



Penobscot Valley Star Gazers

An Astronomical Society of Central Maine

<http://www.gazers.org>

March 2023

March 2023 Meeting

The next meeting of the PVSG will be held via Zoom (and maybe also in person at John Bapst) on Monday March 13th at 6:30 pm. (Meeting ID 862 9984 6478 Password: PVSG.)



PVSG Monthly Meeting Minutes

February 13, 2023
Nova Scotia Observatory Visit

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.

concluded the presentation showing a time lapse video of the observatory overnight.

Secretary's Report and Acceptance of Minutes
Minutes were unanimously approved for January.

Treasurer's Report

Dave stated that we have received confirmation that our insurance payment has been paid and that \$447.97 remains in the treasury. Dave mentioned that the next payment will be Astronomical Dues in June. The treasurer's report was unanimously accepted.

Club Liaison Report:

None this month

Observing Reports:

Andy mentioned that he tried to observe the comet on Superbowl night. Unfortunately there was a persistent cloud and he was unsure if he was seeing the comet. **Dave** said that he had observed the comet 4 times. He also said that he heard from the wife of Doug Rich who said that they were able to view the comet. **Dave** also viewed several Messier objects including the Orion Nebula, the Andromeda Galaxy, M36, M37, & M38 in Auriga and M81 & M82 in Ursa Major. **Bill** saw the comet and about 50 stars in the Pleiades in an observing session with his binoculars mounted on his parallelogram mount. **Wade** said he and **Donna** viewed the comet and enjoyed watching Mars passing through the constellation of Taurus.

Old Business

Dwight displayed the banners that he printed out on his plotter. One is 24 by 36 and the other is 24 by 42. Dwight will add grommets to the corners of the banners.

New Business

Shawn Laatsch has offered to host a meeting on April 10th or May 8th at the Jordan Planetarium. After discussion, the group chose the May 8th date.

Meeting:

Call to Order and Welcome to Visitors

The meeting was held by Zoom videoconference. The meeting was brought to order by Andy Brown at approximately 6:45 PM.

Attendance:

Online:

Andy Brown – Vice-President
Dave Clark – Treasurer
Phil Normand – Secretary
Mary-Francis Beesorchard
Bill Shackelford
Wade & Donna Smith
Dwight Lanpher
Don Krause

Guests:

None

Presentation

Dwight travelled last summer by the CAT ferry from Bar Harbor to Yarmouth, Nova Scotia. Dwight was attending a musical show and also visited the Big Sky Eye Observatory in Quinan, NS about a half hour drive east from Yarmouth. The location has true Bortle 2 Class dark skies. The observatory is run by Tim Doucette. They have a Meade 16" Lightbridge, a Lunt Solar scope and others. In the dome there is a Celestron C14 SCT. The Dome incorporated a bar coding system to keep the dome opening in sync with the direction being pointed at by the telescope. Dwight showed the lodging arrangements available at the location including inflated bubbles and cabins. Dwight showed some Astro images that were displayed at the observatory from the Celestron C14 telescope. Dwight

Andy brought up a topic offered by Dave about Club Logo T-Shirts. This was done as a remembrance of past meetings when Carolyn Vose would bring it up.

The group discussed what has been done in the past for clothing with the club logo. A business in Brewer called Logo Motion was used in the past for one-of clothing and hats. We can discuss more at the next meeting.

Upcoming Calendar of Events

The Maine State Star Party will be August 11-12, 2023; CMAS is having a star party at Galaxy Quest on February 18th in Lincolnville. There will be another CMAS star party at the Night Owl Observatory in Litchfield on March 18th. Another one at the Foss Hill Observatory in Rome Maine on April 18th. The Spring International Astronomy Day is April 29th with Astronomy Week running April 24th – 30th.

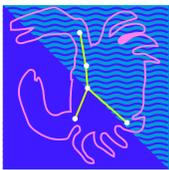
Millbridge Days Solar viewing on July 29th. The Margareta Days at the University of Maine, Machias and the International Festival in Calais. The actual days have not been published yet. There will be a star party at the Woodlawn Observatory in Ellsworth sponsored by Nancy Hathaway for Dark Skies Maine on September 2nd.

March 13th, 2023 will be the next monthly meeting. Andy will check to see if Scott wants to hold a hybrid meeting with in-person gathering at John Bapst.

Adjournment

The meeting was adjourned at approximately 8:10 PM

Phil



Observe The Sky This Month

Some Selected Objects

March 2023

General sky comments – This month daylight savings time began on Sunday morning the 12th and you moved your clocks forward one hour at 2am. Spring starts on Monday the 20th at 04:24 pm EST or 21:24 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) You could have begun your observing on the evening of the 9th. Now continue until Thursday the 23rd. There is a new long period Comet with the possibility of reaching magnitude 0 or -1 by October of 2024. It is now called C/2023 A3 (Tsuchinshan-ATLAS) It is

expected to arrive in the morning sky in the fall of 2024 and make its closest approach to the Sun on October 10th when it may be visible during the day. On October 12th it should appear in the evening sky where it may remain until the end of the month. It should pass close to the Earth (0.48 AU) and be easily visible around that time. Of course comets are unpredictable and are subject to change. Stay tuned.

Planets this month – Before the meeting on the 13th the full Moon was on Tuesday the 7th. Last quarter Moon is on Tuesday the 14th. New Moon (lunation 1240) is on Tuesday the 21st and first quarter Moon is on Tuesday the 28th. Mercury is lost in the morning twilight at the first of the month. After passing through superior conjunction on the 17th it returns to the evening sky in the last few days of the month. It passes only 1.5° N of Jupiter when the two are only 11° from the Sun. Venus is bright in the evening sky where it soars northward up the ecliptic from +4° declination on the 1st to +18° on the 31st. Its elongation from the Sun goes from 31° to 37° and reaches maximum western elongation on the 20th at 47° from the Sun. The waxing crescent Moon has an extremely close pass on the 24th. This will please our Arab friends. Venus passes only 1.3° from Uranus (Οὐρανός) from the 31st to the 1st. Jupiter has a close encounter with the crescent Moon on the 22nd but by then it is only 15° from the Sun and both will be difficult to spot. Saturn is slowly becoming more prominent in the morning sky having begun during the second week of the month and the waning crescent Moon passes 4° to its south on the 19th. Uranus (Οὐρανός) in the evening sky is becoming closer to the Sun being only 36° away on the 31st. Neptune is too close to the Sun to be seen being in conjunction on the 16th. 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. To the north and west are the constellations of Puppis and Monoceros we observed last month. Above Pyxis is the first hint of the spring constellations with the constellation of 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. 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 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. 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 $\frac{1}{2}$ 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 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 (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.

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