

The May night sky shows the summer constellations rising mid evening and the spring constellations heading into the western twilight. The planet Venus is located low in evening, planet Mercury is well placed also in early evening twilight. May is the best time to catch a glimpse of Mercury with greatest elongation occurring on May 17<sup>th</sup>. Mars moves eastward through the constellation of Gemini but is now telescopically just 4 arc sec apparent diameter and just +1.8m, still an easy spot due to its red colour.

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 is 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 – the bright late evening skies however makes observing these quite a challenge. 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. The effect of astronomical twilight increases throughout the month and by late May the sky remains in twilight – making observation of faint objects even from darker sites in moonless conditions much more difficult. 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 late 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 wide open, 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.

Two comets in our evening sky C/2020 T2 Palomar (11.0m magnitude) in the constellation of Canes Venatici and Comet C 2020 R4 (ATLAS) 10.0m magnitude in the constellation of Hercules / Bootes are `faint fuzzies` for larger sized telescopes / imaging techniques, LAS Newsletters 291 and 285A respectively.

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 11<sup>th</sup> magnitude star T Coronae Borealis `Blaze Star` is a reoccurring nova (eclipsing binary star system) that periodically sheds material and brightens to 2<sup>nd</sup> or 3<sup>rd</sup> magnitude; the last two outbursts were in 1866 and 1946.

Full Moon on May 26<sup>th</sup> is close to the perigee point of its orbit, the diameter of the Moon thus appears slightly larger , the so called `Supermoon` is the largest apparent size Moon in 2021.

## Planets in May 2021

Mercury is glimpsed low in evening twilight, greatest elongation on May 17th in conjunction Venus on May 28<sup>th</sup>.

Venus is brilliant in early evening twilight but is low on the NW horizon 30 minutes **after sunset**.

Mars is in Gemini in late evening twilight –easily recognised by its red colour.

Jupiter is a dawn object in the constellation of Aquarius, Imagers note the satellite shadow transits /eclipses between the Galilean moons in May due to the position of the Sun ,at quadrature casting shadows .

Saturn rises by early morning by late May, low in Capricornus – rings remain wide open in 2021 – Nice.

Uranus reached conjunction in April, poorly placed in dawn skies visible again in autumn evening skies.

Neptune reached conjunction in March, 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 2021

New Moon	May 11th	Moonless, best time for deep sky observing.
First Quarter	May 19th	Best days to see shadow details in lunar craters (early evening)
Full Moon	May 26th	Best days to see bright ray craters like Copernicus / Tycho. `Supermoon`
Last Quarter	May 3rd	Moon visible in daytime skies. Do not look directly at the Sun.

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

## The highlights of the month.

Venus returns to early evening twilight skies low in the NW 50 min **after sunset**.

Mercury is well placed in early evening twilight low in the west 50 min **after sunset** (mid month)

Noctilucent cloud – from late May watch the NW skies 2 hours after sunset (see text)

The Moon illusion – Watch the Full Moon rise May 7<sup>th</sup> 20:45 BST – `Flower` Perigee `Super moon` .

A thin 3% waxing crescent Moon visible **after sunset** on May 13<sup>th</sup>, note the dimly lit Earthshine.

Conjunction of Mercury and Venus (0.5° apart) May 28<sup>th</sup> 50 min **after sunset**.

Telescopically – the Virgo cluster of Galaxies presents a challenge late evening due south (faint fuzzies)

