

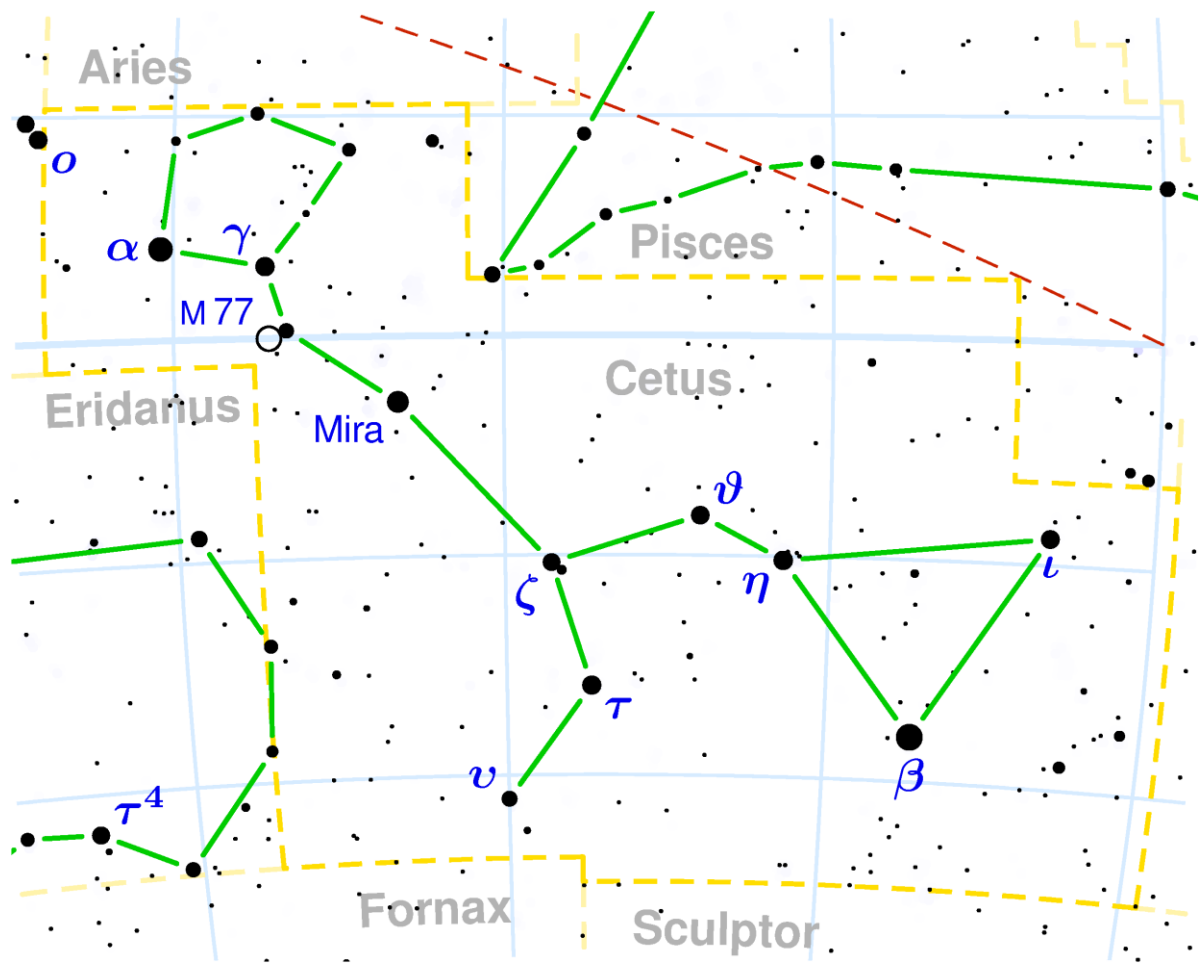
## Dundee Astronomical Society The Night Sky in November 2009



