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Penobscot Valley Star Gazers

An Astronomical Society of Central Maine

March 14

1835: Giovanni Schiaparelli born.

1879: Albert Einstein born.

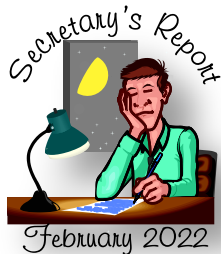
1934: Gene Cernan born.

1995: Soyuz TM-21 launched, first Russian mission with American on board.



March Meeting

The PVSG will meet remotely via Zoom on Monday, March 14, 2022 at 6:30 pm (**Meeting ID 862 9984 6478 Password: PVSG**). Doors will open around 6:00 for some socializing before the meeting. We do not know what the program will be. Thanks for last month's program go to all who shared a bit of knowledge.



No Profit Here

PVSG Monthly Meeting Minutes
February 14, 2022
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.

Meeting:

Call to Order and Welcome to Visitors

The meeting was held by Zoom videoconference. The meeting was brought to order by Don Ferrell at approximately 6:35 PM.

Attendance:

Members Online:

- Don Ferrell - President
- Andy Brown – Vice-President
- David Clark – Treasurer
- Phil Normand – Secretary
- Bill Shackelford
- Mary-Frances Beesorchard
- Don Krause

Presentation

Don F. started the meeting with a report on what he had found out about the need for our club to file non-profit or not for profit tax status. He consulted CPAs and they felt that we are basically a group of friends enjoying astronomy together. We do not fundraise and we do not charge attendees to star parties. Dave mentioned that there is no historical record and that we should keep this information handy. Don K. suggested we add it as a paragraph in the by-laws.

Secretary's Report and Acceptance of Minutes

Last month's minutes were not discussed.

Treasurer's Report

Dave stated that our liability insurance bill has been paid. Dave stated we have \$326.17 in our

checking account. Don K. asked about the discussion from last month on PayPal. Phil mentioned that due to the size of our group, we might not need to set up a PayPal account. There was no further discussion on PayPal.

Observing Reports:

Dave has been looking at the constellation Scorpius in the early morning hours. **Phil** has done some observing using binoculars to check out targets for an article he wrote for the court newsletter. **Don F.** has been observing the moon using his Dobsonian.

Old Business

Don F. reported on what he had found out about the need for our club to file non-profit or not for profit tax status. He consulted CPAs and they felt that we are basically a group of friends enjoying astronomy together. We do not fundraise and we do not charge attendees to star parties. Dave mentioned that there is no historical record and that we should keep this information handy. Don K. suggested we add it as a paragraph in the bylaws.

New Business

Phil reported that he received a package from the Astronomical League, likely due to our placing more items on our NSN Calendar. The package was the "Big Astronomy" tool kit which can be used for educational outreach. Dave mentioned that Phil should make Scott aware of it in case he could use it in his classes. Phil mentioned that it appeared to be geared towards younger ages and Dave suggested that maybe the Challenger Center could make use of it.

Don F. asked about when we might be able to get back together to do some viewing. Dave stated that the potential for transmission through eyepieces is still concerning. Phil felt that as Spring progresses we might be safe to get together but everyone will have to determine their level of comfort. Don K. stated he felt transmission rates would keep decreasing.

Dave asked what offices were up for election this June. Phil mentioned that Secretary, Treasurer and Member at Large are up for election. Phil mentioned that due to a change in his job status, he would likely not be seeking to continue as Secretary. Dave mentioned that usually a committee is put together to come up with potential candidates for open offices.

Dave asked if there were any requests for presentations. Andy said he would like a presentation on favorite software tools for observers. Bill said there was a good article in the latest Reflector magazine on "How cold is cold". Bill also mentioned he has a prepared presentation on Globular Clusters that he could present to the group.

Adjournment

The meeting was adjourned at approximately 7:35 PM

Phil



Observe The Sky This Month

Some Selected Objects

March 2022

General sky comments – This month daylight savings time begins on Sunday morning the 13th move your clocks forward one hour at 2am. Spring starts on Sunday the 20th at 11:33 am EST or 11:33 UTC at the vernal equinox. Robert Goddard launched the first liquid fueled rocket on March 16th in 1926. This month is one of the two times in the year to observe the zodiacal light if your sky is dark. (See APOD for March 1) Begin your observing on the 20th and continue until the second of next month. I hope we do join with the planetarium and the Challenger Center for the NASA First Light event for the JWST. The galaxy most likely to be observed is NGC 6217 a barred spiral in Ursa Minor. It is a circumpolar galaxy easily observable by amateur and professional astronomers with a 4" or larger telescope. I have observed it and it is a beautiful galaxy although it takes a larger telescope to easily make out the bar. NGC 6217 is on the JWST list of first objects to be observed.

Planets this month – Before the meeting on the 14th the new Moon (lunation 1227) was on Wednesday the 2nd and first quarter was on Thursday the 10th. Full Moon is on Friday the 18th and last quarter Moon is on Thursday the 24th. Mercury brightens through the month but becomes lost in the morning twilight by mid-month. Venus is bright in the morning sky along with Mars and reaches maximum western elongation on the

20th at 47° from the Sun. It is in conjunction with Saturn on the 29th 4° to the north. Mars is the constellation of Capricorn south of much brighter Venus all month. The waning crescent Moon passes to the south with Venus and Saturn both close by. Jupiter is in conjunction with the Sun but becomes just visible at the end of the month in morning twilight. Saturn is also becoming more prominent in the morning sky joining Venus and Mars late in the month in a single binocular field. The Moon passes to the south of the group of planets on the 28th. Venus is 2° north of Saturn on the 29th. 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 by most observers.

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, 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. 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 multi-

ple 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 astronomers 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, 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. 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 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. 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 M 67. 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. 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 (Hertz-sprung 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.

Remove the lens cover, come see the night sky

Bill Shackelford