

The May night sky shows the summer constellations rising late evening and the spring constellations heading into the western twilight. Hours of darkness decrease rapidly as we approach the summer solstice in June and also the phase of the Moon with Full Moon mid month further restricts the observing period to early May.

Currently most of the bright planets are located in dawn twilight. The planet Venus is located low in the dawn skies at 05:00 and has a close conjunction with the planet Jupiter on May 1st, the separation being just 0.3° ie within the FOV of a telescope at low magnification. Conjunctions of Venus and Jupiter are of course line of sight effects Earth, Venus and Jupiter in alignment and can occur every few years but close observable conjunctions at favourable elongations from the Sun are quite rare, the next similar conjunction will be on November 2nd 2039.

Mars is also visible in dawn skies, but is better placed for observation in late 2022 when it will be our evening skies at opposition in December. Saturn creeps into the dawn skies, visible low in the SE, now rising some 3 hours ahead of the Sun and an hour before dawn twilight begins. Like Jupiter, Saturn will return to our evening skies by late summer.

Planet Mercury is placed in early evening twilight, close to a 3% crescent Moon on May 2nd and The Seven Sisters cluster (M45) around May 5th, but then heads into twilight and then daytime skies from mid May, Inferior conjunction is on May 21st.

The late spring night sky contains many fine objects to view but also has a few notable events of special interest. From late May onwards Look to the NW some 90 to 120 minutes after sunset or to the NE before sunrise i.e. when the Sun just below the horizon during the summer months when extremely high clouds at 80 km altitude known as Noctilucent Cloud (NLC) may be seen. NLC's show a bluish colour and also show filamentary structure.

The constellation of Virgo due south as twilight fades contains a large cluster of Galaxies, the Virgo Super cluster, visible as faint misty patches in moderate sized telescopes in the brief hours of darkness around midnight in early May.

Our own Milky Way galaxy stretches from the constellation of Auriga [The Charioteer], marked by the bright star Capella and through the constellations of Perseus and Cassiopeia all now positioned low in the north. In the south the night sky looks outward to the distant galaxies of the Virgo and Coma cluster.

Deep sky objects such as the fine examples of globular clusters / open clusters are more readily observed; also double stars are a good starting point for those new to observing.

In the east the summer constellation of Cygnus [The Swan] now rises by late evening. The bright star Vega in the adjacent constellation of Lyra [The Lyre] is seen low above the north east horizon and Altair in the constellation of Aquila low in the east. Vega, Altair and Deneb, in the constellation of Cygnus form the `Summer Triangle` asterism, a useful sign post for the summer skies. Adjacent to Lyra the familiar `keystone asterism` of the constellation Hercules is noted for the Globular clusters M13 and M92 the former containing some 750,000 stars, a nice view in a small telescope.

Scorpius [The Scorpion] in part is visible after midnight low in the south use binoculars to see the myriad of stars in these rich star clouds, best seen on clear dark moonless evenings from darker locations outside the town. The red star Antares, the name means `rival to Mars` the characteristically deep red in colour is easily seen in binoculars.

Look low in the SE after midnight in late May to find the summer constellation of Sagittarius [The archer], adorned with rich Milky Way star fields and star clusters visible in binoculars. The constellation contains the famous `Teapot` asterism with the Milky Way appearing as the steam rising from the `spout`.

The bright planet Jupiter is located in the constellation of Aquarius in early May and so is a pre dawn object. The low elevation of the planet this year is a challenge for observers, but the characteristic cloud belts and features and the bright Galilean moons always a delight to see telescopically.

In the neighbouring constellation of Capricornus [The Goat] is a yellowish star which is in fact the ringed planet Saturn again an object in the pre dawn twilight. Although rather low as seen from the UK, its ring system is now

beginning to close, a classic view of this gem of the solar system. Small telescopes will show the rings and the brightest moon Titan. Larger telescopes show up to six or so fainter moons and any white oval features on the planets disk.

The familiar asterism of the plough in the constellation of Ursa Major, The Great Bear is seen high overhead with its handle or tail pointing upwards mid evening. Use the right hand pair of stars Dubhe and Merak (The pointers) to find the faint pole star Polaris and the position of North.