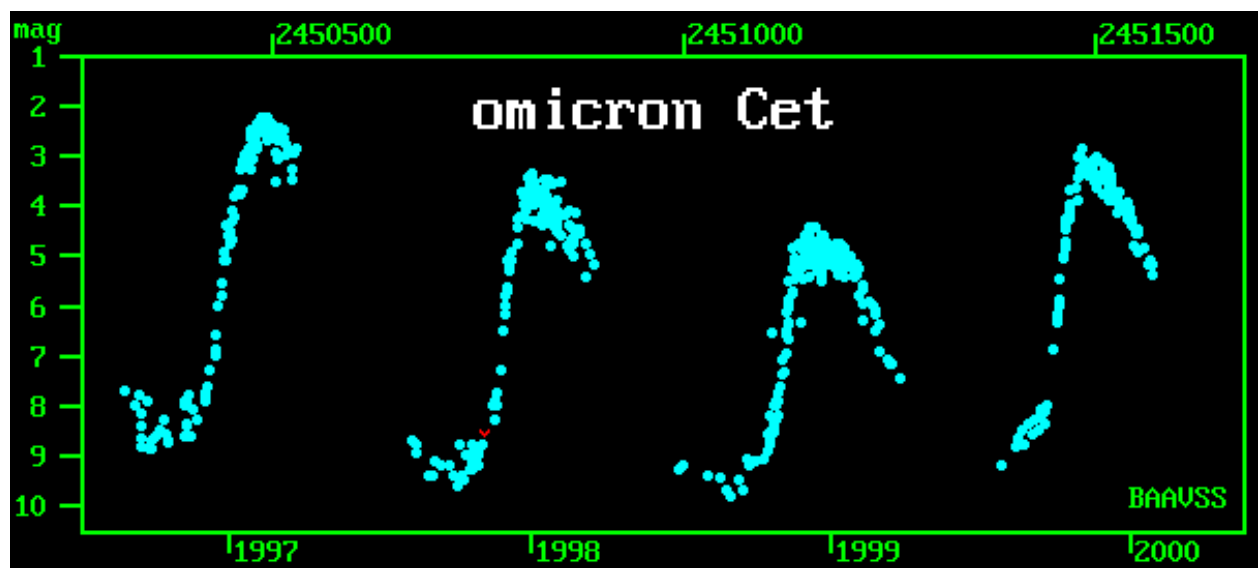
**The Sky at 8pm on 15<sup>th</sup> November 2009**  
[chart courtesy of [www.heavens-above.com](http://www.heavens-above.com)]

Swimming below the constellation of Pegasus, mentioned last month and now high in the southern sky, are the constellations Pisces, the fish, and Cetus, the sea monster. Cetus is quite low in the south west in the early evenings in November but contains one of the most interesting variable stars in the sky. Mira, which means the wonderful, was discovered by David Fabricius in 1596 and is normally totally invisible to the unaided eye. It is a red giant star at a distance of 418 light years which has become unstable in the final stage of its evolution. The star expands and contracts and at its brightest becomes easily visible although this brightness tends to vary with each reappearance. The variation in brightness occurs at precise intervals of 331.65 days and it will be at its brightest again on the 18<sup>th</sup> November. It's worth trying to estimate the brightness at maximum using the charts supplied by the BAA variable

