

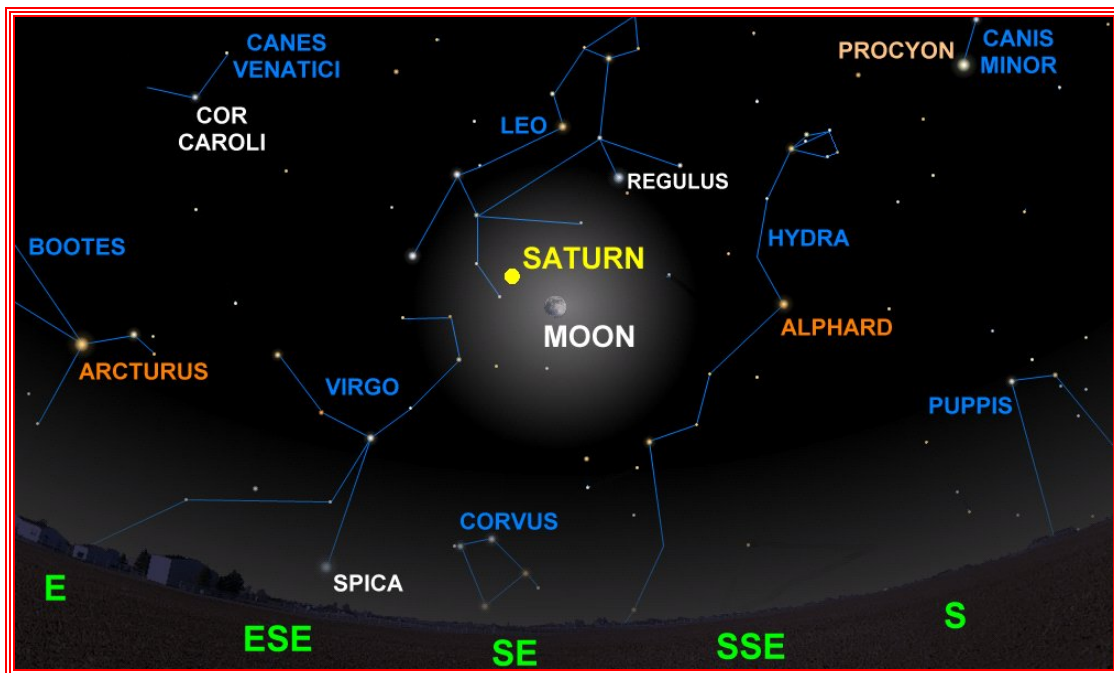
# THE SKY THIS MONTH

APRIL 2009

## USING THE MOON TO FIND APRIL'S PLANETS

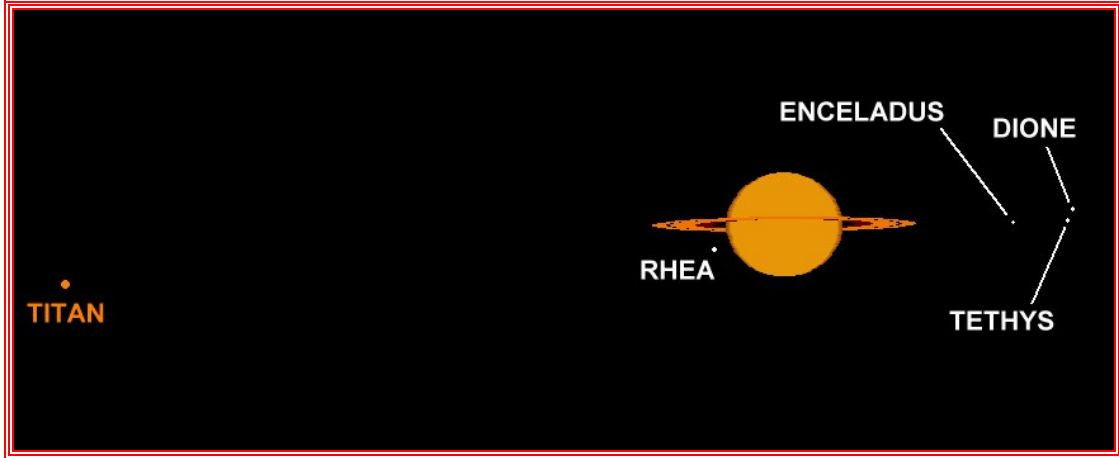
How many of the planets can you see through binoculars? If you use the Moon as a guide, you might be able to catch all of them this month!

