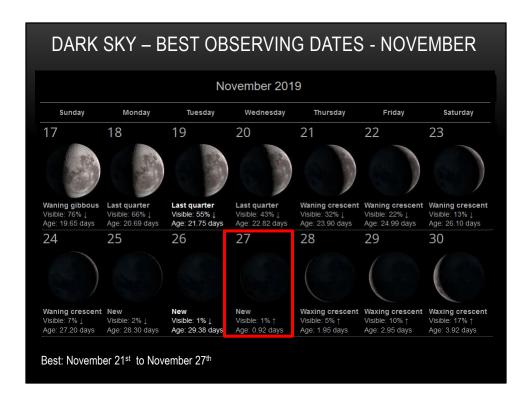
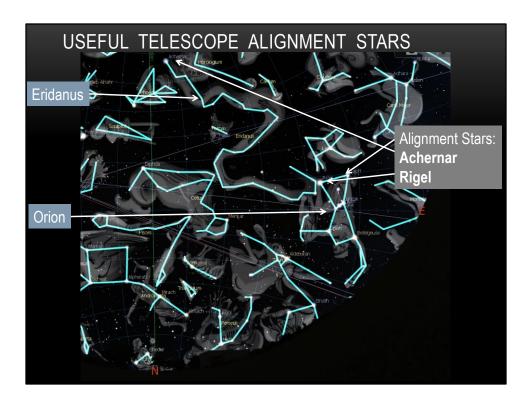
## BAS - MONTHLY SKY GUIDE November 2019

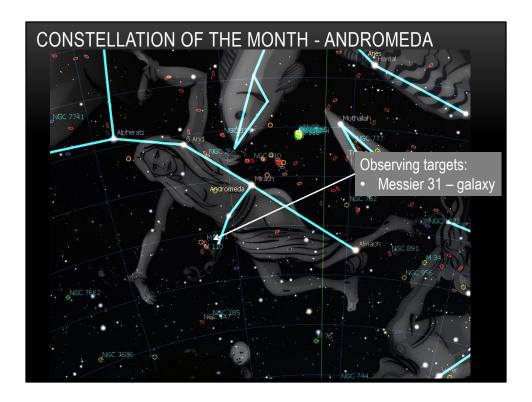
The nights are getting shorter and the observing now starts later in the evening. Just some of the summer month challenges for amateur astronomers. But there are still plenty of astronomical reasons this month to get your telescope out under a dark sky.



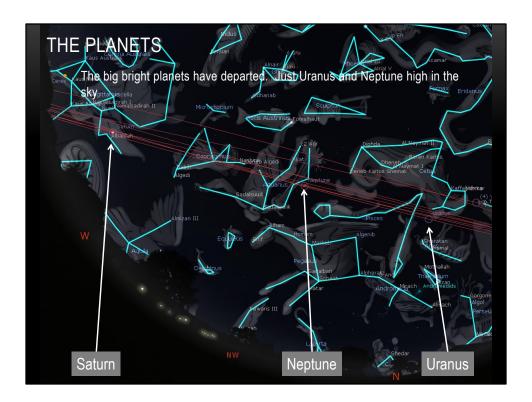
New Moon is Wednesday November 27<sup>th</sup>. A full evening of observing from sunset through to about midnight can be achieved for about a week prior to the New Moon. So plan your observing dates from about November 21<sup>st</sup> onwards. Following New Moon on the 27<sup>th</sup> the slim crescent Moon sets after the end of astronomical twilight and so the setting Moon starts to eat into early evening observing time after that date. So make good use of the period around November 21<sup>st</sup> to New Moon on November 27<sup>th</sup>.



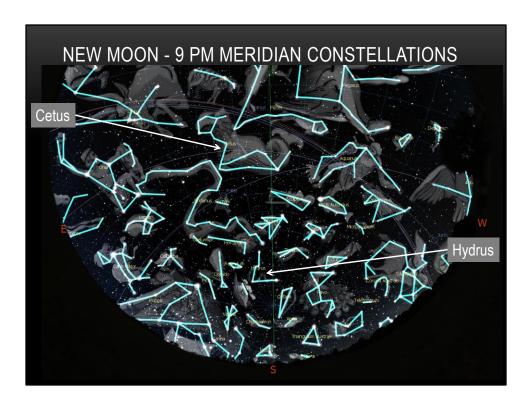
Two prominent and widely spaced stars that are good for telescope alignment are Rigel in the constellation Orion and Achernar in Eridanus the River. Rigel is the easiest to find as it is very bright located at the foot of distinctive Orion the Hunter. Eridanus is a bit harder to recognise however the constellation starts at Rigel and wanders westward in a snaking path to terminate at Achernar. Achernar is reasonably bright in a fairly sparse region of sky.



