



Penobscot Valley Star Gazers

An Astronomical Society of Central Maine

<http://www.gazers.org>

January 2023

January 2023 Meeting

The next meeting of the PVSG will be held via Zoom on Monday January 9th at 6:30 pm. (Meeting ID 862 9984 6478 Password: PVSG.)



PVSG Monthly Meeting Minutes

November 14, 2022
December 12, 2022

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.

November

Meeting:

Call to Order and Welcome to Visitors

The meeting was held in person at John Bapst and by Zoom videoconference. The meeting was brought to order by Don Ferrell at approximately 6:40 PM.

Attendance:

In Person:

Scott Burgess
Mary-Francis Beesorchard

Online:

Don Ferrell – President
Dave Clark – Treasurer
Phil Normand - Secretary
Bill Shackelford
Don Krause

Guests:

None

Presentation

Bill presented a picture from Don Fortin from Corpus Christi, TX of the lunar eclipse with Uranus visible as well. Reflected light from the Earth through our atmosphere makes the moon an orange-red color. Dave shared a picture from APOD of the eclipse taken from Shanghai China and was just before an occultation of Uranus by the eclipsed moon. The next lunar eclipse for North America will be in 2025. Phil shared an image of his new Lunt solar telescope and talked a bit about its components and what he's done for initial testing and his hopes to get a dedicated mount for it. He'd like to get Sky Watcher's Solar Quest mount. Dave mentioned that he has a Coronado solar scope and uses a TeleVue Gibraltar mount that he purchased in the 90s.

Secretary's Report and Acceptance of Minutes

The September and October meeting minutes were approved. Phil also reported that the web builder tool and our domain name use have been renewed and reported to Dave. Dave will count the cost as Phil paying his dues.

Treasurer's Report

Dave stated that we have \$711.17 in the treasury. Dave mentioned that the next payments the club will need to make will be our insurance payment in March and the Astro League dues in June.

Club Liaison Report:

None

Observing Reports:

Bill was clouded out and didn't view the lunar eclipse but shared a picture from astronomer Don Fortin from Corpus Christi, TX. **Don** got together with Dave and Scott over the last few weeks for some observing of Jupiter and Saturn. He has also observed them from his yard. **Dave** has been observing the Orion Nebula with 10 X 70 binoculars. He also looked at the lunar eclipse.

Old Business

Don asked about the club banner we had discussed last month. A discussion followed about how we might have Dwight run a test with his large format printer on canvas and then we could have one made on vinyl if needed.

New Business

Phil mentioned that CMAS has published some dates for late Fall & Winter Star Parties: November 19th at the Brower Observatory in Whitefield. Phil mentioned that the CMAS group has been building a 10" f20 Buchroeder Trichiefspeigler telescope. It's unique construction allows for a focal length of nearly 17 feet. The mirrors are unobstructed and totally color-free, which will provide detailed, high-contrast viewing. Phil mentioned Colin Cassie had been working to finish the assembly of the scope in time for the November 19th star party. Phil also mentioned that Colin had a Forum on Cloudy

nights called Finishing the 10" f20 Buchroeder TriChiefSpiegler Telescope. Another star party will be held on December 17th at the Foss Hill Observatory in Rome, ME at Josh Zukerman's home and then at Galaxy Quest in Lincolnville, ME on February 18th, 2023.

The CMAS website is at <https://maineastro.com>

The group discussed if we should go back to just having our meetings on ZOOM instead of having the live meeting at John Bapst as well. It was agreed that we would meet by ZOOM going forward and revisit the decision later in the Spring.

The group will not have a December holiday party.

Adjournment

The meeting was adjourned at approximately 8:03 PM

December

Meeting:

Call to Order and Welcome to Visitors

The meeting was held in person at John Bapst and by Zoom videoconference. The meeting was brought to order by Don Ferrell at approximately 6:35 PM.

Attendance:

Online:

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

Guests:

None

Presentation

Opening discussion: Bill mentioned the occultation of Mars by the moon and Dave mentioned he had sent out some pictures to the group last week taken by Roland Christen from his home in Illinois. Dave also mentioned he had picked up his copy of the Observers Handbook for 2023 and that Shawn had copies at the Planetarium for sale.