We begin by spotting **Saturn** on the evening of the 6<sup>th</sup>. The nearly full Moon passes 6 degrees south of Saturn. Both objects will appear in the constellation Leo (Figure 1).



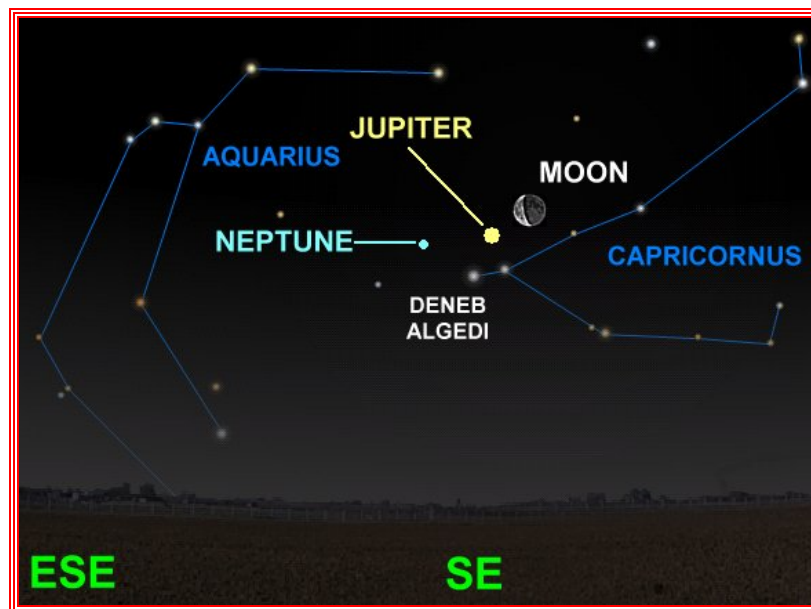
**Figure 1:** Saturn and the Moon can be viewed near Leo's hind legs at 9 p.m. EDT April 6, 2009.

Through a small telescope, Saturn will appear to look like a small disk with a line through it. Its rings are nearly edge on, which make them appear nearly flat from our perspective. The small telescope will also reveal several of its brighter moons (Figure 2).



**Figure 2:** Saturn's rings and brightest moons at 9 p.m. EDT April 6<sup>th</sup>, 2009.

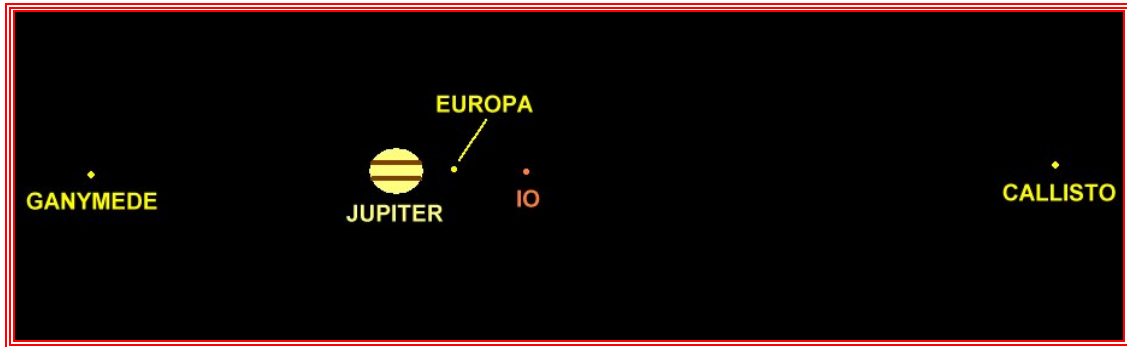
The next target is **Jupiter**, which appears as a bright naked eye "star" 2½ degrees east of the last crescent Moon on the morning of April 19<sup>th</sup> (Figure 3).



