lunar standstill north	Taurus
9 February 12:08 pm	Mercury at superior conjunction	Capricorn
9 February 9:00 pm	Mars emerges from waxing gibbous Moon occultation	Gemini
10 February 5:00 am	Pollux 2.1° north of waxing gibbous Moon	Gemini
11 February 7:30 pm	Uranus at eastern quadrature	Aries
12 February 1:53 pm	Full (Snow) Moon	Leo
13 February 1:30 am	Regulus 1.2° south of full Moon	Leo
15 February 6:54 am	Moon crosses descending node	Virgo
15 February 10:16 pm	Sun leaves Capricorn, enters Aquarius at 0.988 AU	Aquarius
17 February 4:15 am	Spica 1.0° left of waning gibbous Moon	Virgo
18 February 1:07 am	Lunar apogee 404,847 km	Virgo
18 February 11:00 pm	Venus at greatest brilliancy overnight, magnitude=-4.9	Pisces
19 February 8:00 pm	Venus perihelion 107,479,152 km	Pisces
20 February 5:33 pm	Moon at last quarter	Scorpio
21 February 6:00 am	Antares 1.0° north of waning crescent Moon	Scorpio
22 February 10:24 pm	Lunar standstill south	Ophiuchus
24 February 1:31 am	Mars returns to direct orbit	Gemini
28 February 12:45 am	New Moon, Meeus lunation 311	Aquarius



The sky above Edinburgh and Lothian at 6:15 pm on 28 February showing all 7 planets as visible (some with optical assistance). It is also a good approximation for 1 February around at 7:15 pm and 14 February around 6:45 pm but without Mercury and with Saturn higher in the sky. The green, dashed, line is the Ecliptic and the brown, dashed, line is the Milky Way. Asterisms below 10◦ may be truncated because of distortion. To use the map, face any direction and then rotate the map until that cardinal point is nearest to you. The zenith (point directly overhead) is at the center of the

circle and the edge is the horizon.