



# Penobscot Valley Star Gazers

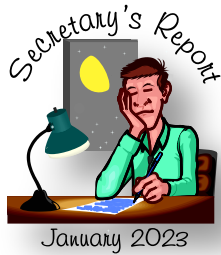
An Astronomical Society of Central Maine

<http://www.gazers.org>

February 2023

## February 2023 Meeting

The next meeting of the PVSG will be held via Zoom on Monday February 13<sup>th</sup> at 6:30 pm. (Meeting ID 862 9984 6478 Password: PVSG.)



### PVSG Monthly Meeting Minutes January 9, 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.

### Treasurer's Report

Dave stated that we have \$771.17 in the treasury. Dave mentioned that the insurance payment needs to be paid in the amount of \$323.20. The membership voted to pay the insurance bill.

### Club Liaison Report:

None this month

### Observing Reports:

**Phil** said his Skywatcher Solar Quest mount arrived and he tested it out on his Lunt 40mm scope. He's happy to report it works well. **Dwight** reported that due to cold weather, the last time he observed was at Lenny Arsenault's Night Owl Observatory. **Dwight** also mentioned that he has acquired another solar telescope. It is a Lunt 152mm and **Dwight** showed a picture of the scope mounted on his iOptron 8900 mount. **Don** asked **Dwight** how his Stellina handles the cold. **Dwight** said the scope has worked in 20 degree weather but his iPads shut down when it gets that cold. **Dwight** showed the group an iPad cover to which he added a resistor array generating about 8 watts of heat.

### 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 6:42 PM.

#### Attendance:

##### Online:

**Don Ferrell – President**  
**Andy Brown – Vice-President**  
**Dave Clark – Treasurer**  
**Phil Normand – Secretary**  
**Mary-Francis Beesorchard**  
**Bill Shackelford**  
**Ralph Mallett**  
**Dwight Lanpher**  
**Don Krause**

#### Guests:

None

### Presentation

Dave presented some images from APOD for discussion including one that looked like something from an early Star Trek episode. Dave also showed a high resolution image of the Andromeda galaxy showing a newly discovered arc of Oxygen gas above the galaxy. Dave then showed a short video of Jupiter and 2 of its moons showing one passing by the other. Dave informed us that the video was created from 4 still pictures taken by the Cassini probe. Dave then showed an image of comet ZTF which may be naked eye visible late in January or early February.

### Secretary's Report and Acceptance of Minutes

Minutes were approved for November and December.

### Old Business

Phil asked Dwight if he is still able to print a canvas banner as a test. Dwight agreed to give it a try and will get back to the group. A discussion about the logo took place and Phil said he would try to clean up the logo and get it to Dwight.

### New Business

Dwight offered to do an Astro short presentation titled "A visit to the Deep Sky Eye Observatory in Quinan, Nova Scotia".



### Adjournment

The meeting was adjourned at approximately 8:04 PM

Phil



## Observe The Sky This Month

### Some Selected Objects

#### February 2023

**General sky comments** – Observing comet ZTF (C/2022 E3) was the big activity early in the month and I trust many of you were able to observe it near Mars this past weekend. The Full Moon on the fifth was the smallest of the year. While you are looking to catch your last glimpse of comet ZTF look for the zodiacal light in the west extending upward in a broad band from the horizon. Don't confuse it with the remaining glow of the setting Sun. Look for it evenings until the 21<sup>st</sup>. After then the new Moon will begin to interfere. This is also a good time to observe Mercury in the morning sky while it is close to 20° high. Let the waning crescent Moon be your guide when it passes 4° to the south on the 18<sup>th</sup>. Around the 19<sup>th</sup> tides will be higher with the Moon at perigee. That Sunday morning might be a good time to drive to the coast to observe larger than normal surf and waves.

**Planets this month** – The full Moon was on Sunday the 5<sup>th</sup>, and last quarter Moon is on Monday the 13<sup>th</sup> the day of our next online meeting. The new Moon (lunation 1239) is on Monday the 20<sup>th</sup> and, the first quarter Moon is on Monday the 27<sup>th</sup>. Mercury is in the morning sky all month. It was almost 25° western elongation on the 1<sup>st</sup> of the month at mag. -0.2 before falling to 14° on the 28<sup>th</sup> at Mag. -0.5. A thin waning crescent Moon passes 4° to the south on the 18<sup>th</sup>. Venus is rapidly climbing in the evening sky. Venus is in conjunction with Neptune on the 15<sup>th</sup> at a distance of only 0.01° when both objects are 27° from the Sun. The 12 magnitude difference in brightness will make this an extremely difficult conjunction to observe. Venus has a conjunction of 2° with the waxing crescent Moon on the 22<sup>nd</sup> but is best observed on the evening of the 21<sup>st</sup> in the Western Hemisphere. Mars is in Taurus all month and remains well placed for viewing in the evening sky fading in brightness as it retreats from Earth. This would be a great time to compare the fading brightness of Mars with the nearby red stars Aldebaran and Betelgeuse. The waxing crescent Moon passes just 2° to the north of Mars on the 28<sup>th</sup>. Jupiter is slowly being overtaken by Venus throughout February and then the waxing crescent Moon joins them on the 22<sup>nd</sup>. Saturn is in conjunction with the Sun on the 16<sup>th</sup>. Uranus is in Aries. The waxing crescent Moon makes a close pass on the 25<sup>th</sup>. Neptune is fading into the evening twilight. Pluto is in the morning sky in Sagittarius.

