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Penobscot Valley Star Gazers

An Astronomical Society of Central Maine

Would you think it? Spring has come.
Winter's paid his passage home;
Packed his ice-box—gone—half way
To the Arctic Pole, they say.
- Christopher Cranch



March 2021

~~Book and Binocular~~

The March 2021 meeting of the PVSG will be held on Monday the 8th at 6:30 pm via Zoom. The doors will open a little after 6:00 if you want to arrive early for some socializing. The minutes record that Bill asked people to bring binoculars to show. Also, Alan offered a book report, but has since postponed it to April.

Thanks for last month's meeting go to all who contributed to the various discussions.



Various Topics

PVSG Monthly Meeting Minutes
February 8, 2021
Zoom

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.

Dave reported that this month's total is \$448.67 after paying the yearly insurance policy premium. The Treasurer's report was unanimously accepted.

Observing Reports:

Dave Clark said he had been observing the moon and it's changes in Altitude. **Alan Davenport** said he joined a 3 hour virtual public star party held on Zoom and also on You Tube, hosted by the Kalamazoo Astronomical Society. He showed numerous pictures taken during the nights viewing. They were stunning photos and we enjoyed calling out the Messier or NGC numbers or common names of the images Alan was displaying. **Dwight** spoke about being contacted by a local campground interested in having summer star parties using his Stellina telescope. Dwight mentioned how late summer parties have to start due to the late sunset. Dwight also showed pictures from the Tri-Valley Club and compared them to what is produced from his Stellina telescope.

Limestone Rocket Launch: The group discussed the recent launch of a rocket from the former Limestone base. The rocket was launched using biofuel by Blushift Aerospace.

Meeting:

Call to Order and Welcome to Visitors

The meeting was held by Zoom video-conference and called to order by Dwight Lanpher at approximately 6:32 PM.

Attendance:

Members:

Dwight Lanpher – President
David Clark - Treasurer
Phil Normand – Secretary
Mike Harrington
Alan Davenport
Jill McDonald
Bill Shackelford
Ralph Foss
Ralph Mallett
Don Krause
Don Ferrell
Wade & Donna Smith

Programs and Astro Shorts

Program: There was no planned program for this meeting and a general discussion took place.

Secretary's Report and Acceptance of Minutes

Minutes were unanimously accepted.

Treasurer's Report

Old Business

None

New Business

Bill Shackelford asked if members could bring their binoculars next month for a discussion of what folks have and like to use. Alan said he would give a book report next month as well.

Adjournment

The meeting adjourned at approximately 7:42 PM.

Phil



Observe The Sky This Month Some Selected Objects March 2021

General sky comments –

This month daylight savings time begins on Sunday morning the 14th and spring starts on Saturday the 20th at 5:37 am EDT or 9:37 UTC with the spring equinox. Albert Einstein was born on the 14th in 1879. This month is one of the two times in the year to observe the zodiacal light if your sky is dark. To observe it look to the west in the 1/2 hour after the end of evening twilight. The zodiacal light is a large pyramid of light not to be confused with twilight. How amazing are the pictures of the landing of the Perseverance rover on Mars and they were taken with off the shelf cameras. “Percy” appears to be in excellent health, has shed all camera covers, and has taken a first drive. For you early risers the planets Mercury, Jupiter, Saturn, and the Moon will all be grouped together on the morning of the 11th.

Planets this month – Before the meeting on the 8th the last quarter Moon was on Friday the 5th. New Moon is on Saturday the 13th, first quarter Moon is on Sunday the 21st, and the full Moon is on Sunday the 28th. Mercury begins the month in the morning and on the 6th it was at mag. +0.0 and 27° maximum elongation. The waning crescent Moon passes Mercury 4° to the south on the 10th – 11th. It was in close conjunction with Jupiter on the 5th only 0.3° apart. Venus is too close to the Sun to be seen. Mars is in the constellation of Taurus, the Bull between the open clusters of the Pleiades and the Hyades. Note the difference in color between Mars and the stars Aldebaran in Taurus and Betelgeuse in Orion all noted for their red color. Jupiter was 0.3° from Mercury on the 5th now withdrawing from the Sun and becoming more prominent in the morning sky. Saturn is also becoming more prominent in the morning sky now in the constellation of Capricornus. Uranus is difficult to observe in the evening twilight. Neptune is too close to the Sun to be observed. Pluto is in Sagittarius and too low to be observed.

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 Lacaille from part of Malus, the Mast, to Pyxis Nautica, the Mariner’s Compass. Pyxis is barely 10° above the horizon for us and the three main stars are only 4th magnitude. About 25° north of Pyxis is the first hint of the spring constellations. This is the head of Hydra, the 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, M44, 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 M44 at the junction of the three lines. Cancer is the dimmest Zodiac (path of the Sun) constellation. The constellation is best known for hosting M44 but also contains M67. 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 donkeys to join the fight. The braying of the donkeys was so loud it scared off the giants who thought monsters were coming to fight. To honor the donkeys they were put in the sky by Dionysus on either side of the manger. The names of the stars are Asellus Borealis, [north donkey] gamma (γ) Cancer and Asellus Australis [south donkey] delta (δ) Cancer. Above Cancer is the eastern half of Lynx including the alpha (α) star at the very east end of the constellation observed last month. Many of us do not observe enough beautiful individual and multiple stars in our observations each month. Let’s look at some objects in Lynx we did not observe last month. Among these are several double or multiple star systems including a nice double one just 1° NNW of alpha (α) Lynx. This pair of white stars can be separated with small scopes using high power. Then 1° north of this star is the magnitude 3.8, 38 Lynx, a pair of white and red stars separated with moderate power. 4° NE of 38 is a triangle of 4th mag. stars. Less than 1° above the western of the three stars is a triple system of two easily separated yellow stars and a third yellow star at a larger distance.

Featured star – Zeta (ζ) cancri is a quadruple star system first observed by William Herschel located 3° west of gamma 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) Wa-

ter 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, a grouping of six, 3rd and 4th magnitude stars in a distinctive asterism easily fitting in the fields 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. We are 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 heads 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. Hydra also contains a good number of interesting galaxies I have yet to explore.

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 M67. I counted over 100 stars in M67 with the 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 and 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 who 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 (Hertzsprung 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.

Lens cover removed, enjoy the night
Bill Shackelford