

The Last Quarter is on 23rd at about 15:55 in the constellation of Taurus.
 The second New Moon is on the 30th at about 11:40 in the constellation of Leo.

The Moon is at perigee (nearest Earth) twice this month, the first time on the 2nd and the second time on the 30th.
 It is at apogee (most distant from Earth) on the 17th.

The Moon passes through the Hyades during the morning of the 24th and can be found rising in the east at 23:30 BST on the 23rd.

The Planets (From the Greek ἀστήρ πλανήτης (astēr planētēs), meaning wandering stars)

 **Mercury** is at greatest western elongation on the 9th when it rises steeply just over an hour before the morning Sun and mid-month is the best time to observe. Be very aware of the risks and dangers the Sun presents.

 **Venus** is at superior conjunction on the 14th and is unobservable in August.

 **Mars** moves ever so much closer to the Sun during August until it reaches conjunction in early September. It is unobservable until late October.

 **Jupiter** first appears in the evening twilight about 16° above the southern horizon; at the beginning of the month. It can be observed for longer of an evening at this time; it sets around 1:00, later in the month it sets at around 23:00. It can be found in the constellation of Ophiuchus, near Antares, throughout August. At night, apart from the Moon, it is the most prominent celestial body. A photo-opportunity occurs in the evening of the 9th when the Moon joins the pair.

 At the beginning of August, **Saturn** culminates around about 23:15 in the constellation of Sagittarius. By the end of the month it culminates just after 21:00 and will be most conveniently placed for casual observers when it can be seen earliest. Observers will be pleased to see the open ring system through a telescope.

 **Uranus** is best observed at the end of the month; in the east from around 23:00 on. At this time it can be found in the constellation of Aries at RA 2h 17m 13s, Declination 13° 11' 15", at a magnitude of 5.73. It rises around 21:30 at the end of the month and is becoming more convenient to observe.

 **Neptune** rises at the end of the evening twilight over an hour before Uranus. At the end of the month as it approaches opposition; in early September, it can be found culminating in the constellation of Aquarius at RA 23h 16m 06s, Declination -5° 51' 52" at around 01:30. It only has a magnitude of 7.82 and needs a 150mm or greater telescope with decent magnification to even get a glimpse. Neptune and Uranus will be better placed later in the year.

Meteors

The **Delta Aquarids** can be seen from about 15th July to 15th August, but are not noted for their brightness. There are two radiant to this shower. The southern stream, radiating from near the star Skat in Aquarius, has a maximum around about 29th July, and is the stronger of the two and is very favourable this year. The ZHR is about 20 with a medium atmospheric entry velocity. The second maximum is around the 6th of August with a ZHR of about 10, but a waxing gibbous Moon renders observations unfavourable.

The **Perseids** can best be seen between 9th and 14th August. Normally peaking with a ZHR of about 80, this year the maximum will be around 01:00 on the 13th. A near-full Moon sets at about 03:00 this year making for an unfavourable event. Observe on the nights of the 12th and the 14th too. The Perseid meteor shower is one of the most consistent performers, the meteors it produces are among the brightest of all meteor showers, some with persistent trails. The Perseids are associated with Comet P/Swift-Tuttle, and its radiant is in the north of Perseus.

Constellation Culminations from Usk

A celestial body or region of the sky is said to culminate when it crosses an observer's meridian (an imaginary line drawn overhead and through both celestial poles). This is the highest it can be found in the sky. All other things being equal it is also, usually, best observed in this position as the light from it travels through the least amount of atmosphere.

Constellation	Convenient Culminations	Midnight Culminations	Observability
Lyra	24:00 Late July in twilight	Late July	Nearly at zenith
Sagittarius	23:00 Early August	Late July	Unfavourable - partially hidden
Aquila	21:00 Late September	Early August	Whole constellation
Sagitta	21:00 Late September	Early August	Whole constellation
Cygnus	20:00 Mid-October	Mid-August	Whole at zenith
Delphinus	20:00 Mid-October	Mid-August	Whole constellation
Vulpecula	20:00 Mid-October	Mid-August	Whole constellation
Equuleus	20:00 Late October	Late August	Whole constellation
Capricornus	20:00 Late October	Late August	Whole but poor; low in the murk
Microscopium	20:00 Late October	Late August	Unfavourable and partially hidden

Lyra (pronounced LYE-ruh)

In Welsh

- 1) Telyn nf. literally 'Lyre' or 'Harp'.
 - 2) Telyn Arthur. literally 'Arthur's Lyre' or 'Arther's Harp'.
 - 3) Telyn Idris. literally 'Idris's Lyre' or 'Idris's Harp'.
- It is also known as King 'David's Lyre' or 'Harp', and 'The Welsh Harp'.