Comet interest in early May is provided by Comet C/2021 O3 Panstarrs, which reached perihelion on April 21st at a distance of around 40 million km from the Sun. At the time of writing there is speculation as to whether it will survive its perihelion passage around the Sun. The predicted path causes the comet to emerge in our twilight evening skies in early May , moving rapidly northward (night by night) through the constellation of Perseus .{ LAS Newsletter No 329 }.

High in the east the bright orange star Arcturus in the constellation of Bootes [The Herdsman] is the brightest star in the northern hemisphere of the sky. Between Arcturus and the Keystone asterism in Hercules lies the `U` shaped constellation of Corona Borealis [Northern Crown]. The faint 11th magnitude star T Coronae Borealis `Blaze Star` is a reoccurring nova (eclipsing binary star system) that periodically sheds material and brightens to 2nd or 3rd magnitude; the last two outbursts were in 1866 and 1946.

Full Moon on morning of May 16th is also a Total Lunar Eclipse; the enthusiastic observer will need to set the alarm clock to spot this one. The partial phase begins around 03:27 BST, with totality occurring at 04:29 BST. In totality the Moon passes through the Earths umbra (shadow) and the Moon appears a dim red colour. The Moon sets at 05:12 BST in totality. You will need a clear SW horizon and watch from the partial phase onwards to catch this eclipse – the approaching dawn twilight will make this a difficult event to spot ,with the dimmed Moon low to the horizon at mid eclipse 05:10 BST.

The Moon is a featured object this month, with several observing sessions planned – refer to the LAS website www.lutonastrosoc.org.uk for details.

Planets in May 2022

Mercury is glimpsed low in evening twilight in early May, Inferior conjunction occurs on May 21st

Venus is brilliant in dawn twilight and is in close conjunction with Jupiter on May 1st.

Mars is located in dawn twilight, but will be better placed in evening skies in late 2022.

Jupiter is a dawn object at around 05:00 BST, better place in late summer evening skies.

Saturn rises in dawn twilight, – rings are beginning to close but remain a splendid view telescopically

Uranus reaches conjunction on May 5th and will be better placed in our autumn evening skies.

Neptune remains poorly placed in dawn skies visible again in autumn evening skies.

Dwarf planet Pluto reaches opposition on mid July (Mag 14.5) in Sagittarius.

Moons phases in May 2022

New Moon	May 30th	Moonless, best time for deep sky observing.
First Quarter	May 9th	Best days to see shadow details in lunar craters (early evening)
Full Moon	May 16th	Best days to see bright ray craters like Copernicus / Tycho. `Supermoon`
Last Quarter	May 22nd	Moon visible in daytime skies. Do not look directly at the Sun.

Meteor shower s η Aquarids – peak May 5th, range April 24th to May 20th – ZHR 40/ hour (low in UK skies)

The highlights of the month.

Venus and Jupiter close conjunction in early May (dawn skies) 05:00 BST

Mercury glimpse in early evening twilight low in the west 50 min **after sunset** early May (close to M45)

NLC Noctilucent cloud may be visible in the NW 90 to 120 min after sunset, noted by its electric blue colour.

A thin 3% waxing crescent Moon visible **after sunset** on May 2nd , note the dimly lit Earthshine.

Total Lunar Eclipse (morning) May 16th – partial phase from 03:27 BST, totality from 04:29 BST until moonset 05:10 BST [A difficult event to spot low in the SW in dawn twilight]