**Figure 3:** The last crescent Moon, Jupiter and Neptune in Capricornus at 5:30 a.m. April 19<sup>th</sup>, 2009.

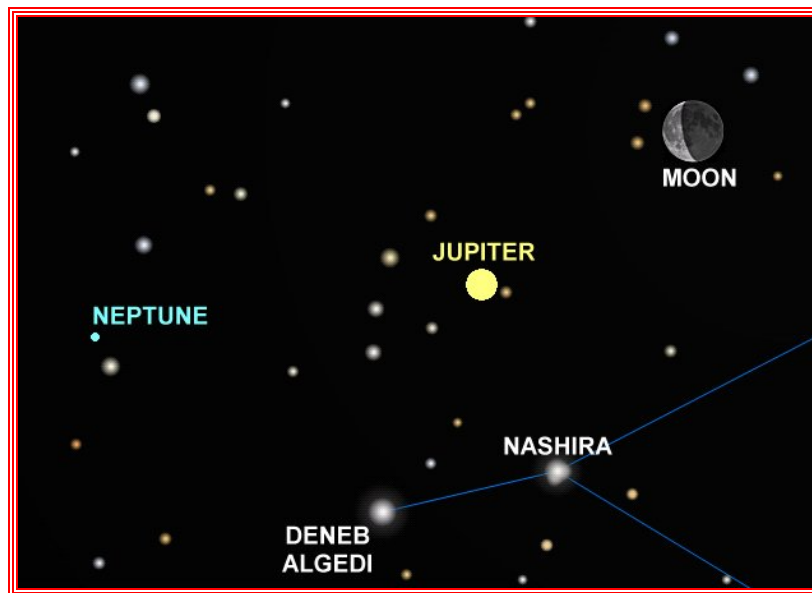
Through binoculars, you might see several "stars" near the planet. You are most likely seeing some of Jupiter's four Galilean moons, named after Galileo who spotted them 400 years ago this year. Through a small telescope, you are

likely to see all four of them. Figure 4 illustrates the positions of the Galilean moons on this day.



**Figure 4:** Jupiter's four Galilean moons as they will appear through a small telescope at 5:30 a.m. EDT April 19, 2009.

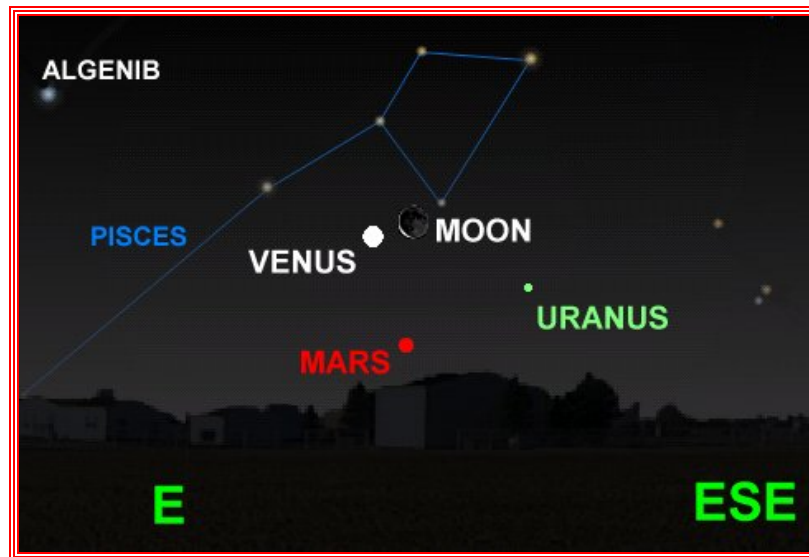
The next target is the planet **Neptune**, appearing about 4 degrees east of Jupiter and 6 degrees east of the crescent Moon on the same morning. Use Figure 5 to locate Neptune, which is only visible with binoculars or a telescope.



**Figure 5:** The crescent Moon, Jupiter and Neptune as viewed through binoculars at 5:30 a.m. EDT April 19<sup>th</sup>, 2009. The dimmest stars depicted are of Neptune's brightness.

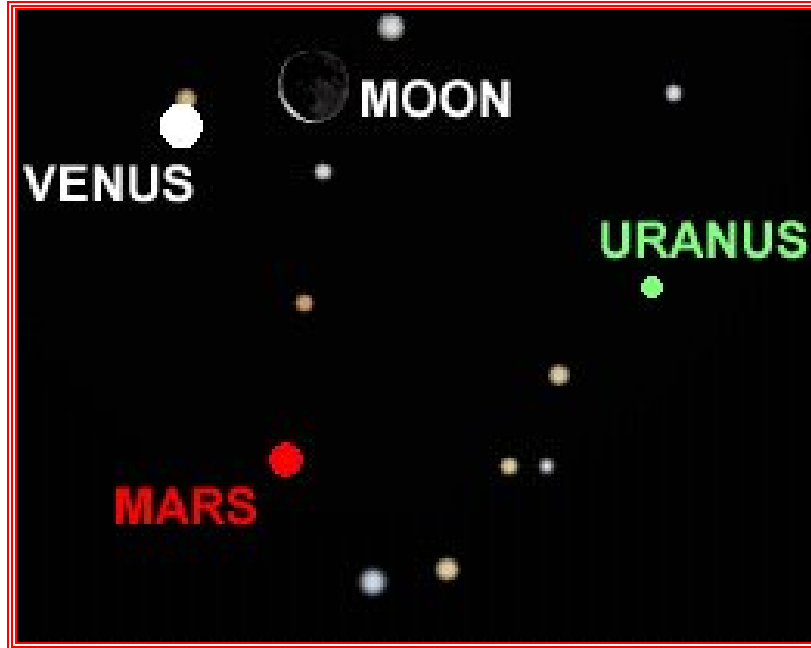
The next target is the brilliant planet **Venus** at dawn on April 22<sup>nd</sup>. It will lie only 2 degrees east of a thin waning crescent Moon (Figure 6). Through binoculars or a small telescope, you should be able to see a brilliant shimmering tiny crescent. Compare Venus' 17 percent phase with the Moon's 9 percent phase!

