PISGAH
ASTRONOMICAL
RESEARCH
INSTITUTE

PARI

Text by Dr. Bob Hayward
Astronomer/Educator
Graphics by TheSky
Software Bisque

Mountain Skies

February 19, 2018

EARTH CHASES OUTER PLANETS AROUND THE SUN

The planets: The English word planet comes from the Greek word planētēs meaning "wanderer." This month the five visible planets are living up to that appellation. The Greeks noticed that, among the bodies in the heavens, all of them stayed put within their respective constellations except for seven from which, incidentally, we get the names of the days of the weeks. Of course, they included in their list of planets the brightest of them all, the sun and moon. In modern times those two don't fit our definition of a planet; so, we are left with the five naked-eye planets: Mercury, Venus, Mars, Jupiter and Saturn. Let's see how these "wanderers" are currently wandering in our night sky.

Venus passed behind the sun on January 9 as it moved from being our "morning star" to becoming our "evening star." It's not quite there yet but, by the end of the month, it will be just high enough to be spotted after sunset very low in the west. It will stand higher each night and remain there as our "evening star" into late September. Mercury is following Venus from around behind the sun. But, Mercury will remain elusive since it passed behind the sun just this past Saturday and will remain too close to our central star for observing until next month.

After midnight, the real parade begins. Tomorrow morning the giant planet Jupiter rises at 12:41 a.m. followed by the red planet Mars at 2:29 a.m. and the ringed planet Saturn at 4:03 a.m. All three of these planets are rising earlier each night, not due to their own motion, but due to that of the earth chasing them around the sun. By summer we will have all three of these beautiful planets joining Venus in the evening sky with even Mercury joining the party in late June and most of July. Since the earth is closer to the sun than these so-called "superior" planets, it will catch up with them one by one starting with Jupiter in November.

The stars: The bright stars of the winter skies are now becoming even more apparent. Orion the hunter can be found in the east as the sky darkens and serves as the central figure for our observing. Locate his belt marked by three bright stars in a row. Now, draw a line through his belt towards the west and you will come to a bright star, Aldebaran, the eye of Taurus the bull. A cluster of stars called the *Hyades* forms the face of the bull and can be seen in the form of a letter "V" with *Aldebaran* at the top of one side of the "V." Technically, Aldebaran is not a member of the Hyades but rather a foreground star, one in front of the Hyades.

