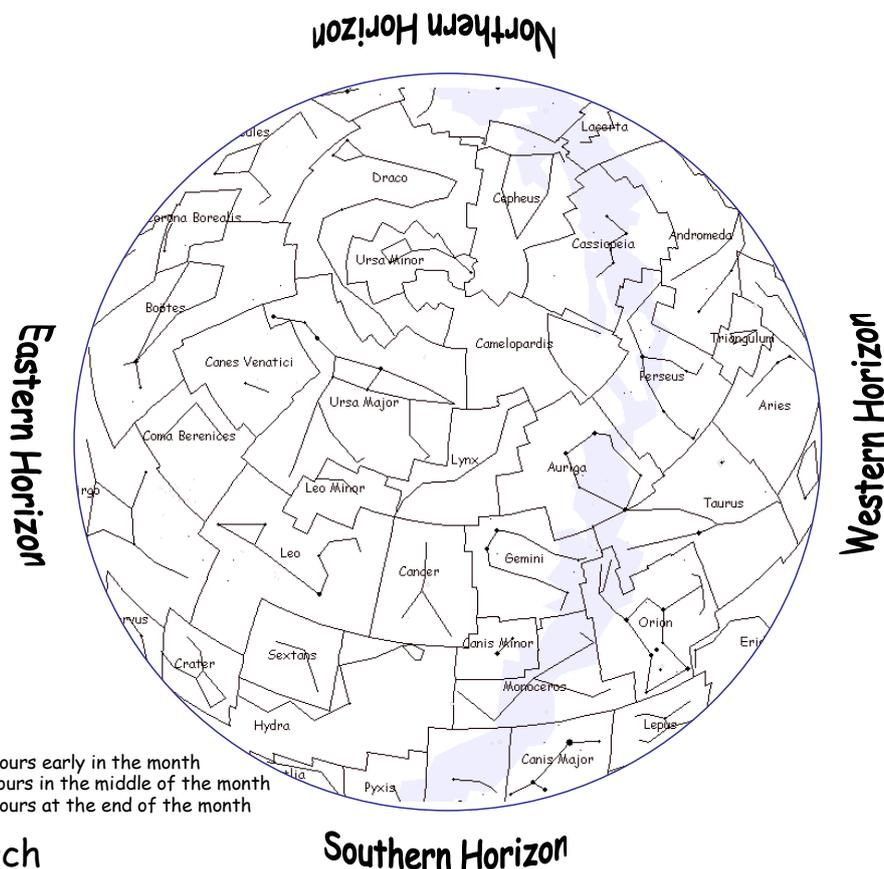


# The Night Sky (March 2018)

UT (Universal Time) or GMT is used this month.



22:00 hours early in the month  
21:00 hours in the middle of the month  
20:00 hours at the end of the month

March

Southern Horizon

## The General Weather Pattern

March can be quite still and dry but it is renowned for its strong winds and occasional fog. Even though daytime temperatures are usually better than the previous months, it can still be freezing at night. Don't underestimate how cold it can be at this time of the year, and dress for it.

Wrap up warm and wear multiple layers of clothes, with a warm hat, socks and shoes. As always, an energy snack and a flask containing a warm drink wouldn't go amiss.

## Earth

Throughout this month, the ecliptic is at a steep angle of about  $63^\circ$  at sunset, the maximum angle occurs at the Spring Equinox on the 20<sup>th</sup>. In this configuration, the angle of separation of a planet from the Sun translates into higher altitude at sunset, and inferior planets are best observed when they occur at this time of year. The opposite is true of the dawn. Nights get shorter most quickly at the Spring Equinox, and the Sun sets later each day, consequently constellations appear to move more rapidly westward at sunset. However on clear nights the winter sky is still visible, whilst Leo, regarded by many as the spring constellation, appears in the south-eastern sky after sunset. The move to BST takes place on the morning of the 25<sup>th</sup> this year.

## Sun

On the 12<sup>th</sup>, the Sun moves from Aquarius into Pisces. On the 20<sup>th</sup> at 16:16 UT, this year, the centre of the Sun crosses the celestial equator marking the First Point of Aries; the 'prime meridian' for right ascension. It was defined in 130 BCE by Hipparchus when it was located in the constellation of Aries. Because of precession, it has migrated into the constellation of Pisces where we find it in modern times, also known as the Vernal Equinox.

Equinox derives from the Latin *aequinoctium*. *Aequi* meaning "equal" and *nox* meaning "night". Vernal from *ver* means spring, for the Spring Equinox, divulging its historical origins in the Northern Hemisphere.

The Sun continues to quieten, but if you have any news of sunspot activity other members would be interested, so let us know. Ask experienced members for help if you want to observe the Sun.