Bill presented a slideshow of the Mars occultation taken through a telescope at the Griffith Observatory in Los Angeles California.

Dave showed several astronomical tee shirts that had belonged to his late wife. He offered them to anyone in the group who were interested in them free of charge.

Secretary's Report and Acceptance of Minutes

There were no minutes to approve this month. November and December minutes will be part of the January Newsletter.

Treasurer's Report

Dave stated that we have \$771.17 in the treasury. Dave mentioned that the next payments the club will need to make will be our insurance payment in March and the Astro League dues in June.

Club Liaison Report:

Dwight attended the NH Astronomical Society meeting and one of the attendees was Ed Ting, whom Dave had mentioned earlier in the meeting. Dwight also went down to the Gloucester Area Astronomy Club and toured a Harvard's Putnum Museum that included telescopes. He also went to the McAuliffe-Shepard Discovery Center in Concord, NH where the NH Astronomical Society's Christmas meeting. Dwight added that Maine has 5-6 clubs with a total membership of about 250 members. The New Hampshire Astronomical Society has approximately 192 members in that one club.

Observing Reports:

Bill was clouded. **Phil** attended the CMAS Star Party at the Brower Observatory and viewed Jupiter through their new TriChiefSpiegler telescope. **Don F.** observed Mars under high magnification and viewed Jupiter. **Dwight** went to Lenny Arsenault's house for the CMAS star Party on November 26th and looked through his 16" Newtonian and his 6" refractor. Dwight had his Stelina and using the latest software upgrade was able to create mosaics and show a wider field of view. He shared some pictures of Lenny's Night Owl Observatory telescopes and a mosaic picture he took with his Stellina of the Andromeda galaxy.

Old Business

A brief discussion on the club banner was held.

New Business

Andy received a Facebook message from a person named Jennifer looking for a local astronomy group and telescope recommendations for a 13-year-old girl. Dave mentioned Ed Ting on YouTube and some internet resources for exploring telescopes for beginners. Scott

offered to contact Jennifer and discuss things with her.

Bill asked Alan D. if he recalled selling the blow-up star globe as he showed the group. Alan did recall and Bill said he had his for many years and it still held air quite well. Bill also showed his progress on completing the Apollo metal model he's been building.

Alan D. mentioned an animated movie called Apollo 10 ½ on Netflix. The movie is done from the vantage point of an elementary age child of a worker for NASA.

Dave mentioned a "deep fake" type video showing Nixon giving a speech about the Apollo astronauts Armstrong and Aldrin being stranded on the moon. The group watched the video together.

Phil mentioned that he had found the Sky-Watcher Solar Quest mount and ordered it for his Lunt 40mm solar scope.

Adjournment

The meeting was adjourned at approximately 7:43 PM

Phil

Observe The Sky This Month

Some Selected Objects

January 2023

General sky comments – Before the solstice of last month the Sun has been rising later and setting later. The date of the latest setting Sun was December 7 and it makes the day seem to be longer if you are an evening person. For you morning people until recently you are still wondering when the Sun was going to stop coming up so late. On the 4th of this month the Sun arose for the latest time this year but earliest twilight was not until the 8th. Until then the amount of daylight had hardly changed since the solstice. The late rising Sun had kept the day short although the setting Sun had been later each day. By the end of this month the amount of daylight will have increased by less than 1 hour but by the end of February well over an hour. Curiously the Sun was closest to the Earth on the 4th being at perihelion showing the distance from the Sun has less to do with climate than the angle to the Sun. Look to the northern sky to possibly catch a glimpse of comet C/2022 E3 (ZTF). This comet passes closest to the Earth on Feb. 30 but may be naked eye visible the last few days of January. On Jan. 30 it will be 10° from Polaris, the North Star. Stay tuned to find out how this comet develops.