Astronomy

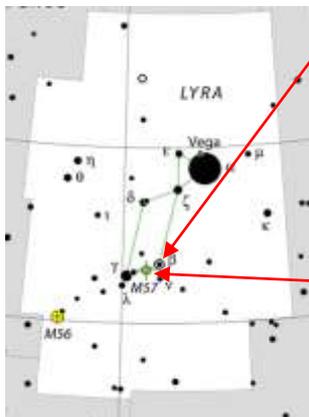
This constellation is not one of the brightest, but can be easily found by searching out α Lyrae, that is Vega, the brightest of the three stars that comprise the 'summer triangle'.

Fourteen thousand years ago Vega was the pole star but lost its pre-eminent position due to precession; the 26000 year wobble of the Earth. It will of course become the pole star again, around about 13700 CE. The brilliance of Vega is partly due to its close proximity to us; only 27 light years, it was this brilliance that made it an obvious choice as the first star to be photographed (in 1850 at the Harvard Observatory, using the daguerreotype process). Also, it was only the third star to have its parallax measured, in 1840 at the Russian National Observatory. As Vega rotates once every 12½ hours, it has a large equatorial bulge.



Sizes of Vega (L) and the Sun (R) compared.

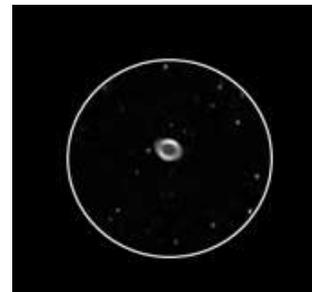
Consequently gravity is greater at the poles than at the equator, and the surface temperatures are 10000°K and 7500°K respectively.



Sheliak, as β Lyrae is also known, is a variable star of the R Lyrae type with a period of about 46 days. In fact Sheliak was the first of its type to be discovered. There are a number of stars around it that can be used to compare its luminosity and help you follow its cycle.

M57 the Ring Nebula lies about 45 minutes of arc to the east of Sheliak. It lies at a distance of over 45,000 light-years.

M57 in a low power amateur telescope





Greco-Roman Myths

To the north east of Hercules is a small but beautifully formed constellation, Lyra, the Harp. Its origins can be found in the story of Orpheus and his half-brother Linus; both of whom were accomplished musicians. Their parents were Apollo the sun god, who was also the patron of music and poetry and his mother the muse Calliope. Both Linus and Orpheus came to noteworthy ends. Linus was killed by the young Hercules who struck him fatally with a lute, in frustration at his inability to master the instrument during a music lesson. Orpheus's death was more tragic.

Orpheus was taught to play the lyre, or harp, so beautifully by his father that his songs charmed the wild beasts and even affected the plants and trees. It also charmed, and won the hand in marriage of the beautiful nymph Eurydice. Their marriage feast was attended by Hymen, a divine personification of the celebrations, but ominously the torch he bore was smoking, a very bad omen.

Shortly after the wedding Eurydice was walking in her garden when Aristaeus, a shepherd who had become smitten with her, surprised her and she stepped backward onto a snake, which fatally bit her. She was transported to the underworld, and grieving for the loss of his young bride, Orpheus sang his heart out to express his distress. All who heard him were touched but none had the power to reverse Deaths decree. Such was his anguish that Orpheus resolved to journey to the underworld and win back the life of his love. He presented himself before Hades the ruler of the underworld and his wife Persephone, and sang of his grief at his loss. Even the ghosts of earthly wrongdoers paused in their torment to listen to his wondrous voice. So impressed were they that they agreed that Eurydice should return with Orpheus. Their only condition was that Orpheus should lead his bride, but not look back upon her until they both reached the mortal world.



Orpheus Mourning the Death of Eurydice, 1814 painting by Ary Scheffer

Orpheus joyfully agreed to this and set off with his bride. However, her footsteps were so quiet that Orpheus began to doubt her presence. They had almost reached the borders of the land of the living, when Orpheus could contain his anguish no more and he turned to see if she was still there. Immediately she vanished into thin air, returning once more to the stygian depths.