## Moon

That there were two Full Moons in January and there are two Full Moons this month is quite rare. The Full Moon of the 31<sup>st</sup> is commonly known as a 'Blue Moon', as defined by a misunderstanding written in a Sky & Telescope article in March 1946.

The first Full Moon is on 2<sup>nd</sup> at about 00:50 in the constellation of Leo.

The Last Quarter this month is on 9<sup>th</sup> at about 11:20 in the constellation of Ophiuchus.

The New Moon is on 17<sup>th</sup> at about 13:15 in the constellation of Aquarius.

The First Quarter is on 24<sup>th</sup> at about 15:35 in the constellation of Orion.

The second Full Moon is on 31<sup>st</sup> at about 12:40 in the constellation of Virgo.

The Moon is at perigee (nearest Earth) on the 26<sup>th</sup> and at apogee (most distant from Earth) on the 11<sup>th</sup>.

At this time of year the ecliptic is high in the southern sky at night-fall. A first quarter Moon found in this region will be at its best; light from it passes through less atmosphere to reach our telescopes than when it is low down. Many impressive selenological features can be observed at the terminator, where lunar night meets lunar day. Try it, even with hand-held binoculars.

On the morning of the 1<sup>st</sup>, Regulus is occulted by the Moon at around 06:08 and in the late evening of the 22<sup>nd</sup> the Moon occults Aldebaran. Each occultation takes place about 30 mins before the Moon sets.

## The Planets



On the 4<sup>th</sup>, **Mercury** is within 1.1° of Venus and sets one hour after the Sun as it moves rapidly towards greatest eastern elongation on the 15<sup>th</sup>, when it is best observed. There after Mercury presents itself less favourably as the month progresses until the very last days of the month, it sets in the evening twilight. Don't observe with the Sun up.



**Venus**, throughout the month, can be found in the western sky just after sunset. On the evenings of the 18<sup>th</sup> and 19<sup>th</sup> a very fine crescent Moon joins Mercury and Venus for a photo-opportunity. Venus sets a little later at the end of March when it is best observed this month. When observing Venus, the Sun is not an ally in March!



**Mars** rises in the south-east throughout the month, even though it moves from Ophiuchus into Sagittarius on the 11<sup>th</sup>. It can be found, before the morning twilight, no higher than 15° slowly moving from the Sun; it is at opposition in July. This month its magnitude increases from 0.81 to 0.30 and it is best observed later in the month, particularly at the end of March early April, when Saturn accompanies it.



**Jupiter** maintains its location in Libra throughout March; appearing in the south-east at around 00:30 at the start of the month and 23:30 at the end. It reaches its eastern stationary point and enters retrograde motion on the 9<sup>th</sup> for 4 months. It is also moving towards opposition in early May and is best observed later in the month at around 04:00 in the morning. As we have said before, there is much to see in a decent telescope even though it is low down in the sky at its best.



**Saturn** shows itself each morning at around 04:30 early in the month, and can be seen in the twilight no later than 06:30. At the end of March it rises nearer to 03:30 but still disappears in the twilight around 06:30. The ring system is nicely displayed for observing so dedicated observers may spend some time on Saturn. Less enthusiastic observers might try in June/July; Saturn will rise earlier as the year progresses reaching opposition at the end of June.



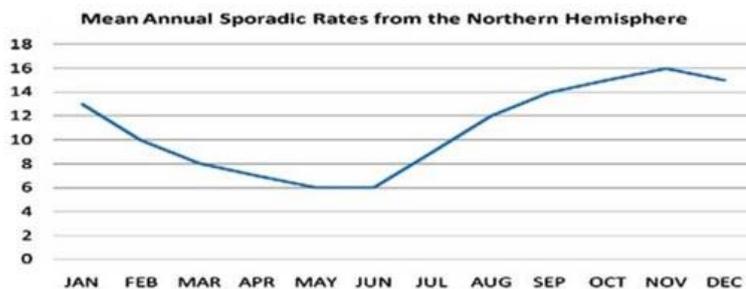
**Uranus** closes rapidly on the Sun at sunset and is all but unobservable for most of the month. On the 28<sup>th</sup> Venus lies within 15 minutes of arc to the west of Uranus but is unfavourable.



**Neptune** is unobservable this month. It is at conjunction on the 4<sup>th</sup> and rises in the glare of the Sun for the rest of March.

## Meteors

March is a poor month for meteor showers, and it will be quite quiet until mid-April. Sporadic meteors can of course be noticed, but require much more patience to observe than do showers because they are not associated with any one part of the sky, and from March until the end of June is the low season for sporadic meteors.