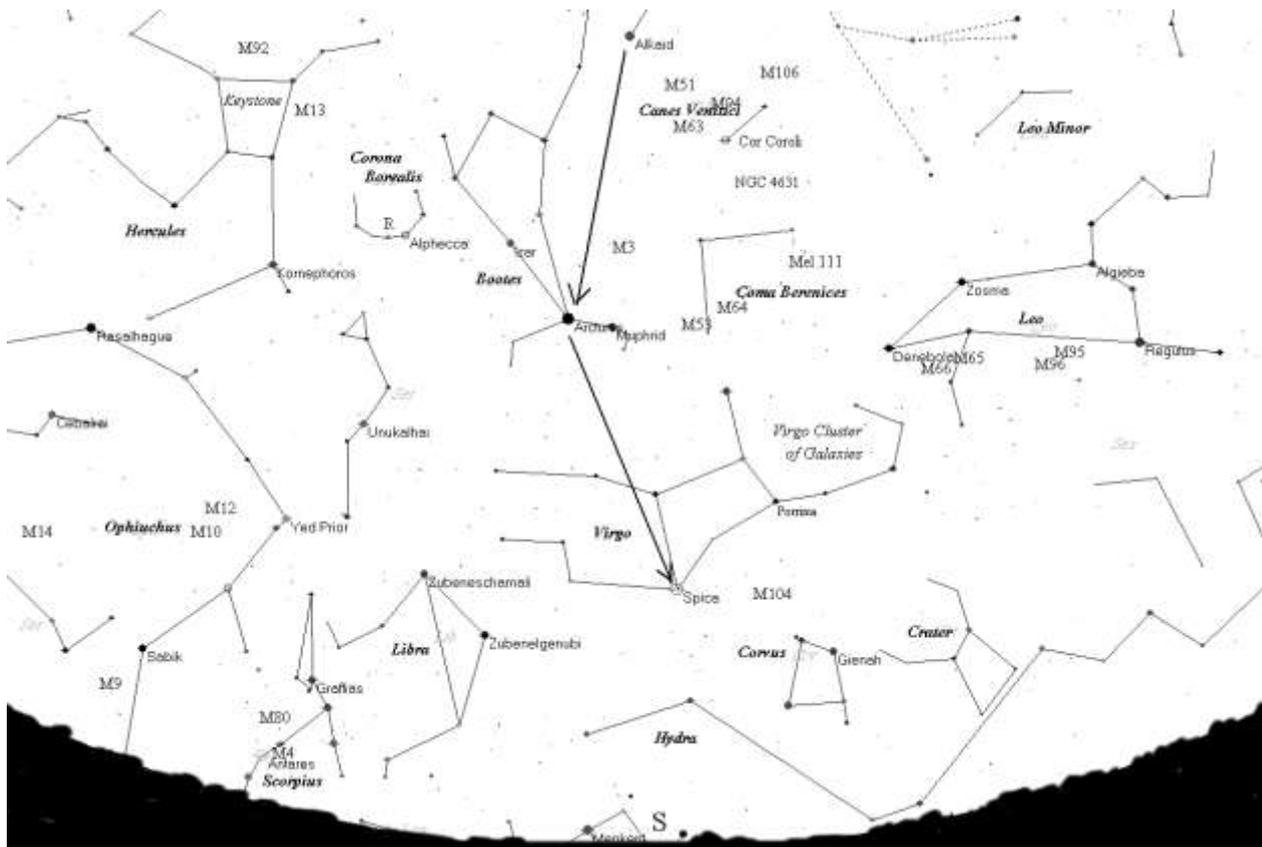
Telescopically – the Virgo cluster of Galaxies presents a challenge midnight (early May) due south (faint fuzzies)

Crescent Moon visibility,

A very thin 0.8 % waxing crescent Moon and Venus are located low in western skies **after sunset** from around 20:26 BST until moonset is 21:24 on May 1st but is difficult to see in bright twilight.

More detailed sky notes and LAS Newsletters, Finder charts are available to LAS members via the Members` page on the LAS Website www.lutonastrolink.org.uk .

