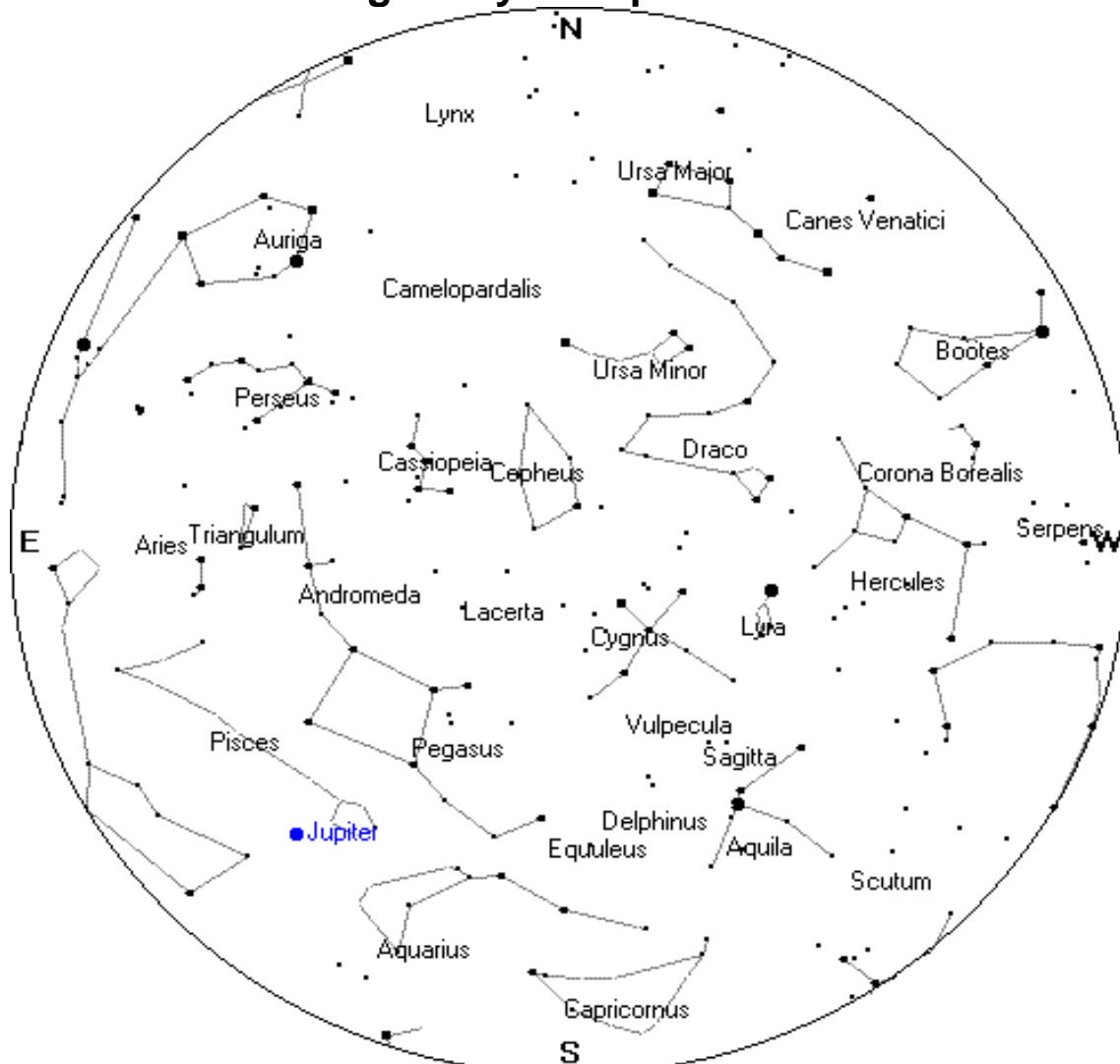


## Dundee Astronomical Society The Night Sky in September 2010



### The Sky at 10pm on 15<sup>th</sup> September 2010

[chart courtesy of [www.heavens-above.com](http://www.heavens-above.com)]

Without wishing to cast gloom after a mediocre summer, September marks the Autumnal Equinox when the Sun crosses the celestial equator and sinks into the southern hemisphere. The actual date of the equinox is the 23<sup>rd</sup> September, at 3.09am to be precise, when day and night will be equal. On a more positive note, the sky becomes quite dark by mid evening allowing us to see the autumn constellations.