**Constellations for the month** – (To keep my directions to various deep sky objects less extensive I urge you to obtain a good sky atlas.) The northern portion of Puppis, the ship's stern protrudes into the Maine sky adjacent to the left portion of Canis Major, the big dog and contains 3 Messier open star clusters (M46, M47, and M93), 60 some other open star clusters listed in *Star Catalog 2000*, bright and dark nebulae, emission nebulae,

and planetary nebulae. I have observed all the Messier objects, one open star clusters, and one planetary nebula (NGC 2438) in Puppis. I have quite a few more available to observe. Canis Major contains one Messier object M41 an open cluster and the brightest star in the sky Sirius. Canis Major, the Big Dog one of the two hunting dogs of Orion sits beside Orion with his big eye Sirius looking at Lepus, the Hare at the feet of Orion. (Noted before) Canis Major is not a very big constellation, only 380 square degrees of sky but contains many interesting objects. The open star cluster M41 (NGC 2287) is easily seen 4° directly below Sirius. I noticed a couple of red stars along with the majority of blue-white stars. I have also observed open cluster NGC 2204 with 3 other open clusters on my observing list, NGC 2354, NGC 2360, and NGC 2362. The Big Dog also contains numerous double stars. Above Puppis and Canis Major is the constellation of Monoceros, The Unicorn. (See detailed description below.) Proceeding upward from Monoceros we come to the constellation Canis Minor containing the stars Procyon, "Before the Dog", alpha (α) CMi magnitude 0.4 along with Gomeisa (an old Arabic name for Procyon) beta (β) CMi magnitude 2.9. These two stars comprise almost all of the constellation Canis Minor. Next above is the constellation Gemini, The Twins. Gemini is an ancient constellation and one of the members of the Zodiac. The founding twins of Rome are characterized by the two stars Castor and Pollux representing the twin's heads and parallel strings of stars their bodies. Gemini contains one Messier object M35 (NGC 2168), numerous open clusters, and several planetary nebulae. Especially notable is NGC 2392, the Clown Face (formerly Eskimo) nebula. To find this planetary start at Pollux (the brighter of the two stars of Gemini). Then go 8° SW to 3<sup>rd</sup> mag. Wasat delta (δ) Gem. From Wasat proceed 2.5° SE to this nebula. This is one planetary I have noted on one rare occasion to have more than one color. Above Gemini is a modern era constellation Lynx, created by Johannes Hevelius. This constellation is long, covering almost 3 hours of R. A. but because it is so high in the sky toward the north all of it is easily observed. Lynx is dim but at a dark site easily traced in the sky. It contains some beautiful galaxies and many multiple star systems. If you have a dark sky Lynx is a real treat to observe and even part may be observed with a binocular. Among these galaxies in Lynx are NGC 2859 a bared spiral located next to a 7<sup>th</sup> magnitude star less than 1° ENE from alpha (α) Lynx and NGC 2683 an edge-on spiral galaxy located 6° WSW of alpha (α). If you have trouble finding NGC 2683 look a degree or so NW of the star grouping of 1-4 sigma (σ) Lynx, it can be seen with a binocular. Multiple star systems in Lynx include 5, 19, and 38. Do not dismiss this constellation. It is one of my favorites. Above Lynx is another modern era constellation, Camelopardalis, the Giraffe was apparently invented in 1613 by the Dutch astronomer and clergyman Petrus Plancius. He introduced the figure as a giraffe on a celestial globe he designed around the year 1612. The constellation's two brightest stars are mag. 4.3 for the Alpha (α) star and mag. 4.0 for the Beta (β) star. Both are super giants. Alpha would be at least one magnitude brighter if it were not hidden behind interstellar dust. Beta has a mag. 7.4 optical double com-

panion lying 1.4 arcminutes to the WSW. They are slowly separating but it has hardly been noticed in 100 years of observing. There is also another star located 15 arcseconds away from the secondary star which may also be a companion. Southern Camelopardalis contains one very fine open cluster NGC 1502 consisting of a mag 7 double star surrounded by 30+ 9<sup>th</sup> to 12<sup>th</sup> magnitude stars. Also a bright planetary nebula NGC 1501 located slightly more than 1° south of NGC 1502. From NGC 1502 follow a string of ninth and tenth magnitude stars upward to the NW. Canadian Friar Lucian Kemble noticed this string of stars in 1980 with a 7x35 binocular and saw it tumbling down to NGC 1502. He reported it to Walter Scott Houston who mentioned it in the 1980 Sky & Telescope in his column "Deep Sky Wonders." He named it Kemble's Cascade. In the remainder of Camelopardalis there are many fine galaxies on my observing list including an easily observed one, NGC 2403. I recorded it as a nice open face spiral with a hint of structure. It is detectable with 10x50 or larger binoculars.