Planets this month –The full Wolf Moon was on Friday the 6th before the meeting on the 9th, last quarter is on Saturday the 15th, the new moon (lunation 1238) is on Saturday the 21st, and first quarter is on Saturday the 28th. Mercury began 2023 13° from the Sun in the evening sky moving in retrograde toward the Sun. It will reach conjunction with the Sun on the 15th. It leaves the Sun and mid-month reemerging into the morning sky until reaching western elongation of 25° on the 30th when it will shine at Mag. 0.0. Venus was low in the SW to begin the year. It is withdrawing from the Sun toward being the most brilliant western sky object this year. It has a very close conjunction with Saturn of only 0.4° on the 22nd then the Moon passes only 3° south of the pair 12 hours later. Mars began the month at mag. -1.2 and then fades to mag. -0.3 on the 31st. It remains in the constellation Taurus between the open clusters of The Hyades and The Pleiades. Observe Mars early as it soon fades from a diameter of 14.5" at the first of the month to <12" at the end. The Moon passed near on the 3rd and will pass near on the 31st. It is not occulted in our viewing area. Jupiter begins the year prominent in the southern sky. The waxing crescent Moon passes within 2° on the evening of the 25th and 26th. Saturn can be seen very low in the southwest evening sky and has a close conjunction with Venus on the 22nd. This conjunction will be almost impossible to observe because of the brightness difference between the two and Saturn becoming lost in the glare of the Sun only a few days later. Uranus (Οὐρανός) is in the constellation Aries and well placed for telescope viewing in the south. It is 15° north of the celestial equator at mag. +5.7 and visible to the naked eye from a dark site. Neptune is in Aquarius and visible with optical aid. Pluto is too close to the Sun to be observed.

Constellations for the month – Low in our sky at this time of the year and easily observed is the small constellation of Lepus, the Hare. To the left of Lepus is the constellation of Canis Major. We will concentrate more on this constellation and its bright star Sirius next month. Notice Sirius was directly south at midnight on New Year eve. Immediately above Lepus is one of the best known constellations Orion, the Hunter. Orion, the Hunter was to the Greeks and Romans a giant of a man who could walk through any depth of water and not get his head wet. He had no fear of any animal and threatened to kill all the animals on the Earth. When Gaia the goddess of the Earth heard this she became angry and sent a scorpion to kill Orion. He was gravely poisoned but Aeschulapius/Ophiuchus the founder of medicine saved him by administering an antidote. All three are memorialized in the sky and this is why Orion and Scorpius are in opposite parts of the sky with Ophiuchus standing above the scorpion with it under his foot. Many cultures had various names for the giant usually referring the star pattern to someone of importance. Orion contains three Messier objects, M42 (NGC 1976), M43 (NGC 1982), and M78 (NGC 2068). M42 is the Great Orion Nebula perhaps the finest diffuse nebula in the sky. If you have observed this

diffuse nebula before observe it again because there is always something you missed before. M43 is located next to M42 and probably part of M42 being only separated by an intervening dust lane. Taken together and viewed with a wide field view the two resemble some giant bird soaring through the sky with its wings outspread. The two should be observed with a low F stop telescope with a lot of light gathering power and a field of view of at least 2 degrees. Less than 1/2° north of the M42 - M43 complex are the stars 42 and 45 Orionis. Surrounding 42 is the Emission and Reflecting Nebula NGC 1977. Just to the NE is 45 surrounded by Emission and Reflecting Nebula NGC 1977. Between these two bright areas is a Dark Nebula with the designation Sharpless 279. It is also known as the Running Man Nebula. Using a large binocular or a low power wide field telescope and not letting the bright stars overpower your observation see if you can observe The Running Man. From this area in Orion's sword go to the first star in Orion's belt Alnitak. M78 is an emission and reflection nebula located 2½° NNE of Alnitak, zeta (ζ) Orion the eastern star in the belt of Orion. Not as spectacular as M42 or M43 it is unique in its own way and should be observed. Orion contains numerous other multiple star systems many listed at the end of this article. Most of them are blue-white stars because they have been recently born in the Orion Complex. I will let you discover others on your own. Higher in the sky directly above Orion is the constellation of Auriga, the Charioteer. Auriga, has numerous mythological stories connected to it. (See below.) The star which one might think to be the bottom star of Auriga is not. Rather it is the northern of the two stars forming the tips of the horns of Taurus, the bull, a constellation we observed last month. The brighter star has a name Elnath and is the beta (β) star of that constellation. We must note the easiest way to find and observe the first object M1, (NGC 1952) on the not comet list of Messier. Start at Elnath and go to the other star zeta (ζ) Taurus at the tip of the other horn of Taurus. This is the guide star to M1. Once you have found this star, M1 is just over 1° NW.