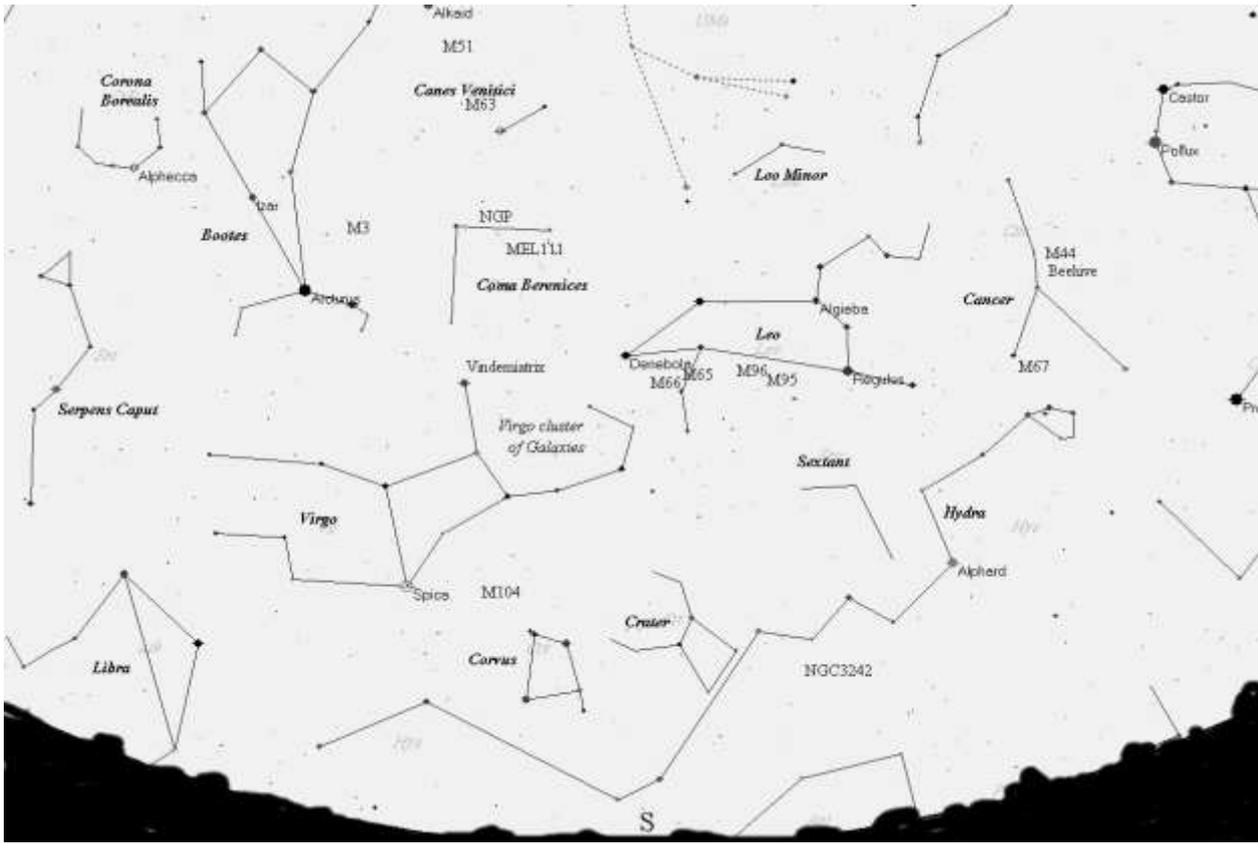
NLC Noctilucent cloud may be visible in the NW 90 to 120 min after sunset, noted by its electric blue colour.

## Crescent Moon visibility,

A very thin 0.8 % waxing crescent Moon and Venus are located low in western skies after **sunset** from around 21.00 BST until moonset is 21:38 on May 12<sup>th</sup> 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](http://www.lutonastrolink.org.uk) .

Sky looking south at 9.30pm BST mid May



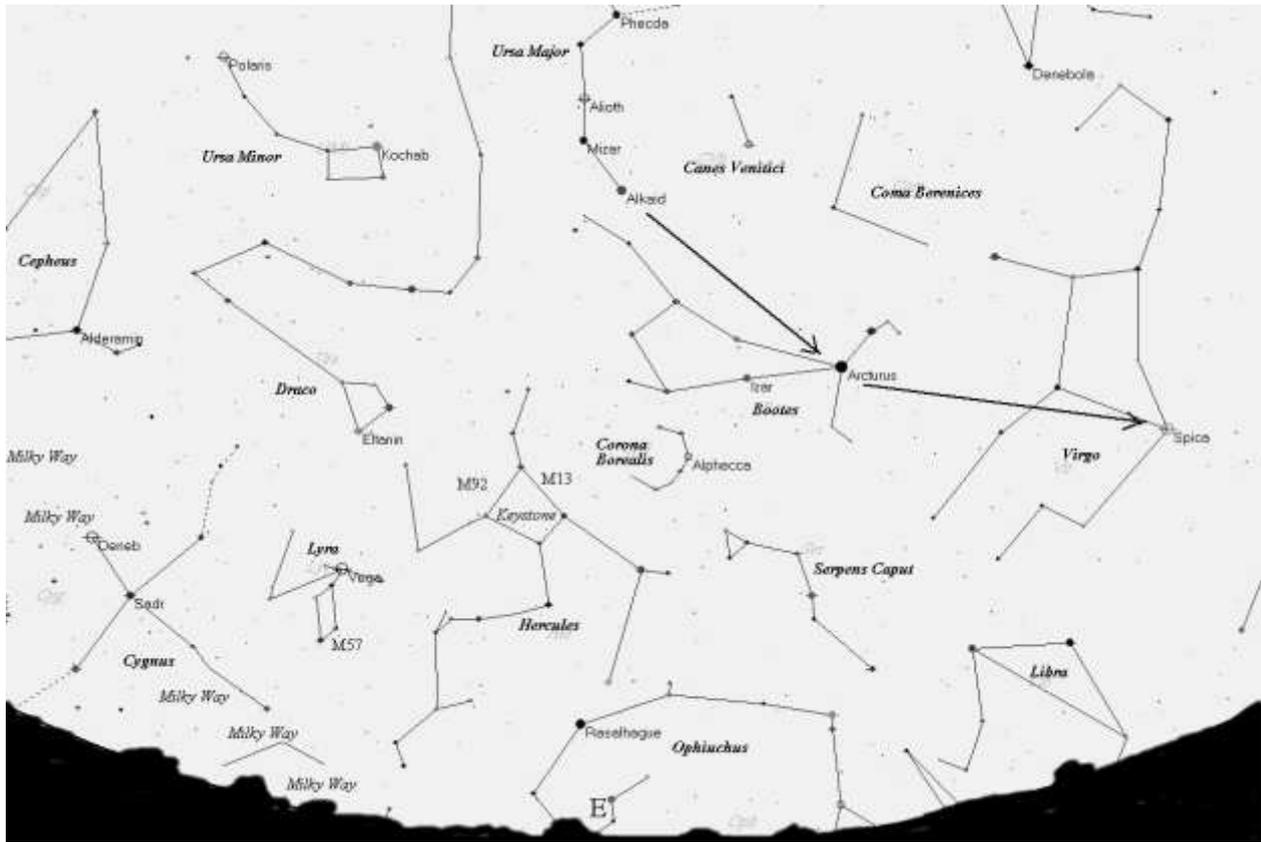
High in the south note the orange star Arcturus in the constellation of Bootes (The brightest star north of the celestial equator.)