Sky looking south at midnight BST early May



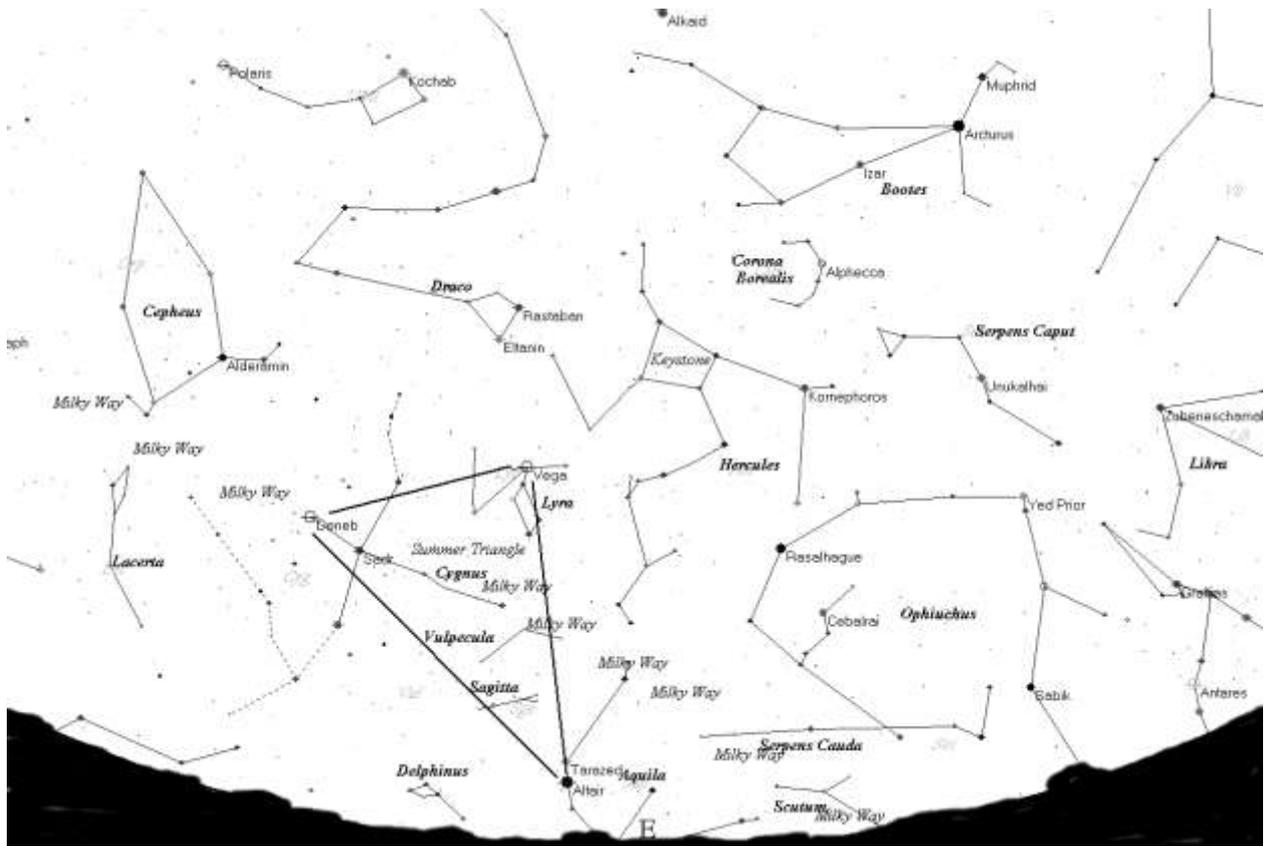
High in the south note the orange star Arcturus in the constellation of Bootes (The brightest star north of the celestial equator.)

Looking at Virgo we look outside our own Milky Way galaxy towards the external galaxies of the Virgo Cluster, look to Sagittarius to into the spiral arm of our own galaxy, the centre of our own galaxy is however too far south to see from the UK. Markarian's chain is a line of brighter galaxies between the stars Vindemiatrix and Denebola.

The orange star Arcturus is found by following the curve of stars in the handle of the Plough down. The constellation of Bootes, resembles a 'kite' or 'Club' in shape. The star Izar is a beautiful orange/ blue double star visible in small telescopes. To the east of Bootes find the 'horseshoe' shaped constellation of Corona Borealis (Northern Crown).

The obscure constellation of Coma Berenices is famed for the nice binocular cluster Melotte 111 and also hosts a number of 'brighter' galaxies of the Coma Cluster of Galaxies. The NGP (North Galactic Pole) is located in Coma Berenices – the observer is looking outward from our own Galaxy –The Milky Way.

