

The days are beginning to lengthen as the Sun begins its northward journey back to summer. At midwinter the Sun was below the horizon for 16 hours but at the beginning of February the day will have lengthened by about an hour. The rate of change of daylight will increase until we reach the spring equinox on March 20<sup>th</sup>.

## **The Moon**

The Moon will reach last quarter on February 4<sup>th</sup> and will be new on February 11<sup>th</sup>. It will reach first quarter on the 19<sup>th</sup> and will be full on the 27<sup>th</sup>. On February 17<sup>th</sup> the Moon will pass in front of Arietis, a +5.5 magnitude star. The Moon will be approaching first quarter and Arietis will disappear behind its dark limb at about 7.20pm and will reappear from behind the bright limb at about 8.30pm. There are other occultation events during the month, but at less civilised hours. If you are getting a taste for such events, details can be found on the internet.

## **The Planets**

Most of the planets are not visible this month as they are too close to the Sun. The only two planets presenting themselves for easy viewing are Mars and Uranus. Mars is shining at magnitude +0.7 from among the stars of Aries where it is following Uranus along the ecliptic. Uranus is shining at magnitude +5.8 also from among the stars of Aries.

## **Comets**

Another Comet has been spotted heading in our direction. It is a non-periodic comet, suggested by its trajectory, which means that it will only visit our solar system once. It was discovered by an American astronomer Gregory J. Leonard on 3<sup>rd</sup> January 2021. Hence it has been called Comet Leonard and given the classification C/2021 A1 (Leonard). The letter C in the classification indicates that it is non-periodic and 2021 A1 indicates that it is the first comet discovered in the first half of January 2021.

Although the comet is moving towards us, we are told that it will not be in range of amateur telescopes for some time. It is predicted that it will reach its closest point to us on 12<sup>th</sup> December 2021 when it will be 21 million miles away. It is thought that it might reach a magnitude of 4 or 5. Watch this space!

I have heard a number of complaints recently about the lack of opportunity to observe because of cloud cover. A particular issue is the rapid change of cloud cover. On more than one occasion I have started to set my telescope up under a clear sky but before I am ready to observe the clouds have rolled in. This is one of the reasons why I do most of my observing these days using binoculars. These can be set up in minutes and can be rapidly moved to the most favourable location. I usually put them onto a sturdy tripod. It is amazing how much more you can see through well mounted binoculars rather than by merely holding them. I followed the recent conjunction of Jupiter and Saturn through a pair of 8 x 42's augmented on the last few evenings by a pair of 25 x 100's. The views were stunning! I use this set up when observing Comets and when I look for Venus and Mercury, with appropriate precautions of course. I also find them useful when looking at star clusters which brings me on to my next topic.

### **Star Clusters**

The constellation Cancer is well placed at the moment and contains two open clusters suitable for binocular observation. Cancer is unusual as its brightest object is not a star but an open cluster known as the Beehive. The cluster is large, occupying more sky space than the Pleiades. The Beehive is number 44 in Messier's catalogue of objects that might be mistaken for comets. The constellation, being composed of relatively faint objects, is not obvious like Orion. It is a zodiac constellation and can be found lying between Gemini the twins and Leo the lion. Both of these constellations have bright, easily identifiable, shapes and so are not difficult to spot. Look at the midpoint between them and you will not be far from Cancer. To be more precise, find the star in Gemini that marks Castor's foot, Epsilon

Gemini. Then find Regulus in Leo. Find the point halfway between these two stars and you will not be far from the Beehive.

I have another pair of binoculars which are ideal for finding objects such as Cancer. They are 2.1 x 42. They give a wide-angle view and can cover whole constellations. They make fainter, widespread objects, such as star patterns like the constellation of Cancer, visible.

The Beehive lies close to the centre of the constellation and is visible to the naked eye as a hazy patch, but you will need a clear night with as little moonlight as possible. The Constellation of Cancer and the Beehive are easily drowned out. The Beehive lies some 600 light years from us. Its name derives from its appearance which suggests a swarm of bees around a hive. However, it has a second name dating from classical times. The name is Praesepe which is Latin for crib or manger. There is a second open cluster in Cancer, number 67 in Messier's catalogue. It is not visible to the naked eye but is easily found with a pair of 8 x 42 binoculars. If you sweep the area about 10° south of the Beehive you should find it. It is thought to be a very old cluster which formed some 3.2 to 5 billion years ago. It lies 2 to 3 thousand light years from us.

That's all for now. Hopefully there will be some good observing nights before we meet again in March.