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.

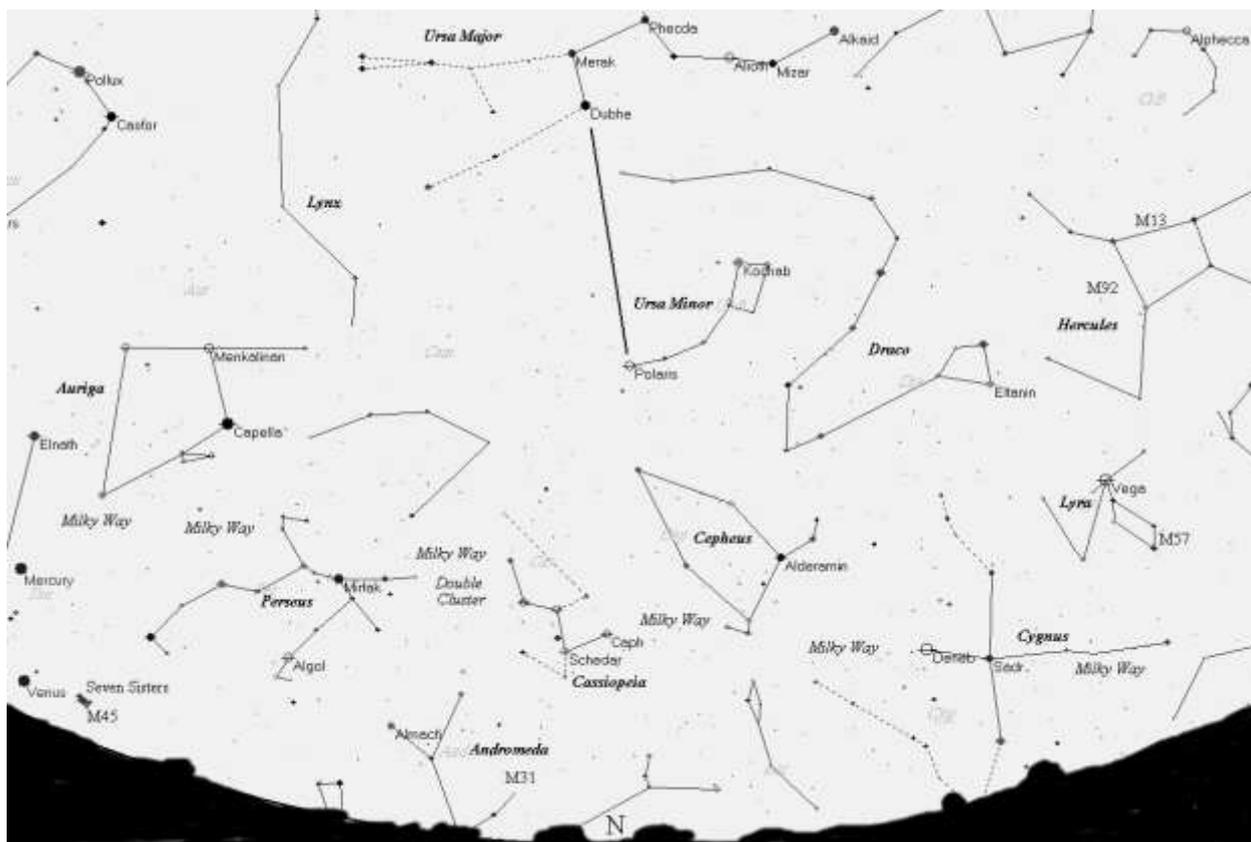
Sky looking east at 9.30pm BST mid May



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.