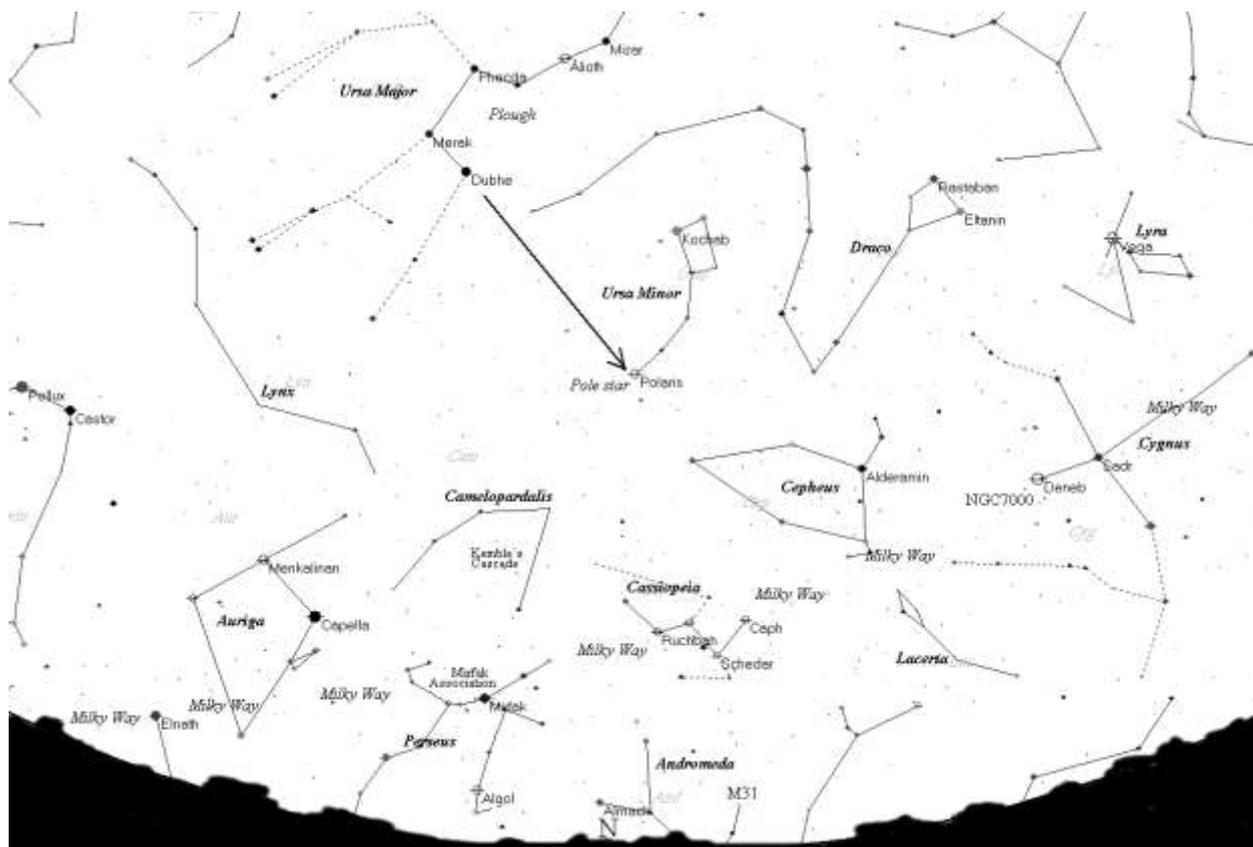
Sky looking east at Midnight BST early May



In May the summer constellations of Lyra and Cygnus are rising by late evening, the Milky Way may be visible on moonless evenings from a dark site. Constellation of Hercules high in the east contains two fine Globular Clusters M13 and M92 visible to small telescopes as fuzzy patches; moderate telescopes resolve the clusters into a myriad of stars.

Locate the `Keystone` Asterism in the constellation of Hercules. Find M13 the famous Globular Cluster, visible to the unaided eye as a misty patch; telescopes show the true wonder of this cluster with over 750,000 stars. Likewise another nice globular is M92 in Hercules.

Sky looking north at Midnight BST early May



Use the Plough asterism (Constellation of Ursa Major), follow the two pointer stars Dubhe and Merak to find the polestar Polaris. The 'W' shaped constellation of Cassiopeia is at its lowest point in the north late evening. The Milky Way follows the galactic equator and stretches from east through the constellations of Cygnus, Cassiopeia, Perseus and down into the north western horizon.

Sky looking west at midnight BST early May

