

THE SKY THIS MONTH

MAY 2009

VENUS, MARS, JUPITER (AND NEPTUNE) AND SATURN

Most of the naked eye planets will be available this month, but you have to wake up pretty early to catch most of them!

Saturn is the only naked eye planet in the evening sky this month. If you take a close look at it from night to night, you will notice that it does not seem to be moving very fast amongst the background stars. In fact, you might not notice any movement at all come mid month. Saturn appears to become “stationary” twice every year because of Earth’s orbit motion relative to it.

As Earth orbits the Sun, it can briefly head directly toward Saturn and briefly head directly away from Saturn every year (Figure 3). This phenomenon occurs with every other planet and everything else orbiting the Sun. In between “stationary” points, the planet appears to be moving in the opposite direction. This is called “retrograde” motion and it had puzzled astronomers until Copernicus theorized that the Earth was orbiting the Sun and not vice-versa.

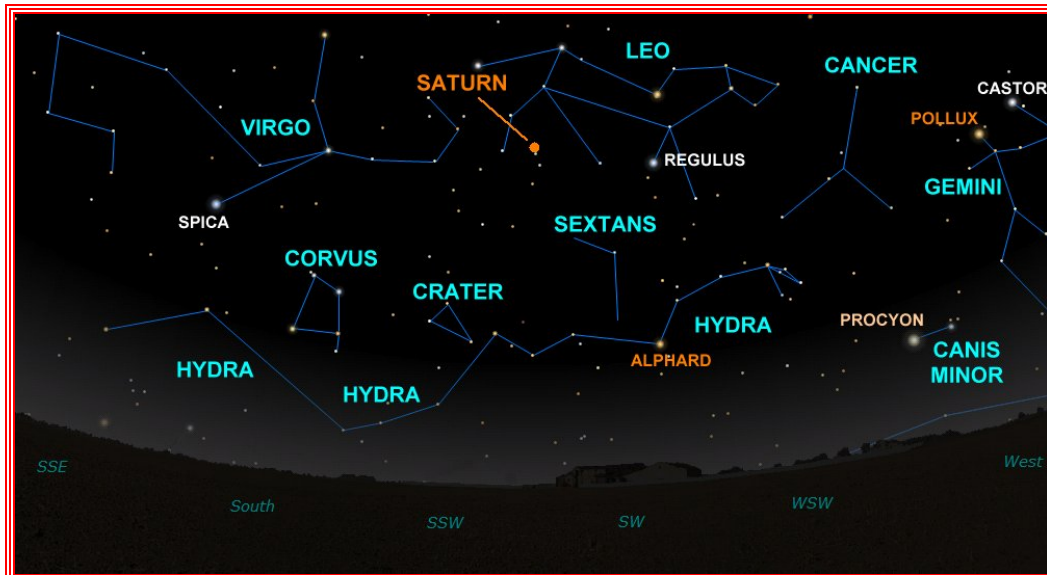


Figure 1: Saturn appears “stationary” near Leo’s hind feet in May. The spring constellations can also be seen, including some the brightest stars of May’s evening skies.



Figure 2: Saturn as seen through a small telescope. Image by the author.