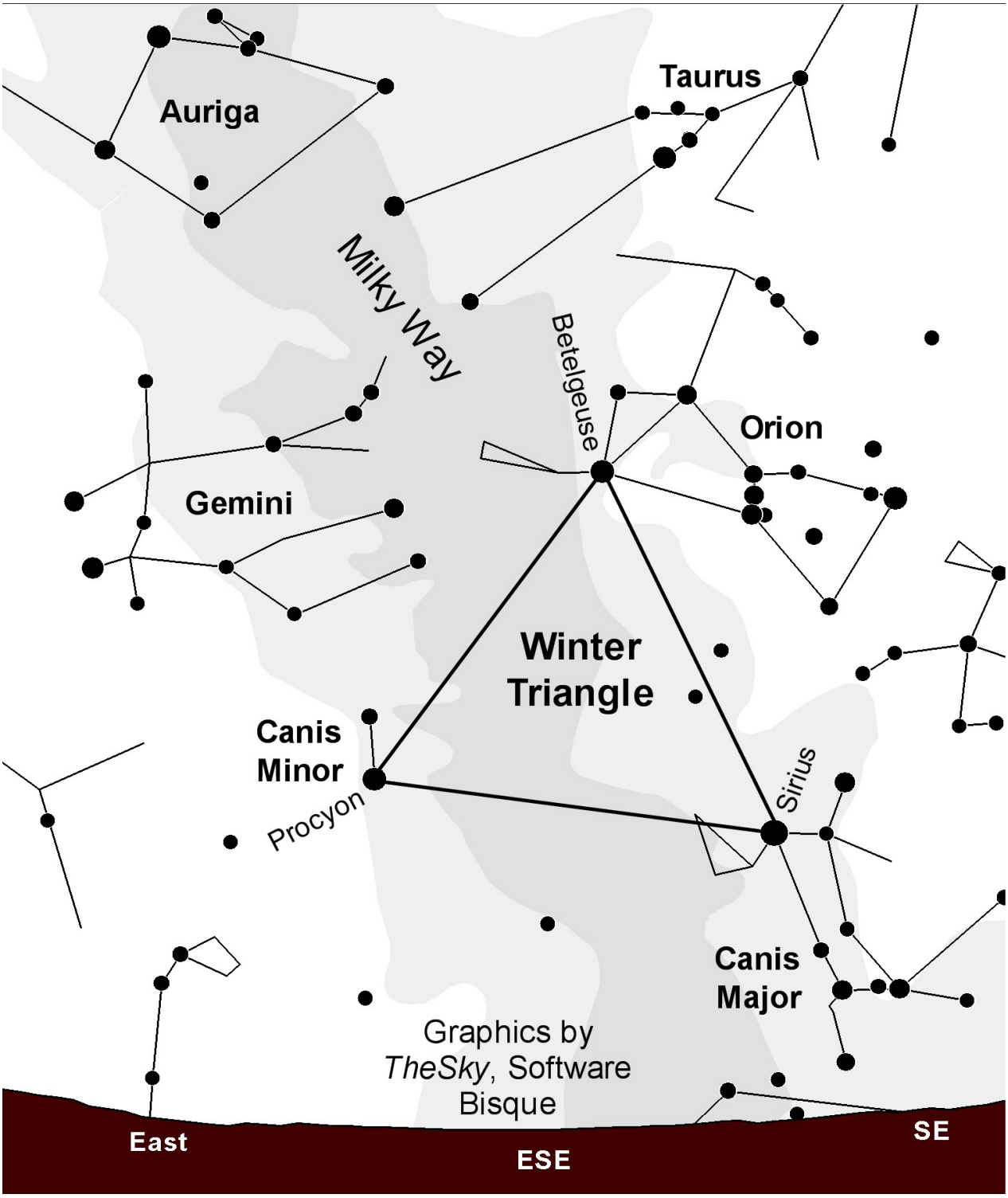
Go back to the belt of Orion and draw a line to the east. Well up in the southeast is a bright white star. This is *Sirius* the Dog Star. While Sirius appears to be the brightest star in the nighttime sky, it is not intrinsically

the brightest nor is it the closest to us. But it is a combination of both so that it appears to be the brightest; it is a white-hot star that is a little less than nine light years away, close as stars go. Sirius was known as *Sothis* to the ancient Egyptians and was a very important star to them because, when it rose just before the sun, called a "*heliacal rising*," it foretold the pending flood of the Nile River. It also gives rise to our term "dog days of summer."

To the north of the great dog Canis Major lies the dimmer but still quite noticeable star *Procyon*. As the risings of Sirius and Procyon are observed from mid-northern latitudes, Procyon comes up just before Sirius; thus, Procyon means "He who precedes." Procyon is the brightest star in the constellation of the little or lesser dog, Canis Minor, sometimes dubbed "The Pup." There is only one other moderately bright star in Canis Minor and, thus, the constellation looks less like a puppy than a hot dog. A triangle formed by the red star Betelgeuse in the shoulder of Orion with these two dog stars, Sirius and Procyon, is known as the *Winter Triangle*.

Celestial Calendar:

February 23, 3:09 a.m. EST – First Quarter Moon
March 1, 7:52 p.m. EST – Full Moon



* * * * * * * * * *

PARI is a public not-for-profit public organization established in 1998. Located in the Pisgah National Forest southwest of Asheville, NC, PARI offers STEM educational programs at all levels, from K-12 through post-graduate research. For more information about PARI and its programs, visit www.pari.edu.

For further information or questions about this *Mountain Skies* column, contact Dr. Bob Hayward at rhayward@pari.edu. Graphics produced with *TheSky* Astronomical Software, Software Bisque.