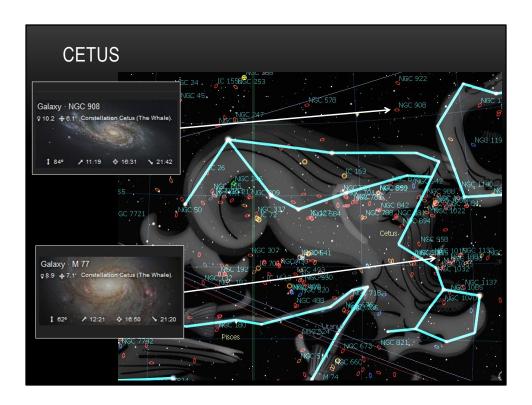
The constellation Andromeda, the Chained Maiden, is an ancient Greek constellation located in the northern celestial hemisphere and so low in our southern skies and often difficult to observe. In Greek myths the maiden Andromeda was chained to a rock in the ocean by Cepheus as a sacrifice to the sea monster Cetus the whale. However she was rescued in the last instant by Perseus on his winged horse Pegasus. So the constellation Andromeda sits just below the constellation Pegasus. Locating the great square of Pegasus stars is a useful first step in locating Andromeda hiding in the rear legs of the horse. The almost sole observing target that people head for in Andromeda is Messier 31 or the Andromeda Galaxy. This is a large galaxy is visible to the naked eye and is located 2.5 million light years away. The galaxy played a major role in early astronomical discoveries by Edwin Hubble that lead to our understanding of the size and expansion of the universe. Andromeda is heading towards our Milky Way Galaxy and a massive silent collision is expected in about 2.5 billion years' time.



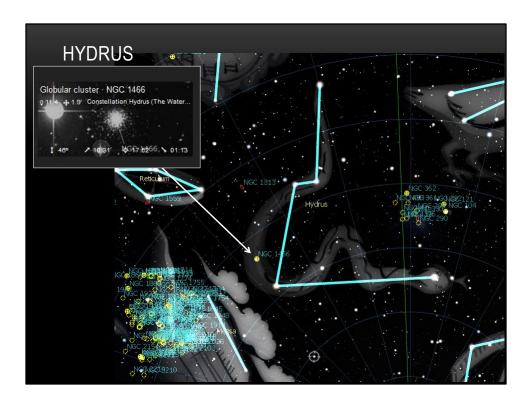
Earth is now heading around the far side of the Sun from the major planets and so we are losing them from the evening sky. Jupiter has pretty much gone from view and Saturn is now low in the western sky. Just the tiny dots of Neptune and Uranus left high in the sky.



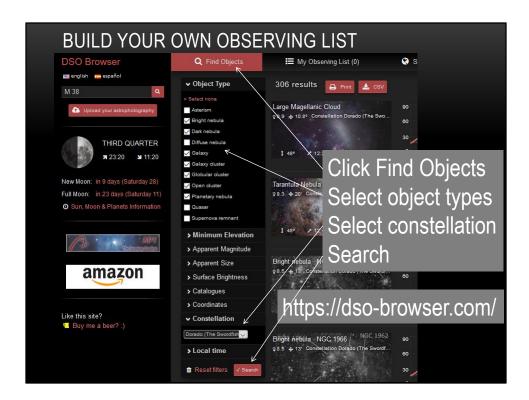
The constellation theme this month is water monsters. Cetus, the Sea Monster or also called The Whale, is an ancient Greek mythological creation of the god Poseidon who placed the monster in the sea off the coast of king Cepheus' kingdom. However in the fight to save Andromeda from the sea monster Perseus killed the monster and its carcass now lies in the sky. Hydrus is the male water snake located in the far southern sky near the south celestial pole.



Cetus is best known for deep-sky galaxy hunting. Spiral galaxy M77 was discovered by French astronomer Pierre Mechain in 1780 and he passed his discovery on to Charles Messier who listed it as his 77<sup>th</sup> object not to confuse with a comet. Messier 77 is located about 33 million light years away. NGC 908 is a much fainter spiral galaxy located 58 million light years distant from our Sun.

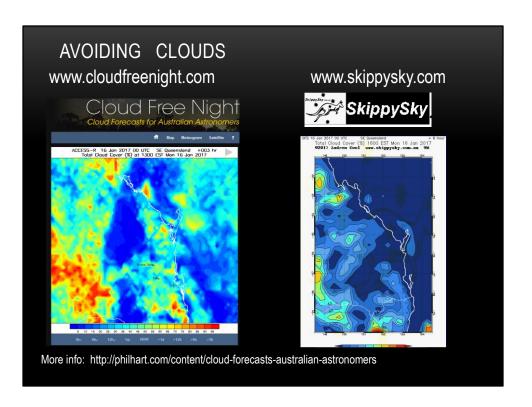


Hydrus, the Male Water Snake, is a rather empty constellation for observers. Most visitors to this region of the sky are drawn to the multitude of targets in the Small and Large Magellanic Clouds that sit astride Hydrus. However there is one very small globular cluster in the constellation, NGC 1466, that is worth seeking out. This cluster is located 160,000 light years from our Sun and so lies well beyond the outer edge of our Milky Way Galaxy.



Make sure you take a look at the great observing planning tool DSO-Browser before the New Moon period. This is a fantastic tool to help you build a list of objects you can try and find each month.

Just a few clicks on www.dso-browser.com can generate a fantastic observing list of object types you are interested in.



And the find the best cloud-free evenings for observing make sure you check CloudFreeNight and Skippysky as you plan your next observing evening.