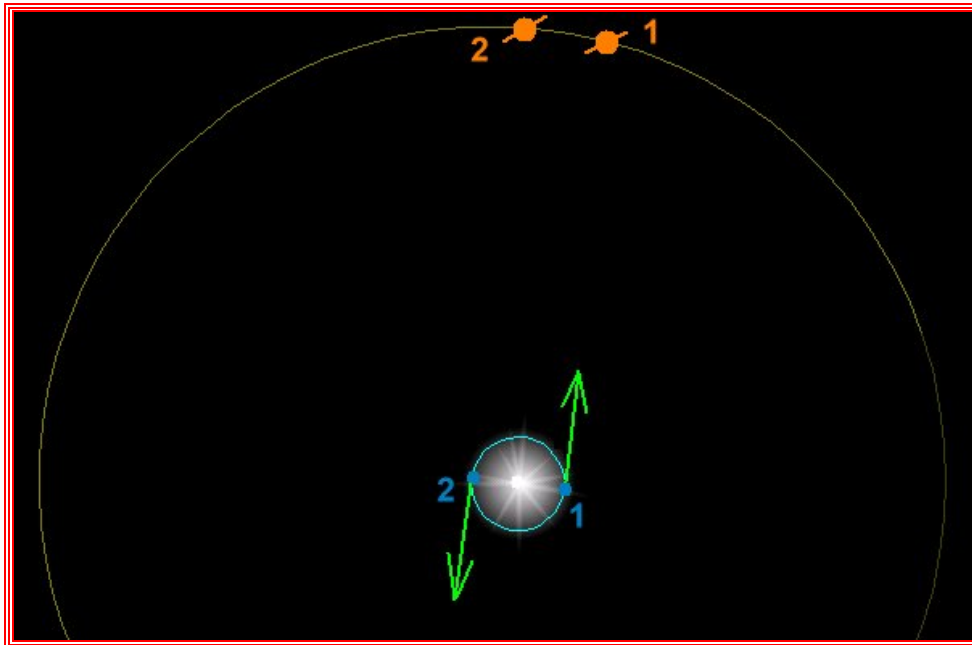


Figure 3: Earth's and Saturn's locations at the two "stationary" points of Saturn. At point #1, Earth is heading directly toward Saturn. At point #2, Earth is heading directly away from Saturn. Between times 1 and 2 (approximately 6 months), Saturn moves only $1/60^{\text{th}}$ of its orbit.

Most of the naked eye planets are seen in the early morning sky before dawn. Venus, the most brilliant of all, shines like a beacon. It is certainly not easy to miss.

If you look 6 degrees to the east of Venus, you might be able to see a much dimmer red "star". You are seeing Mars. Using binoculars will help you spot this dimmer planet.

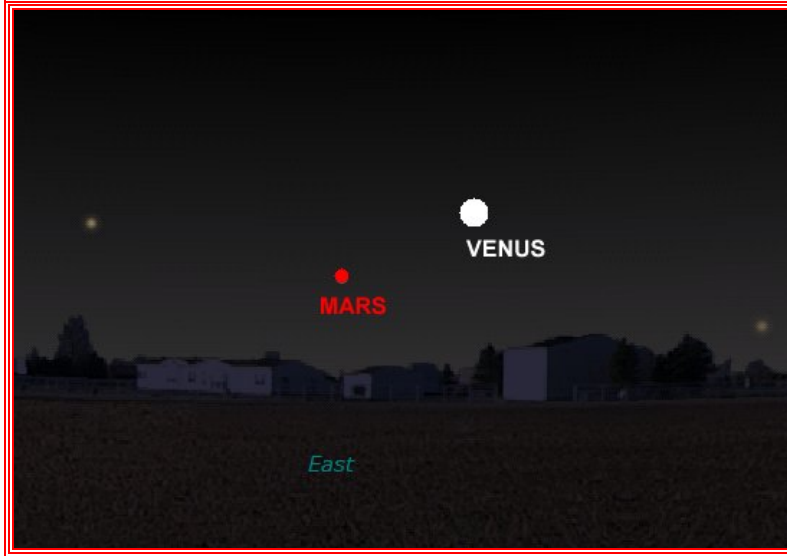


Figure 4: Venus and Mars in the pre-dawn sky at 5 a.m. May 15, 2009.

Jupiter is hanging out in the south-eastern sky at dawn. It is easy to spot at about 4 a.m. on any day this month as an object about half as bright as Venus but nearly the same colour. Many have confused the two because of their similar appearances. All you have to do to tell them apart is to remember that Venus is brighter than Jupiter.

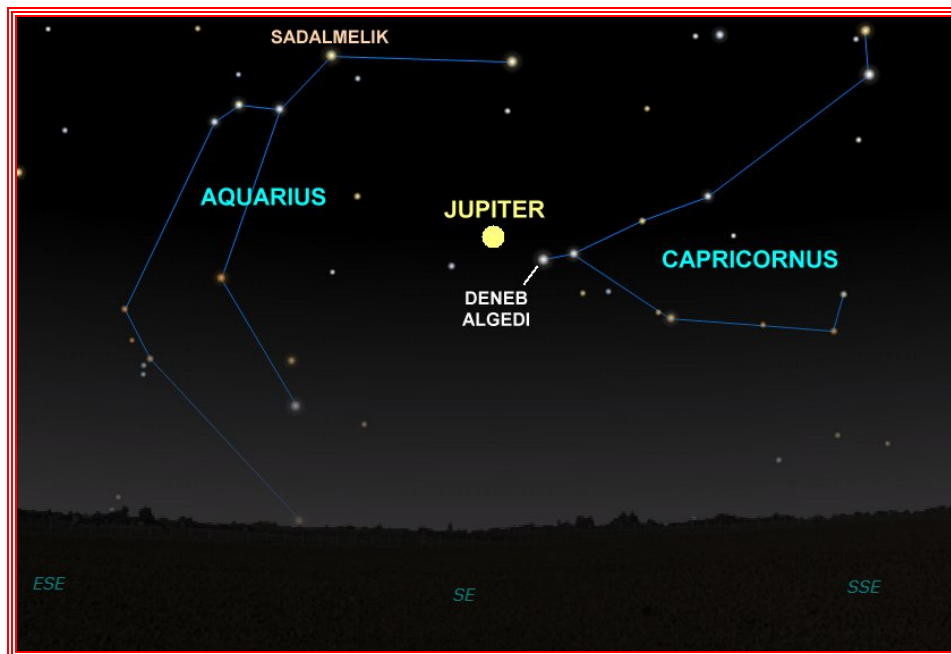


Figure 5: Jupiter at 4 a.m. on the 25th. The star Deneb Algedi lies close to the bright planet this month. Use it and Jupiter to find Neptune in May (Figure 6).