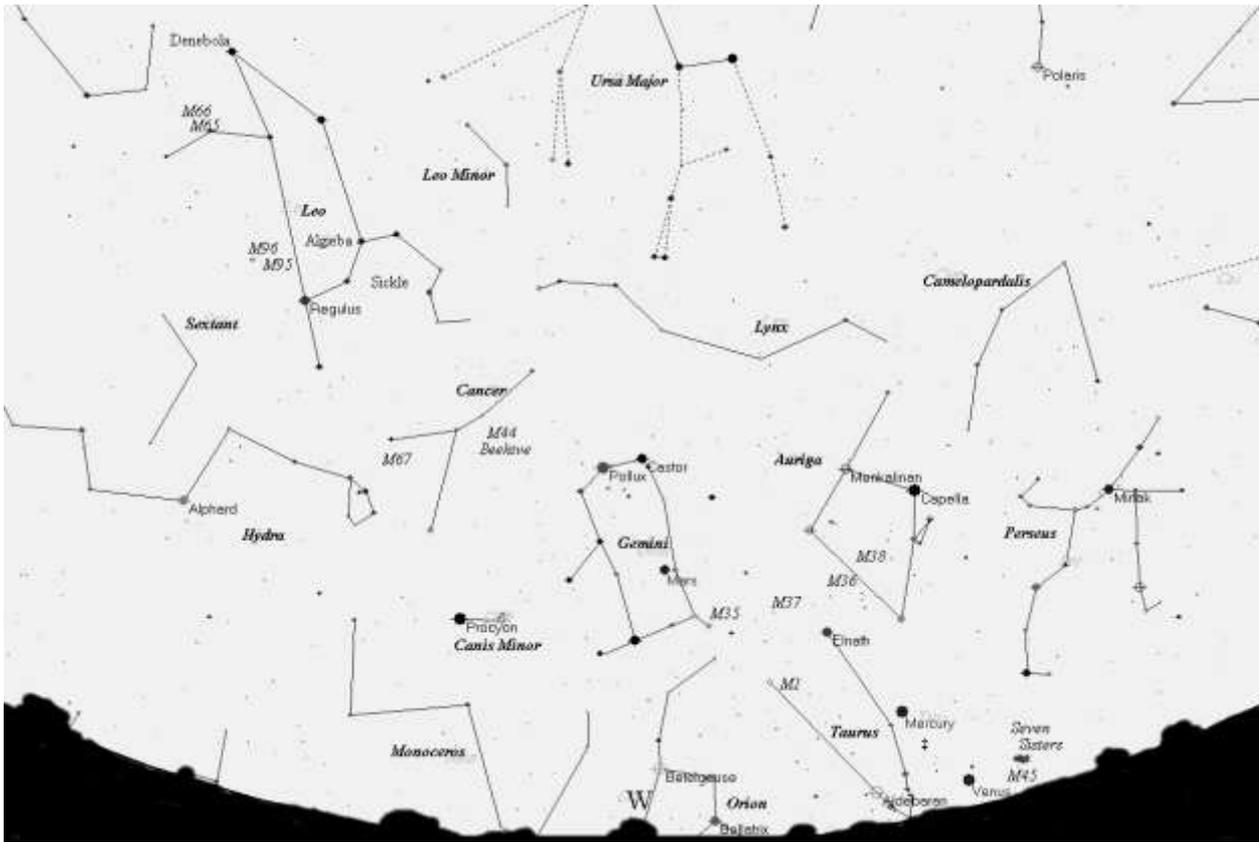
Locate the 'Keystone' Asterism in the constellation of Hercules. Find M13 the famous Globular Cluster, visible to the unaided eye as a misty patch; telescopes show the true wonder of this cluster with over 750,000 stars. Likewise another nice globular is M92 in Hercules.

Sky looking north at 9.30pm BST late May [Planets position shown for May 12th]



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 9.30pm BST mid May [Planet positions shown for May 12<sup>th</sup> ]



Planet Venus is joined by planet Mercury low in the NW in twilight skies. Mars is an easy spot due to its red colour