Nymphs Listening to the Songs of Orpheus, 1853 by Charles Jalabert

Orpheus could not return to the underworld again and spent seven months grieving in a desert cave. His despairing songs attracted the attentions of a group of Thracian maidens revelling in wine and dance. He was abhorred by their gaiety and when he spurned their advances they stoned him to death and tore him limb from limb. His lyre they threw into the river Hebrus where it continued to play ghostly tunes as the waters flowed through its strings.



Nymphs Finding the Head of Orpheus by John William Waterhouse

The muses were so moved by the haunting melodies that even death could not still, they placed the Lyre between Hercules and Cygnus

Conditions apply as to

the Swan as a small but distinctive sign, highlighted by the brilliant star Vega.

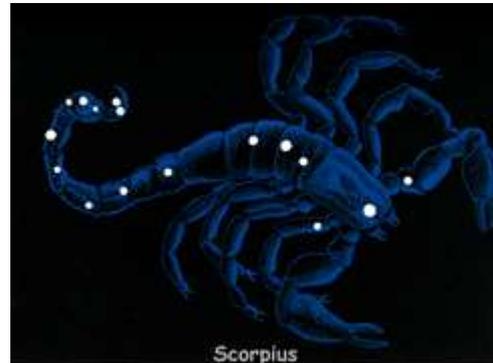
Scorpius (pronounced skor' pee us)

In Welsh

y Sgorpion nm. literally 'the Scorpion'.

Astronomy

Scorpius, with the Bull and the Lion, is a zodiacal constellation first characterized in the Euphrates Valley, in ancient Mesopotamia, back about 4000 BC, over 6000 years ago. Here in the southern UK, Scorpius is only two-thirds above the horizon and most of that is lost in the murk of our atmosphere. Antares (α Scorpii), the brightest star in the constellation, only reaches around 12° above the horizon at best, early in the mornings of June. However at the latitude of the Mediterranean, Scorpius can be seen in its entirety in a magnificent part of the sky, against the backdrop of the Milky Way.



Antares is said to mean either 'the heart of the scorpion' or 'the rival of Mars' in ancient Greek. The latter because it is an M1 type star, a red supergiant, and shines in the sky with rose-coloured hue much like Mars. It has a variable magnitude of between 0.9 and 1.8 even though it is about 500 light-years away. Antares is so large that if we replaced the Sun with it, it would reach out to the asteroid belt.

With a reasonable telescope, Graffias/Acrab, in the left claw of the modern scorpion, can be resolved into a double. There are globular clusters to be found in this region of the sky. M4 is a little to the west of Antares in the same field of view as each other.

Myths

There are a number of stars in Scorpius which have Arabic names making reference to its origins. Starting in the tail we find Shaula (Al-Saulah) which means 'the tail of the scorpion', and then we come to Lesath (Al-Las'ah) meaning 'the sting'. At the other end we find Dschubba (Al-Jabhah), 'the forehead' of the scorpion and Graffias which is also called Acrab (Al-Aqrab) meaning 'the scorpion'.

Mesopotamia

To the Babylonians the scorpion represented 'The Scorpion Man' created by Tiamat a female deity, and was one of Eleven Mighty Helpers.

Hebrew

The scorpion symbolised evil to the Hebrews.

Greek

The classical myth is intertwined with that of Orion, a man of gigantic stature, unrivalled good looks and a hunting prowess celebrated throughout the ancient world.

Orion had one great weakness. He boasted injudiciously about his achievements and claimed that there was no animal that he could not slay. Apollo seized his opportunity and repeated these boasts to Mother Earth, Gaea or Artemis. She was not only annoyed at his wantonness, but also fearful that he would destroy all predators (as he had on the island of Chios) and decided to halt his exploits by producing a monstrous scorpion under his feet, covered in armour so thick that it could never be slain.

For the first and last time in his life Orion was totally defenceless and died from the sting of the terrible beast. Diana was distraught at the loss of her friend and companion and begged the gods to allow her to immortalise Orion among the stars. Her wish was granted and Orion was sent to the mid-heavens.

As a reward for conquering such a hero, the scorpion was also granted immortality, but was sent to the southern skies so that the two enemies should not be seen in the sky at the same time, and Orion should not be reminded of his ignoble defeat.