

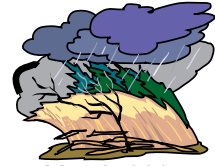


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Penobscot Valley Star Gazers

An Astronomical Society of Central Maine

The stormy March is come at last,
With wind, and cloud, and changing skies.
-William Cullen Bryant



March 2025

March Madness

The March 2025 meeting of the PVSG will be held at John Bapst Memorial High School on Monday the 10th at 6:30 pm. Zoom will likely be available. (Zoom meeting ID 862 9984 6478 Password: PVSG.) For the program, Dave will be presenting his cancelled talk from last year on Messier Marathons.

Thanks for last month's program go to Dwight for his presentation about his trip to Iceland last fall. And this reminder: April's meeting will be at the Versant Astronomy Center.



PVSG Monthly Meeting Minutes February 10, 2025

Note: Some of the information provided in these minutes are recorded out of order to allow for organizing them according to their normal meeting section.

The February minutes were unavailable.



Observe The Sky This Month

Some Selected Objects
March 2025

General sky comments – The major event this month is the total eclipse of the Moon on Friday the 14th. It is an early morning event with totality beginning at 02:26 EST and ending at 03:31 EST. Observation of the western zodiacal light (if your sky is dark) is once again visible this month starting on the 16th and continuing for the next two weeks. Also this evening the bright star north of the Moon is Spica in the constellation Virgo. Wednesday the 19th the moons Ganymede and Europa both throw shadows on the planet Jupiter starting at 01:43 EST. Thursday the 20th the vernal equinox is at 05:01 am EST or 09:01UT marking the beginning of spring. The waning full Moon is north of Antares in the constellation Scorpio. If you were in the Australia or New Zealand area you could observe the Moon occult bright Antares. Are you enjoying Daylight Savings Time? Yes or no? Before the April 14th meeting the Moon makes a close pass north of the Pleiades (M45) on Tuesday April 1st. Friday the 4th is first quarter Moon. Saturday the 5th Mars is 2° south of the Moon. Full Moon is Saturday the 12th and is the smallest full Moon of the year 2025.

Planets this month – Before the meeting on the 10th the first quarter Moon was on Thursday the 6th. The Full Worm Moon is on Friday the 14th, last quarter is on Saturday the 22nd and New Moon (lunation 1265) is on Saturday the 29th. Mercury has its best show of the year in the evening sky. On the 5th it reached peri-

helion. Three days later it reached its maximum distance from the Sun at 18° but was half as bright. Watch it fade in brightness the rest of the month to inferior conjunction on the 24th. Venus is still bright in the evening sky. It is making a dramatic dive toward the Sun to inferior conjunction between the 23rd and the 24th when Venus passes 8.4° north of the Sun. For a few days around those dates Jupiter can be seen in both the evening and morning sky. It must have been one of these times it was realized the morning and evening stars were one and the same. Mars is fading as it recedes from the Earth. It is in the evening sky in Gemini. Watch it make an ever changing triangle with Castor and Pollux. Jupiter is still bright in the evening sky in Taurus. Saturn is too close to the Sun to observe this month. When it emerges in the morning sky the rings will now be observed from the south side until 2039. This is the last time to easily observe Uranus (Οὐρανός) in the evening sky until July. Neptune is too close to the Sun to be seen being in conjunction on the 20th. Pluto is in Sagittarius beyond its viewing period.

Constellations for the month – March is the end of the winter constellations. We will start with another constellation that was part of the old constellation Argo Navis. It was renamed by Nicolas Louis de Lacaille from part of Malus, the Mast, to Pyxis Nautica, the Mariner's Compass. Pyxis is barely 20° above the horizon for Maine and the two main stars are only 4th magnitude and at the bottom of the constellation. Puppis and Monoceros next door we observed last month. The first hint of the spring constellations is Hydra, the Female Water Serpent. We must travel about 25° through fields of mostly stars until we reach the head of Hydra, the female Water Serpent, a grouping of six, 3rd and 4th magnitude stars in a distinctive asterism easily fitting in most binocular fields. For more about Hydra read below in the featured constellation section. Above Hydra's head is the Zodiac constellation Cancer, the Crab. Cancer contains the naked eye visible open cluster, M 44, Praesepe (Latin for Manger) also called the Beehive. Cancer the Crab is a dim constellation with the brightest stars looking like an inverted Y pattern with M 44 at the junction of the three lines. Cancer is the dimmest Zodiac (path of the Sun) constellation and the first spring constellation. The constellation is best known for hosting M 44 but also contains M 67 another open cluster. It can be located 2° W of Acubens alpha (α)

