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Penobscot Valley Star Gazers

An Astronomical Society of Central Maine

Shout and sing for the Spring is here!
Laugh and dance for Winter's away!
-Agnes Mary Frances Robinson



March 2024

March Meeting

In person meetings of the PVSG will continue with this month's at John Bapst Memorial High School on Monday, March 11th at 6:30 pm. Again, we assume Zoom will be available also. (Zoom meeting ID 862 9984 6478 Password: PVSG.)

Thanks for last month's program go to Shawn for the planetarium show "Spark, The Universe in Us."



PVSG Monthly Meeting Minutes February 12, 2023

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 at the Versant Astronomy Center, Jordan Planetarium and by Zoom videoconference. The meeting was brought to order by Don Ferrell at approximately 6:30 PM.

Attendance:

In Person:

Don Ferrell – President
Jeff Cunningham – Vice-President
Phil Normand – Secretary
Shawn Laatch
Andy Brown
Wade & Donna Smith
Dwight Lanpher
Jeffrey Waring
Don Krause

Visitors:

Sophia Davis

Online:

Dave Clark – Treasurer
Scott Burgess
Ralph Mallett
Bill Shackelford

Presentation

Shawn presented a program from the California Academy of Sciences, San Francisco Planetarium called "Spark, The Universe in Us" that has not yet been released. They asked Shawn to view and provide feedback. The presentation explored the life cycle of stars and how all the elements were initially produced that make up the Earth and all life on the Earth.

Secretary's Report and Acceptance of Minutes

No vote taken on the minutes.

Treasurer's Report

Dave reported through the ZOOM chat window that this month's balance is \$811.97.

Club Liaison Report:

No report this meeting.

Observing Reports:

Don mentioned he is in the process of rebuilding his Dobsonian mount. Observations were discussed by the membership but not picked up by the microphone so they are not recorded in these minutes.

Old Business

A discussion was held about our club insurance policy, since it is renewal time and our current provider will not be offering coverage any longer. There is another company that may be available to provide similar coverage. Don spoke with a local provider who quoted a price about 4 times higher than what we have been paying.

New Business

The members discussed plans for the eclipse. Dwight said he would be starting in Houlton, but would consider Jackman or Lac Magentic, Canada dependant on the weather.

After the presentation, Shawn discussed what to expect for the April 8th total eclipse. Getting into the path of totality will provide the viewer an experience to remember. Shawn said the university is partnering with the town of Jackman. There will be viewing the night of April 7th and then the eclipse event at the town center on the 8th.

The Jordan Planetarium will have several presentations in March leading up to the eclipse. Check out the Versant Astronomy Center web site for all the information.

Shawn talked a bit about what happens as totality begins: The color of the sky changes, the temperature drops, the wind dies down, birds and animals get quiet, stars and bright planets are visible.

Shawn also mentioned that on Friday nights, the Clark Observatory is open to the public.

Don also mentioned that the Blue Hill Library is holding an eclipse party and looking for someone to help out. He said he would be willing to help out.

Jeff asked if it was OK to put the location of Shawn's uMaine eclipse watching gathering on the website. Shawn said that it was OK to do this.

Scott will double check with John Bapst to see if we can start meeting in person again at the high school.

Sophia Davis introduced herself and said she uses an 8" dobsonian scope to visually observe.

Upcoming Calendar of Events

March 9th (Saturday) – Observing with CMAS at Brower Observatory, Whitefield

April 8th – Total solar Eclipse

April 13th (Saturday) – Wiscasset, Waterville & Farmington Railway, Alna (CMAS)

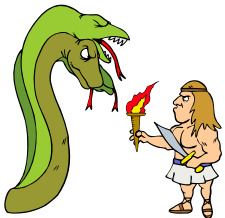
April 20th (Saturday) – Possible rain date or second date at the railway. If not, another location will be submitted (CMAS)

May 4th (Saturday) – Observing with CMAS at Galaxy Quest, 84 Vancycle Road Lincolnville, ME 04849

Adjournment

The meeting was adjourned at approximately 8 PM

Phil



Observe The Sky This Month Some Selected Objects March 2024

General sky comments – The vernal equinox is on Tuesday, March 19th at 11:06 pm EDT, or Wednesday the 20th at 03:06 am UTC, marking the beginning of spring. Robert Goddard launched the first liquid fueled rocket on March 16th 1926. Observation of the western zodiacal light (if your sky is dark) continues from last month until about the evening of the 12th this month. It is once again visible this month starting on the 27th and continuing for the next two weeks. Look for the Moon to be close to the Pleiades on Friday the 15th. On Tuesday the 19th the bright star north of the Moon is Pollux in the constellation Gemini. The waning Moon is south of Antares in the constellation Scorpio Saturday the 30th. If you were in warm Micronesia you could observe the Moon occult bright Antares. There is also a

penumbral eclipse of the Moon the night of the 25th visible from Maine. It is a deep penumbral eclipse. A slight darkening of the NE edge of the Moon should happen near mid-eclipse around 3am. Are you enjoying Daylight Savings Time?

Planets this month – Before the meeting on the 11th the last quarter Moon was on Sunday the 3rd. New Moon (lunation 1252) is on Sunday the 10th. First quarter Moon is on Sunday the 17th. Full worm Moon is on Monday the 25th.

Mercury is emerging into the evening twilight for the first two weeks of the month. On the 17th it reaches its brightest at 16° from the Sun at mag -0.9. A week later it reaches its maximum distance from the Sun at 19° but is half as bright at mag -0.1. This is the best view of Mercury this year. Watch it fade in brightness the rest of the month.

Venus is still bright in the morning sky hanging low. It has a close conjunction of 0.3° with Saturn on the 22nd. It is only 20° from the Sun so difficult to observe.

Mars is easy to identify in the morning sky though tiny and not of much interest.

Jupiter is still bright in the evening sky getting closer to the sun every day. A very thin crescent Moon passes 4° N on the 13th.

Saturn is emerging from its conjunction with the Sun and becomes visible during the last half of the month in morning twilight.

Uranus (Οὐρανός) in the evening sky is becoming closer to the Sun being only 39° away on the 31st.

Neptune is too close to the Sun to be seen being in conjunction on the 17th. Pluto is in Sagittarius.

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 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 six double 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.

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.

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 re-grow. 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 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 (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.

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