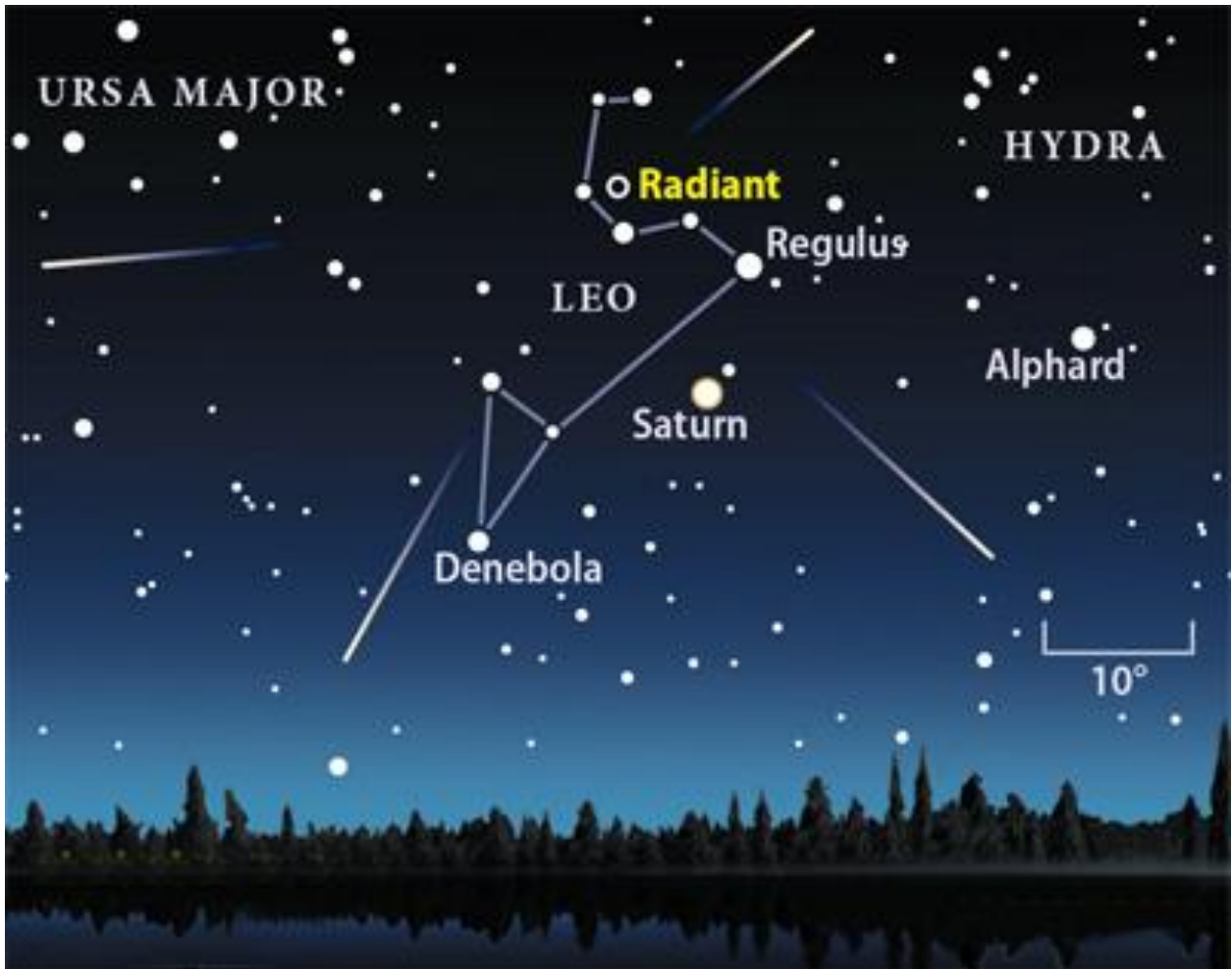
star section – or you can contact me and I will send you these by e-mail. Mira has been recorded at maximum as bright as magnitude 1.7 but is more usually nearer magnitude 3.



The light curves below show several cycles of Mira and it can be seen how variable maximum is.



The autumn and winter meteor showers continue in November with the Leonids which make an appearance between the 15<sup>th</sup> and 20<sup>th</sup> of the month. They have a sharp peak of activity on the 17<sup>th</sup> but also a 33 year cycle of very high activity. The last year of very high activity was in 1999 but usually the maximum number seen in an hour is about 20. There has been a prediction that this year may produce a better display than usual and this could occur between 9.34pm and 9.44pm on the 17<sup>th</sup>. It may well be worth having a look at the sky on that date between 9pm and 10pm – but there is no guarantee – the Leonid shower is very variable! The meteors are particles from the orbit of Comet Tempel-Tuttle which was discovered in 1865 and orbits the Sun every 33 years.



Mercury is not visible during November.

Venus becomes lower in the early morning sky throughout the month as it moves in towards the Sun.

Mars rises at about 10pm mid month and can be seen throughout the night in Cancer. As it becomes closer to Earth, the disc increases to 9 arc seconds by the end of November.

Jupiter can be seen in the evening sky low in the south west but is becoming smaller and less bright as it recedes from the Earth.

Saturn rises at about 3am and will be in Virgo. The rings will gradually start to open out again after being almost invisible earlier in the year.

Uranus is still well placed in Pisces.

Neptune is quite close to Jupiter in Capricornus.

The Moon is full on the 2<sup>nd</sup>, at last quarter on the 9<sup>th</sup>, new on the 16<sup>th</sup> and at first quarter on the 24<sup>th</sup>.

There will be a weekend of public talks at Mills Observatory to mark the International Year of Astronomy on Saturday 7<sup>th</sup> and Sunday 8<sup>th</sup> of November. Talks begin at 10am on Saturday and 2pm on Sunday. Please see Mills website for details and contact 01382 435967 to book places. DAS members are welcome to come to these talks (free!) but remember that they are intended for the public with little astronomical knowledge. Please remember to phone Mills to book if you would like to attend.

There will be a talk about the November sky and planetarium show by Mills staff on Fridays 13<sup>th</sup> and 27<sup>th</sup> November at 7pm, 7.45, 8.30 and 9.15. Admission is £1 for adults and 50p for children. Please phone 01382 435967 to book as places for each show are limited.

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