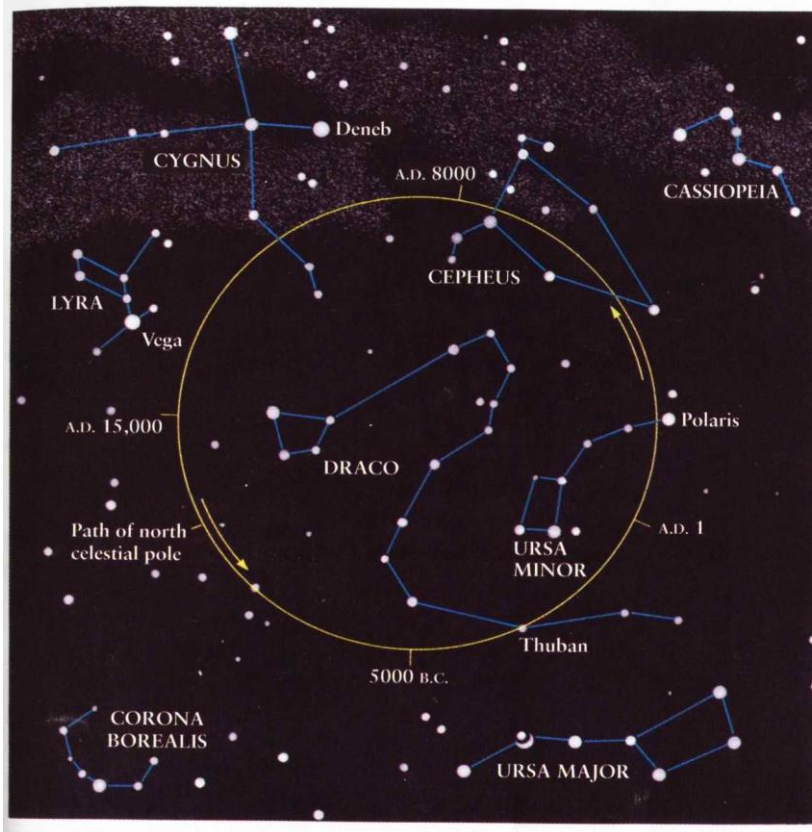
The large 'W' of stars which counterbalances the Plough on the other side of the pole star is easily recognised and is visible throughout the year at these latitudes. This is Cassiopeia, Queen of Aethiopia, a mythological land, probably not the same as modern day Ethiopia. The whole family can be found nearly overhead, with King Cepheus to the west and their daughter Andromeda to the south east.

Cepheus is not a bright constellation and looks a bit like a box with a triangle on top. It is one of the original 48 constellations listed by Ptolemy in the second century.

However, it proved to be the source of the key to determining how far away distant objects in the universe are. In 1784 John Goodricke, then only 19 years old, discovered that Delta Cephei varied in brightness over 5.4 days. This was the first of a group of variable stars to be discovered which are now known by the collective name of Cepheid Variables and which pulsate regularly. In 1912 Henrietta Leavitt showed a relationship between the time of variability of these stars and their luminosity. This allowed astronomers to use these stars to work out the distances of galaxies and other objects.



Cepheus is also notable because its brightest star, Alpha Cephei was the north pole star in 18,000BC. The wobble of the Earth's axis takes about 26,000 years to complete a circle and the positions of the celestial poles vary over this period. Alpha Cephei will again be our pole star around 7,500AD.