On the same morning, **Mars** lies just 4 degrees below Moon-Venus pair (Figure 6). Through binoculars, Mars will look like a dim red star several degrees above the eastern horizon. Mars appears dim because it is nearly the furthest distance it can be from Earth at this time.



**Figure 6:** The Moon, Venus, Mars and Uranus at 5:45 a.m. April 22<sup>nd</sup>, 2009.

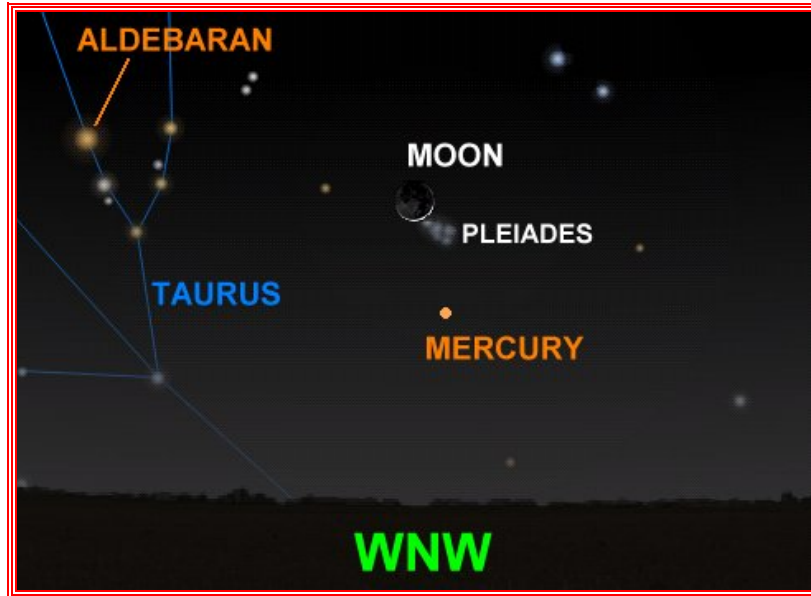
There is yet another planet to see on the 22nd. On the same morning, **Uranus** can be seen 5 degrees to the west of the Moon. Refer to Figure 7 to find green Uranus amongst the stars. Binoculars are suggested, since Uranus is barely of naked eye visibility. Through the telescope, you might be able to resolve Uranus' tiny pale green disk.



**Figure 7:** The Moon, Venus, Mars and Uranus as viewed through binoculars at 5:45 a.m. April 22<sup>nd</sup>, 2009. The dimmest stars depicted here are Uranus' brightness.

There's one more planet remaining to complete your quest! On the early evening of April 26<sup>th</sup>, the thin waxing crescent Moon lies  $4\frac{1}{2}$  degrees above **Mercury**, the smallest planet (Figure 8). You have to be fast to catch Mercury. It will only appear for about 45 minutes after the sun sets.

Through binoculars or a small telescope, you should be able to see several bright stars under the Moon. You are viewing the Pleiades cluster, an impressive cluster of bright stars (Figure 8)!



**Figure 8:** The Moon, Mercury and Pleiades at 8:45 p.m. April 26<sup>th</sup>, 2009.

Technically, there is one more planet to look at to get all eight planets of the solar system, but it's easy; just look down. You are already standing on the **Earth**, so it isn't too hard.

If you have successfully viewed all of the above this month, you will be one of a select group of people who has seen all of the 8 major planets in our solar system. Some (like the author) have seen all 8 (plus dwarf planet **Pluto**) in one night. That could become your next challenge.

**Good Luck!**

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