On the early morning of May 25th, make sure to look at Jupiter through a pair of binoculars in a dark sky. You will most likely see a number of stars in the vicinity of the bright planet. However, you might be interested to know that one of them is Neptune!

On the 25th, Neptune lies just 0.4 degrees northeast from Jupiter. It can be spotted as a fainter “star” in binoculars. Through the telescope, you might be able to notice its blue-grey colour and tiny disk if the seeing is good enough.

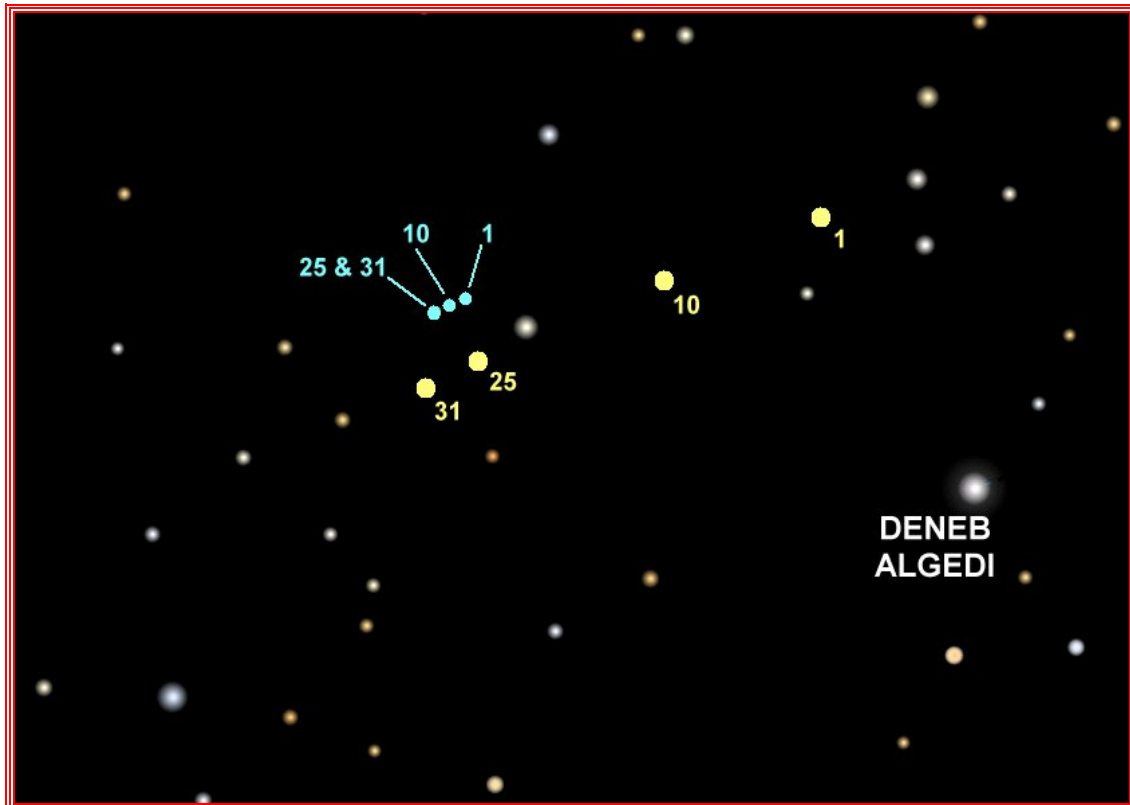


Figure 6: Jupiter (Yellow) and Neptune (Blue) as seen through binoculars on the 1st, 10th, 25th and 31st of the month. Neptune appears “stationary” between the 25th and the 31st. The dimmest stars in this image are at the same apparent brightness as Neptune.

On December 28, 1612 and January 28, 1613, the Italian astronomer and physicist Galileo Galilei was observing Jupiter and had noticed that one of the faint nearby “stars” was moving as well. Although he had made a note of his observations, he did not attempt to explain them further. How could he, since he did not know that he was actually the first person ever to observe Neptune. Neptune would not be discovered as the 8th planet of our solar system until 233

years later on September 23, 1846 despite numerous previous sightings. When Galileo first observed it, Neptune would be 233 years away from having a name.

In an interesting coincidence, Neptune appears “stationary” on the 29th. This is due to the same effect that caused Saturn to appear “stationary” on the 17th. Since it will be appearing to stand still at the end of May, it might give you a better chance to catch it.

E-Mail: skythismonth@castor2.ca

Night Sky Conservation: www.castor2.ca/nsc