cancri. In Greek mythology Cancer is the crab sent by the goddess Hera (a sworn enemy of Hercules) to distract him while he dispatched the many-headed water monster Hydra. Hercules was not very distracted as he either kicked it away into the stars, crushed it under his foot, or Hera put Cancer into the stars in a dim part of the sky because the crab was unsuccessful with his mission. The two stars on either side of M44 (Praesepe, Manger or Beehive) have their own mythology. According to Eratosthenes when the Titans were overthrown and the gods and giants began fighting, the gods Dionysus and Hephaestus came in riding on Asses to join the fight. The braying of the Asses was so loud it scared off the giants who thought monsters were coming to fight. To honor the Asses they were put in the sky by Dionysus on either side of the Manger. The names of the stars are Asellus Borealis, [north Ass] gamma (γ) cancri and Asellus Australis [south Ass] delta (δ) cancri. Above Cancer is the eastern half of Lynx including the alpha (α) star at the very east end of the constellation observed last month. Cancer contains seven multi-star system stars observable by anyone with a 6" or larger telescope. To observe start with the north star of Cancer 4th mag Iota (ι) cancri. It is double star of yellow and white. The next star system is featured below. Use a star atlas to find and observe the others. They are Iota (ι), Sigma (σ) 3 and 4, Phi (ϕ) 2, and Σ 1311.

Featured star – Zeta (ζ) cancri is a quadruple star system first observed by William Herschel located 3° west of gamma (γ) cancri the middle star of the constellation and listed as a triple star system in his first list of double stars published in 1782. In 1731, he noted an irregularity in the motion of the third star but thought it was an observational error. Forty-four years later the Russian astronomer Georg and his son Otto Struve had determined Herschel's observations were correct and component C has a companion. The almost circular orbit shows we are looking down on the Zeta system about pole-on. More modern observations have determined this star system may contain as many as six components and maybe more. Zeta is around 85 light years distant and the two closest stars are at a distance comparable to the distance between our sun and the planet Uranus with the other components much further distant. When you think of all the possibilities with this system it becomes mind-boggling.

Featured Constellation – Hydra, the (Female) Water Serpent is the largest and longest of the constellations. The brightest star and heart of Hydra is Alphard, alpha (α) Hydrae at mag 2. Alphard means "The Solitary One" because of the lack of bright stars in the area. Its red-orange glow makes it easy to identify SE of the "Beehive". Below the "Beehive" is the head of Hydra, the Water Serpent. It is a grouping of six, 3rd and 4th magnitude stars in a distinctive asterism easily fitting in the viewing field of most 7x to 10x binoculars. Below this grouping look for M48 (NGC 2548) a large open cluster covering about ½ degree in the sky with 50 to 80 stars noted, some in lanes. To find this cluster look

10° SE of the head of Hydra. Because Hydra covers nearly seven hours of right ascension we will note the two other Messier objects it contains as we come to them. For now the head, the heart, and the open cluster M48 are the objects for this month. Hydra also contains a good number of interesting galaxies I have yet to explore.

Mythology – The present day is most familiar with the demigod Hercules killing Hydra as one of his seven labors. Hydra would grow two heads for every one cut off making it a problem. Hercules had no problem because he burned the spot where the heads were severed making it impossible for them to regrow. Hercules was not the first hero to slay a multi-headed serpent. Mesopotamian legend has their god of war and agriculture Ninurta killing a multi-headed serpent written on a tablet circa 2500 BC.

Featured Messier object – M67 is an open cluster in the constellation Cancer. It is usually overlooked because of the easily seen M44 Praesepe – Beehive. 7° SSE of M44 is Acubens the alpha (α) star of Cancer, a little over 1° W is M 67. I counted over 100 stars in M67 with the 8" Clark refractor at the University of Maine before giving up. The cluster is listed to have 500+ stars. It does appear to be about the same age as some globular clusters making it one of the oldest open clusters. Do not miss this one. It is easy to find slightly less than 2° west of Acubens, alpha (α) Cancer. M67 is an open cluster easily confused with an evaporated globular cluster. If you have seen my presentation on globular clusters you should have absorbed the way to find out if a star cluster is an open cluster or a globular cluster. Comparing H-R (Hertzprung Russell Diagrams) aka Color-Magnitude diagrams of M67 and a globular cluster such as M3 in Canes Venatici, M3 has a distinctive horizontal branch of giant stars and other characteristics making it a globular cluster while M67 does not have these characteristics.

Other objects of interest – Iota, the northern star of the inverted "Y" of Cancer is a beautiful double of gold and blue reminding some of the more famous Albireo of Cygnus.

Remove the lens cover, come see the night sky
Bill Shackelford