Featured star – Hind's Crimson Star is a variable carbon star R Leporis found 3½°WNW of mu (μ) Lepus. It was discovered in October of 1845 by John R. Hind of London. It is one of the most vivid red stars in the sky and varies between magnitudes 6 and 11.5 over a period of about 430 days. This magnitude difference corresponds to an actual difference in brightness of 300 times. Like other carbon stars R Leporis is most red when it is at minimum brightness. Its spectrum has very strong bands of carbon which makes it a strong absorber of blue light. It is also very cool with a surface temperature of 2600°Kelvin or less.

Featured constellation – Auriga, The Charioteer. Capella the alpha (α) star of Auriga is the sixth brightest star in the sky and the third brightest in the northern hemisphere. Only Vega in Lyra and Arcturus in Boötes are brighter. Auriga is usually shown as a man in a kneeling position setting on a bench (the Milky Way?)

holding a female goat with two kids under his right arm and he is holding reins and a whip in his left hand. This is the view seen on a typical celestial globe but Auriga is also shown the other way. Depending on the civilization Auriga is a charioteer, a rein holder or other type of driver, goat herder, or driver of some vehicle (wagon, cart, etc.). Auriga contains three Messier objects M36 (NGC 1960), M37 (NGC 2099), and M38 (NGC 1912) all open clusters. I will let you find these Messier objects on your own. If you get lost refer to almost any sky guide. Also in Auriga, NGC 1907 a little jewel of an open cluster ½° SSW of M38, NGC 1931 a diffuse nebula 1° slightly north of east from M36, NGC 1857 an open cluster with three bright stars, less than 10 dimmer stars, and up to 40 even less dim stars depending on the size of your telescope found less than 1° south of lambda (λ). NGC 1664 2° east of epsilon (ε) an open cluster with strings of stars resembling a flying kite, NGC 2126 an open cluster halfway between Menkalinan, beta (β) and delta (δ) the top star of Auriga an open cluster of about 30 stars including one bright star. NGC 2281 an open cluster of perhaps 30 stars with around a dozen brighter located 1° SW of psi (ψ) one of the stars in the "reins" of Auriga.

Featured Messier object – M78, NGC 2068 is a fan shaped bright bit of nebulosity found 2½° NNE of Alnitak, Zeta (ζ) Orionis. Embedded within are two 10th magnitude stars. It has a sharp northern border fading southwest into a fan shape. The two stars resemble a Halloween costume of a sheet draped over a child with two eyes staring out. To some it also resembles a double headed comet. No wonder Messier added it to his catalog as number 78.

Other objects of interest – In Orion, NGC 1788 a mixture of emission and dark nebulae similar to M78 located 5° NNW of Rigel, NGC 2024 the flame nebula, NGC 2022 a planetary located 2° SE of lambda (λ) the center star of the naked eye open cluster forming the head of Orion. (Not as good as the Pleiades but worth observing.) If you are game look for the "Horsehead Nebula" Barnard 33 located ½° SSE of Alnitak. You will need excellent sky transparency, a telescope of at least 12", and an O-III filter which will greatly help. I have tried several times and have yet to detect it with my 12" telescope at a very dark viewing site. Another challenge object is the Witch Head Nebula (IC 2118) a reflection nebula located west of Rigel in the constellation Eridanus the River. It is illuminated with the light from Rigel and you do not need any filter. You do need a wide field big binocular or a low power wide field telescope. With a bit of imagination it does look like a witch head in profile with a long nose and chin. It is as easy to see as the Orion nebula with no bright stars, only Rigel illuminating the profile.

Bill Shackelford

When you cannot observe the stars. Observe the Moon.