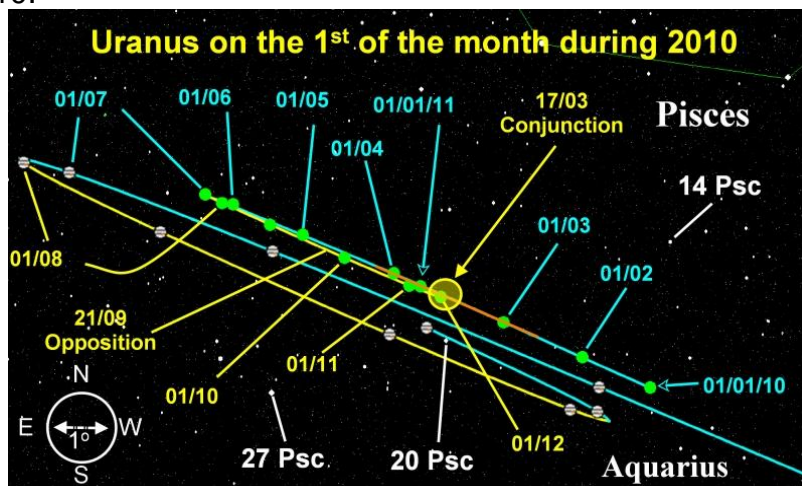


September is not a good month to see Venus, Mars or Saturn as they set early in the evening while the sky is still bright.

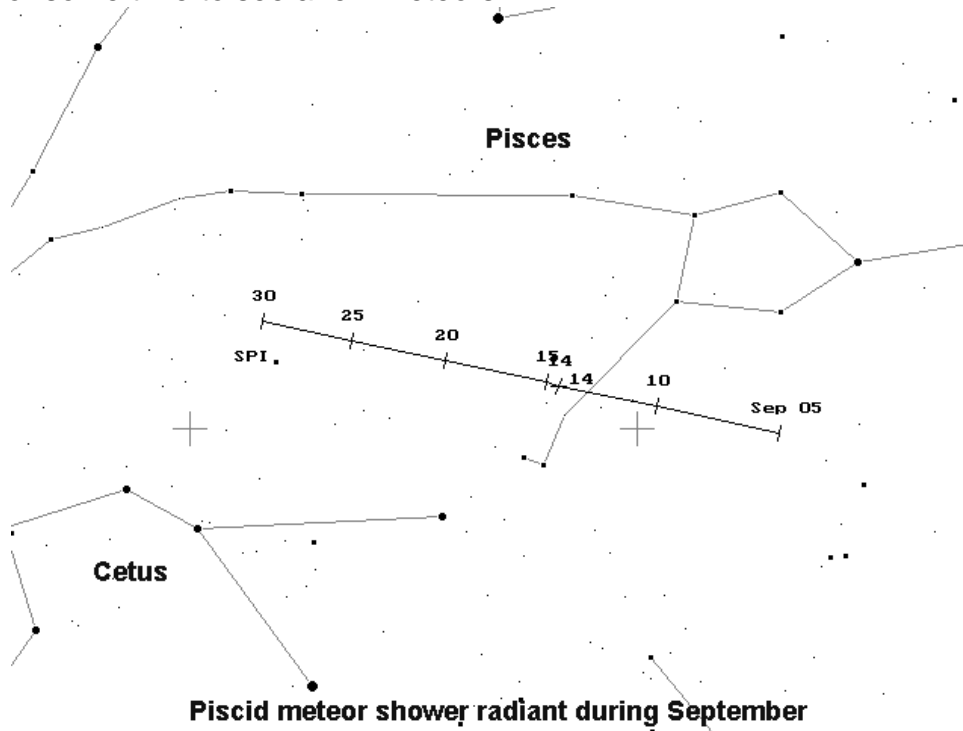
Mercury will be seen low in the east before sunrise in the constellation of Leo for several days before and after September 19th.

Jupiter remains bright throughout the evenings rising at about 7pm in the middle of the month. On September 21<sup>st</sup> Jupiter will be due south at midnight and will be bright enough to be unmistakable.

Uranus is in opposition on 21<sup>st</sup> September with Jupiter and so both planets will be quite close together in the sky. The diagram below shows their positions in the sky through 2010.



If you are really keen on meteor showers, the Piscids have a multiple peak during September. It is thought that this shower is associated with comet C/1702 H1. The first peak is on September 9<sup>th</sup> with a max ZHR of about 10 and the second is on September 21<sup>st</sup> with 5. The Moon is new on the 8<sup>th</sup> but you may find that you have to wait for some time to see a few meteors.



The Moon is at last quarter on the 1<sup>st</sup>, new on the 8<sup>th</sup>, at first quarter on the 15<sup>th</sup> and full on the 23<sup>rd</sup>.

Graham Young of Dundee Astronomical Society will give a talk entitled 'The New Solar System' at 1.30pm on Sunday 5<sup>th</sup> September.

**Ken Kennedy**  
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