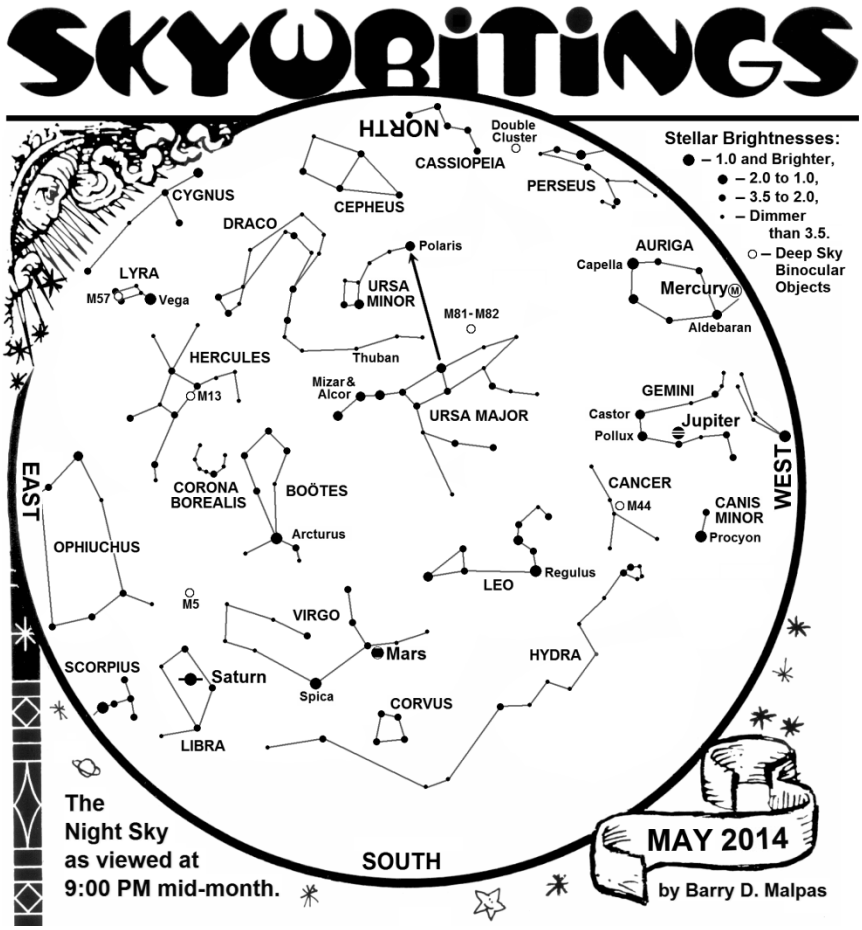
MYSTERIOUS MARS

By Barry D. Malpas – Special to the Williams-Grand Canyon News – 2014 May



Of all the planets, Mars has captivated the imagination of astronomers, as well as science fiction writers, as the most possible dwelling place for life in our solar system beyond Earth. Noted astronomers such as Sir William Herschel and others during the late 18th and early 19th centuries were eager to hypothesize on the possibility, and even the great probability, of intelligent life-forms on the red planet. With the “New Science” in its infancy, other nearby planets, the rings of Saturn, and even the surface of the Sun were not ruled out as acceptable places for life to thrive. In the late 19th and early 20th centuries Percival Lowell continued the quest giving as evidence the “canals” he believed he saw to be evidence of intelligent life.

As the science of astronomy advanced, it became less prone to fictionalized viewpoints and more rigorous in its methodology. More knowledge accumulated about the solar system from ground based observing as well as satellite data. The probability of life at all, let alone intelligent forms, within our solar system, decreased. The physical size of the life being searched for has also grown very small. But one of the main locations for the search still remains Mars, along with the moons Europa and Titan, as well as beyond our own solar system.

The biological testing results of the two early Viking spacecraft sent in the mid-1970s proved negative. Even the more recent Rover missions have found little evidence except proving that seas once existed on the Martian surface. However, scientists believe that there could still be some evidence of microbial life on some parts of the Martian surface, or possibly the existence of fossil evidence of some long extinct life-form which would not have been revealed in earlier experiments.

Even without the intriguing prospect of extraterrestrial creatures, the red planet still holds a fascination for observers. Mars, although not the brightest of the planets, varies more in its brilliancy than any other. Of the outer planets, Mars is also the most rapid in its movements across the sky. Even without a telescope, its motion this month against the stellar background is easily detected over the span of just a few days as it passes through the constellation Virgo.

For most of the time, Mars is a somewhat disappointing object to observe through a telescope. It appears as a rather featureless small reddish ochre disc. However, during a few months every two years, when both Earth and Mars are on the same side of the Sun (known as opposition), the apparent size of the planet is greatly increased. Since neither Earth nor Mars have orbits that are circular (their orbits are ellipses), there are times when Mars is at its closest to the Sun, while Earth is at its farthest. If this happens during opposition, the two planets can be separated by a mere 56 million miles, making viewing of planetary features quite impressive. Such an event occurs on average every 15 to 17 years.

Though Mars just passed opposition in April, it will still be in a favorable viewing position for the next few

months. With its distance near minimum, the planet will present a more detailed view of its surface. The polar caps, the seasonally changing irregular dark zones, sometimes massive global-wide dust storms, may be seen through moderately sized telescopes. To the experienced observer with the proper equipment, a few large craters and other detailed surface features have sometimes been observed.

This month, try to find the red planet in the sky just west of the bright star Spica in Virgo. If you have a free evening, bring your kids to the CAS Williams Star Party, or visit Lowell Observatory where they can learn more about this fascinating celestial neighbor. Who knows, maybe, some day, they might be the next life-form on Mars.