**Featured star** – Sirius, the Dog Star is the brightest star in the sky with an apparent magnitude of -1.46. Its name came from the Greek name Σείριος loosely translated as "the scorching one". It is in the constellation of Canis Major and found 2.6 parsecs (8.6 ly) distant. It is a class A1 star that is fairly young at around 237 million years old. It is expected to live for another 270 million years. Sirius was important for several ancient groups of people. For the Greeks the appearance of Sirius in the morning sky marked the beginning of the summer months and the so-called "Dog Days." In the Iliad Achilles called Sirius Orion's hound. For the Egyptians its appearance forecast the flooding of the Nile and the renewing of the land. Since ancient times the appearance of Sirius just before the rising sun hides it (known as the heliacal rising) has now changed due to precession to early August. The Polynesians used this later date of late July or early August for the appearance of Sirius as the beginning of winter and the start of the sailing season when it was an important navigational tool. The native people of the American plains also used the later late July to early August appearance to know it was time to leave the cool mountains and return to the prairie. Sirius is a double star with the companion being discovered on January 31, 1862 by Alvin Graham Clark while testing an 18.5" lens being built for the University of Mississippi. Finally in 1889 the lens was installed in a new telescope in the Dearborn Observatory under the directorship of the Chicago Astronomical Society and the old telescope mount transferred to the Adler Planetarium. The ownership of the telescope has been transferred to Northwestern University where it is used to this day for astronomy classes and public observing on Friday nights much like the University of Maine uses their Clark telescope. The primary star Sirius A and the secondary Sirius B were likely originally a pair of blue-white stars with Sirius B slightly larger. Sirius B became a red giant star and eventually evolved into a white dwarf in orbit with Sirius A. It may be during this transformation Sirius A became rejuvenated into the younger star we see today.

**Featured Messier object** – M46 is an open cluster in the constellation of Puppis, the Ship's Stern. It was dis-

covered by Messier in March 1771. It is a companion to and east of M47 and not difficult to observe. Both clusters are very large and bright with M46 noted for its rich collection of uniform sized faint stars. Observe these two open clusters with a 10x50 binocular to compare and appreciate the differences. Close up with small telescopes 4/6" M46 is fainter than M47 but more impressive. It shows about 75 stars at 50x uniform in brightness. The planetary nebula NGC 2438 can be noticed as a fuzzy "star". With larger 8" to 10" scopes at 75x there are more faint stars visible. The slightly annular planetary nebula is easily seen along with two stars within. These two stars are not the central star. It is not visible with most amateur scopes.

**Featured constellation** – Monoceros, the Unicorn was named by an unknown observer but it showed up first on a star globe made by the Dutch cartographer Petrus Kariëus in 1613. It has no pattern representing anything except maybe with a lot of imagination a unicorn. There are no bright stars but it is full of interesting items including open clusters, various nebulas of many different types, and even one spectacular triple star system Beta (β) Mon. Monoceros is dim but not hiding, mostly located west and northwest of Sirius. From Sirius start exploring Monoceros by going 8°NE of Sirius and you should find the Gum1 nebula and a couple of open clusters one on the right and one on the left sides of the nebula. If you have already found M50 Gum 1 is 2°SSE along with NGC 2335 and NGC 2343. Do not confuse the two with the nebula. NGC 2335 has more stars. If you have trouble finding Gum 1 look for the two open cluster less than 1° apart. To find two of the most interesting objects in Monoceros it is easier to start with stars in the constellation Gemini, the Twins. Begin at the foot of the twin Pollux. (Note the feet of both Castor and Pollux are formed by a line of 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> magnitude stars). Begin at the lowest of the stars mag. 3.33 xi (ξ) Gemini and mag. 4.5, 30 Gemini then proceed 3° SE to NGC 2264 an emission nebula complex in Monoceros below the feet of Gemini comprising the Christmas Tree Cluster, the Cone Nebula, and Trumpler 5. The complete complex is best viewed with a 10X50 binocular or finder scope. With a reflector telescope under low power it resembles a Christmas tree with the cone nebula the topper. A non-reversing binocular makes the tree effect go away. Below NGC 2264 is the Rosette Nebula surrounding NGC 2244 an easily seen open cluster. NGC 2244 contains about three dozen stars. The Rosette has low surface brightness thus best seen with a 10X50 binocular or a wide field telescope on dark nights at low power. It is almost 2° in size covering four times as much area as the moon. It has one Messier object M50 (NGC 2323), many nebulas, and open star clusters. For a real treat get out your binoculars, if you have more than one each of a different power and aperture so much the better, and observe this constellation. Monoceros also contains open clusters NGC 2232, 2286, 2324, and 2301 that I have observed. There are a couple of other items on my observing list.

Lens cover removed, enjoy the night  
Bill Shackelford