


September Skies over the Pinnacles

Here comes Mars!

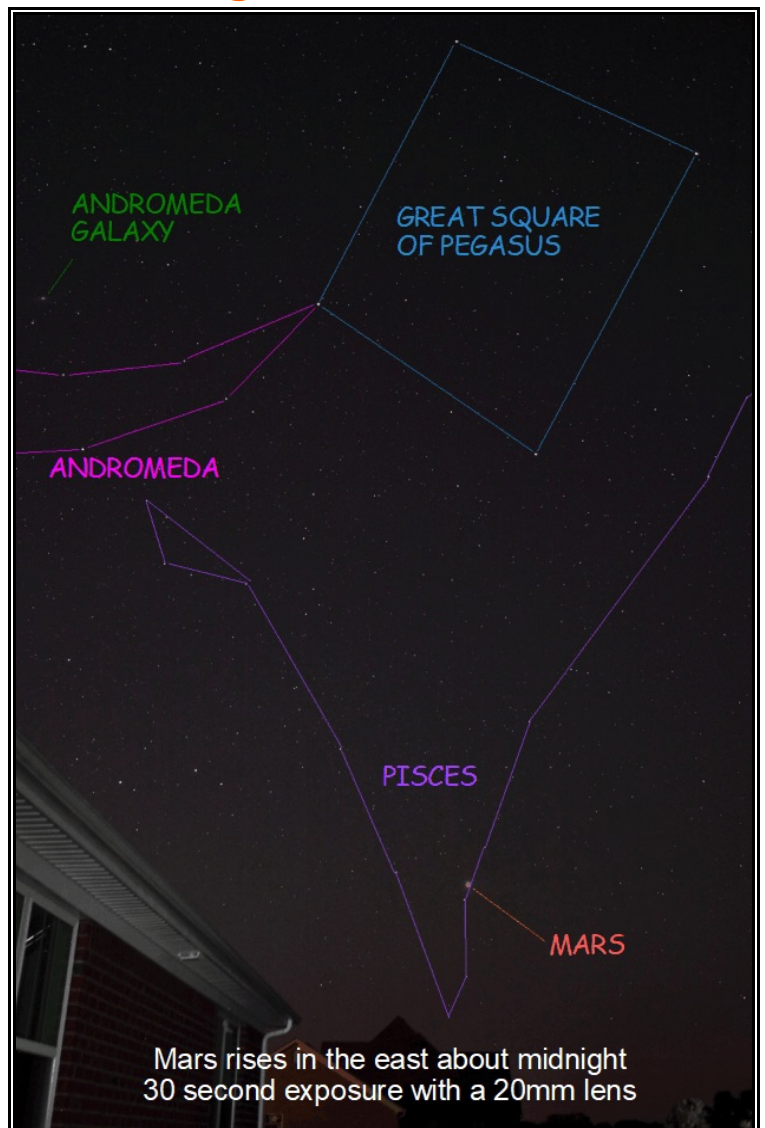
September's four principal phases of the moon

September 2	Full Moon	
September 10	Last Quarter	
September 17	New Moon	
September 24	First Quarter Moon	

Red Mars Rising

Recently, a dear friend of mine hit a real birthday milestone. He's been a passenger on Spaceship Earth for 90 years! Of course, I wished him a happy birthday, but in Mars years. For every Mars year (one trip around the Sun for the red planet), Earth goes around the Sun about 2.1 times. So, in Mars years, my friend Tom, is about 43.

A couple of weeks ago, I was doing some casual star gazing when I noticed a great orange light low in the eastern sky. It was Mars! In the 50 or so years I've been enjoying the night sky, Earth has swung close to Mars 25 times because we are closer to the Sun and 'lap' the red planet twice each time Mars makes one trip around the Sun. That's what's happening now. In 1969, I had built my second large telescope during the time the distance between Earth and Mars was especially small, so Mars loomed especially large. I'll never forget my first glimpse of actual surface features on that red disk in the eyepiece. I convinced myself that the Martian dark patches before me had a green hue. This was before the first NASA missions to Mars that would later dash my fantasy that I was seeing green vegetation of a Martian spring.



Mars is the third planet from the Sun and the farthest ‘terrestrial’ planet. The other planets are called ‘gas’ planets because if they do have a surface solid enough to walk on it may never be explored. When we look at Saturn and Jupiter we can only see the cloudy tops of their atmospheres which consist mostly of the elements hydrogen and helium. Look to the south and you’ll see these two giants. Even though brilliant Venus, now a morning star, only shows us her cloud-tops, Venus does a solid surface, hot enough to melt lead! For a long time, we’ve believed that Mars is the most “Earth-like” planet. And it is. We will probably never put boots on Mercury, too hot toward the Sun, too cold on it’s night side. Going to Venus would be like taking a steam bath in boiling sulfuric acid. The warmest days on Mars are as cold as Antarctica and its thin atmosphere is mostly carbon dioxide. There is almost no magnetic field to protect the red planet from harmful solar radiation so visitors would need protection. Astronomer Carl Sagan once suggested seeding hardy plants on Mars to darken the surface. This might produce a modest greenhouse effect to warm the planet. So go out on cool September nights and contemplate red Mars in the east. Imagine that it was probably once a very different place with a hospitable atmosphere and lakes with streams and...life. These are some of the discoveries our robotic explorers suggest to us. New missions from China, India and Japan will join American NASA robots on Mars in the near future. I wonder what they will find?

Dance of the Planets



Look for rusty Mars rising a little earlier in the east as September progresses. It is currently in front of the stars that we say belong to Pisces, the fish. Saturn and Jupiter continue to dominate the southern sky appearing a little above the steaming teapot of Sagittarius. A telescope is needed to see features on these planets. You’ll need a telescope that delivers least 50 times magnification.

On September 5, check out the interesting close visual pairing of Mars and the Moon, which will be about 3 days past full. Remember the Moon and Mars only *appear* close together.



On September 21 the Moon provides us with a bit of fun if you have sharp eyes or binoculars or a even small telescope. The Moon's own orbit around the Earth will cause it to pass in front of, or occult, a bright star that's part of the constellation called Scorpius. If skies are clear, start watching the crescent Moon around 8PM.



The star disappearing behind the Moon is the second brightest star in Scorpius, so it is designated as 'beta', the second letter in the Greek alphabet. It also has an Arabic name: Acrab, which means "scorpion". Seems fitting! Acrab is a double star so if you watch carefully, the star will give you a second 'wink' as the second point of light disappears behind the Moon's dark limb. In case you were wondering what is the brightest star (alpha) in Scorpius? It's Antares or "Enemy of Mars".

Do you know the importance of the next day, September 22? It's the autumnal equinox! On that day, at noon, the sun is seen directly overhead if you are standing on Earth's equator. The exact local time of the event is 9:31 Eastern Daylight Time. Of course, it's also the beginning of fall.

For more detailed celestial information, check out skyandtelescope.org.

Keep Looking Up!

Jeff