

We are now in that part of the year in which the length of daylight exceeds the length of dark and the clocks have been put forward resulting in sunset being delayed by an hour. We astronomers must remember to correct for British Summertime when we are planning observing sessions.

The Moon

The Moon will reach Last Quarter on April 4th and will be New on April 12th. It will reach First Quarter on April 20th and will be Full on April 27th.

The Planets

The Planets are not best placed for viewing this month. Mercury, Venus, Uranus and Neptune are too close to the Sun for easy viewing. Mars has been steadily moving away from us and, although still visible at magnitude +1.4 is no longer dominating the part of the sky where it lies. During the month it moves from Taurus into Gemini. Jupiter and Saturn are both coming into view in the predawn sky. Jupiter shining at magnitude -2.2 may be seen low in the eastern sky. Saturn shining at magnitude +0.6 will become more favourably placed during the month.

Constellations

Last month I changed the format of the podcast as I detected a need for people to become more familiar with the night sky. Using the Zodiac constellations as a framework, I propose to take each constellation in turn, to describe it and to show how to find it together with its neighbours. It is hoped that this will help people to build a mental map of the sky so that they can find their way around.

We started last month with the constellation Cancer. It follows the constellation Gemini the Twins and precedes the constellation Leo the Lion. The Zodiac constellations are, in effect those constellations that the Sun visits in its annual trip around the sky. At the moment the Sun is in the constellation of Aries the Ram.

For homework you were to locate Cancer from the positions of Gemini and Leo. With the aid of binoculars, you were to find Messier M44 the Beehive together with the open cluster M67. You were then to find the constellation that lies about 30 degrees north of Cancer and note its name together with the name of the asterism it contains. You should have found Ursa Major, the Great Bear which contains the asterism The Plough, sometimes called the Big Dipper or Charles's Wain

This month's constellation

This month's constellation follows Cancer in the great circle of the Zodiac. It is Leo the Lion, one of the only constellations that looks a little like the creature it is supposed to represent. It is one of the oldest constellations being shown on all known astronomical records. The Greeks, Egyptians, Babylonians and Arabs all see these stars as representing a lion. At the time of the northern hemisphere's summer solstice Leo rises and sets at the same time as the Sun which has given it some significance among the stars. Above Leo is the small insignificant constellation Leo Minor which sits at the feet of the Great Bear.

Below Leo, skirting the horizon at this time of the year, are Crater, the Cup and Corvus the Raven. The story goes that Apollo sent a raven with a cup to fetch water for a ceremony. The raven landed near a fig tree with unripe figs. The bird, being very keen on figs, waited several days for the figs to ripen but they did not. As a result, he was late for the ceremony. Apollo was seriously displeased.

I suggest that you use a planetarium program such as Stellarium to find these constellations so that you can recognise their shapes and learn their relative positions in the sky.

When writing these podcasts I tend to include stories and myths, not because I believe they are important astronomical features but because they help me to remember the constellations locations and shapes.

Leo

We will now return to Leo and look at it in more detail. The pattern of stars that make up the Lion can be divided into two parts, the head and the body. The head is in the form of an inverted question mark with the brightest star Regulus marking the Lion's front paw. Regulus is a double star with components shining at magnitudes +1.36 and +10.8. It is 84 light years from us. A second double star in the question mark is Algieba. Algieba is the second star up from Regulus and is designated gamma Leonis. Its name means forehead in Arabic. The double star has been described as one of the most beautiful in the sky. One of the stars is deep orange and shines with a magnitude of +2.29. The other is yellow green and shines at magnitude +3.54. The view through a telescope is spectacular. They are about 130 light years from us.

The Lion's body is formed by Algieba and Regulus at the front and a triangle of stars pointing away from the head at the rear. The furthest star from the head is called Denebola. Denebola is associated with the Arabic word for lion's tail. Interestingly the name of the star that marks the tail of Cygnus the Swan is Deneb.

Five Messier objects are to be found under the belly of the Lion. M65 and M66 are two spiral galaxies about 29 million light years from us. M65 shines at magnitude +9.5 while M66 shines at magnitude +8.8.

M95 is a barred spiral galaxy shining at magnitude +10.4 and M96 is another spiral shining at magnitude +9.1. They are about 29.3 light years from us.

M105 is an elliptical galaxy shining at magnitude +9.2 and is about 21.5 light years from us. Close to M105 is another galaxy NGC 3379 which can be seen in the same field of view as M105.

I have not given the precise location of the M objects in Leo. As homework try to find their right ascension and declination coordinates by consulting your planetarium program. This will be good practice for next month when we will be looking at the next constellation in the Zodiac, Virgo and will be exploring the cloud of Messier objects which make up Berenice's hair.

Until then clear skies.