Mean annual sporadic rates as seen under dark skies, from latitude 45° north.

Numbers vary from a low of 6 per hour in the spring to 16 per hour in the autumn.

*By Robert Lunsford*

The protracted tracks of the **Virginids** are only just evident from February through to May, but at 5 ZHR, become a little better around 20<sup>th</sup> in March (**the March Virginids**) and again in April. This series of diffuse radiants moves slowly from Leo into Virgo during this time.

Constellation	Convenient Culminations	Midnight Culminations	Observability
Camelopardalis	20:00 Early March	Early January	Whole in north upper culmination
Canis Major	20:00 Early March	Early January	Whole but low
Monoceros	20:00 Mid-March	Early January	Whole
Gemini	20:00 Mid-March	Mid-January	Whole - high
Ursa Major	23:00 Mid-March	Mid-March	Whole at zenith upper culmination
Canis Minor	21:00 Late March	Mid-January	Whole
Lynx	21:00 Late March	Late January	Whole - at zenith
Cancer	22:00 Late March	Early February	Whole
Pyxis	22:00 Late March	Early February	Whole but poor; v low in the murk

**Cancer** (Pronounced CAN-ser)

#### In Welsh

y Cranc *nm.* literally the 'Crab'.

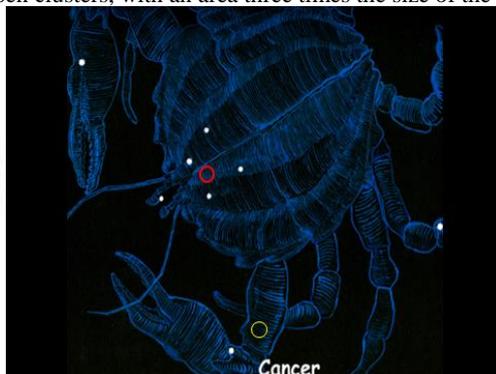
#### Astronomy

Lying between the two prominent constellations of Leo (the lion) and Gemini (the twins), Cancer is an inconspicuous constellation which inexperienced observers might overlook. However, if you have a decent pair of binoculars or a telescope at low magnifications the Beehive cluster can be found. Praesepe (pronounced Prye-see-pee) (○) as this star cluster is more properly known, can be seen with the naked eye. The cluster was known to Hipparchus as *Nephelion* meaning 'Little Cloud', in his star catalogue around 130 BCE and was known to Ptolemy who referred to it as 'the nebulous mass in the breast of Cancer'. It is therefore no surprise that it can be found at the centre of the constellation and is a popular object with amateurs. Praesepe is Latin for manger.

Galileo first turned a telescope on it in 1609, and it became one of the objects identified by Charles Messier in his catalogue and holds the designation M44. The cluster comprises over a thousand stars, about a third of which are Sun-like, and about 65% are red dwarfs. At 577 light-years Praesepe is one of our nearest open clusters and presents itself to us as one of the larger open clusters, with an area three times the size of the full Moon.



Praesepe – M44



Cancer



M67

About 8° south of M44 is found a smaller but denser open cluster called M67 (○), about the size of the full Moon. The cluster holds around 200 stars over half of which are like the Sun with a smattering of red giants. Except for the 30 or so blue stragglers, nearly all these stars are the same age and are about 2500 light-years from us, which makes it an object of significance to astronomers interested in the lives of stars.

Here in the UK Cancer is best observed from February to May when it is high in the sky at a reasonable time. More serious observers, who play all night, have worthy opportunities from November to May.

As a matter of interest, the star Asellus Australis (δ Cnc) about 2° south-east of M44, holds a record for the longest name for a star, "Arkushanangarushashutu," which is derived from ancient Babylonian language, and translated to mean "the southeast star in the Crab."

#### Greco-Roman Myth

Nearly all Greek and Roman sky myths are intertwined, for instance Heracles becomes Hercules, and Roman myths regarding the Crab are almost identical to the Greeks, with Latinised names.

Cancer is Latin for crab and in Greek mythology is associated with the account of the crab Karkinos in one of the Twelve Labours of Heracles. Heracles was an illicit son of Zeus and so was loathed by Hera the wife of Zeus. Whilst the hero Heracles is fulfilling his second task, battling with the Hydra, a serpent-like creature with many heads and lethal breath, Hera intervened. In the myth, Hera sends the crab Karkinos to confuse Heracles while the hero is fighting. As the crab attempts to kill him, Hercules kicks it high in the sky among the stars.

Another account has Karkinos pinching Heracles's toe, and Heracles merely stamps on the crab, crushing it. It is Hera who places it amongst the stars.