Penobscot Valley Star Gazers

An Astronomical Society of Central Maine

He seems as 'twere to prompt our merriest days,
And bid the dance and joke be long and loud.
-Barry Cornwall, of winter

http://www.gazers.org

December 2025

December Meeting

The December 2025 meeting of the PVSG will be held at John Bapst Memorial High School on Monday the 8th at 6:30 pm. Zoom will be available with the regular ID. (Zoom meeting ID 862 9984 6478 Password: PVSG.)

Thanks for last month's program go yet again to Dave, this time for his discussion of various eyepiece filters for improving the appearance of certain objects.

PVSG Minutes
October 13, 2025

November's minutes were unavailable, but we do have October's, thanks to Don.

Our pre-meeting chitchat started about 6:15 pm with discussions about observing with Bill in Oklahoma, gardening successes or failures etc. We were introduced to Andrew (Andy) Royal our newest member whom is keen on astronomy,and has some telescopes. We chatted about half an hour waiting for any late attendees but alas we were it, 10 in all I believe.

Dave Clark gave a great presentation about observing "Seeing & Transparency" challenges for us due to all kinds of weather conditions and situations, ie smoke from fires from away. He reminded us planets ,stars etc. don't twinkle, etc. so to be mindful about our viewing options.

Then I ask Dave to give our Treasurer Report, he exclaimed he successfully closed down the TD bank count ,which had been a bane for him to Bangor Savings Bank for our conveniences, and seeing that dues were due in Oct, we all made sure we've paid. We have $300.00 plus in our account with no new bills till the new year.

Next we discussed upcoming Star Parties that are becoming available for us to attend or even have for our own uses. Challenger Center of Bangor reached out to us to help with a Star Party on Nov 12th at the Cole Transportation Center in Bangor. We discussed light pollution as an issue but will do our best as much as possible. We also have Star Party on Dec. (20th) at Audubon Center in Orrington for their Organization.

Earlier this year I was introduced to Gideon Knapp whom turned me onto a great wide field in Bucksport, behind our town's garage, on road to Silver Lake walking trails. Dave, Jeff and I went there a few nights prior to meeting and found the conditions optimal for star gazing. Very wide fields of view, we found Saturn, and a few other items with ease. I called Bucksport Director of Public Services Director Joe Lanphere and he said they plow the road and there would be no problem if we want to clear an area for observing ourselves as in bringing our snowblower etc. The field is Public Access,open all the time to everyone :).

So our meeting continued with various subjects about viewing and other subjects, Wade witnessed a fireball scream across his night sky recently, he told us. So I hope we all enjoyed ourselves for I certainly did. I closed out the meeting prior to 08:30 and now trying this format to get some minutes into our newsletter again. Thanks for your patience with me.

Don Ferrell

Observe the Sky This Month

Some Selected Objects

December 2025

General sky comments – The Cold Full Moon was on the 4th of the month. It was at perigee 12 hours earlier making it a super Moon. Did you notice that the sunset is no longer coming later in the evening? The latest sunset was on the 7th. The first sign of a coming spring. The winter solstice is on Sunday December the 21st at 10:03 am EST. That night is the longest of the year. The Geminids meteor shower peaks on Sunday the 14th. Observe them in the morning both before and after the 14th. The Moon is at last quarter and somewhat will interfere. The Ursid meteors peak on Monday the 22nd. The Moon will not be a problem as new moon was two days earlier. After the meeting on the 8th try to observe the Beehive (M44) only 1.4°North of the Full Moon. You may need a binocular to see many stars as the Moon is very bright. On Wednesday the 10th look for the first magnitude star Regulus in the constellation Leo, the Lion less than 1° south of the full Moon. Not far north of Maine in most of Canada and eastern Alaska the star is occulted. On Sunday the 14th the star Spica is 1.4° north of the last quarter Moon and on Thursday the 18th the star Antares is 0.4° north of the waning last quarter Moon. Finally, on Wednesday the 31st the first quarter

Dues Were Due October 1

Regular $18.00
Family $27.00
Junior $9.00
send to:
Treasurer, PVSG
609 Cape Jellison Road
Stockton Springs, ME 04981

Moon is 0.9° north of Pleiades.

Planets this month – Full Moon was Thursday the 4th. Last quarter was on Thursday the 11th. New Moon (lunation 1274) was on Friday the 19th, and first quarter was on Saturday the 27th. Mercury was coming into the morning sky at the beginning of the month ready to make its best showing of the year for the northern hemisphere. It was at greatest western elongation of 21° on the 7th and will remain well placed for observing until around the 25th at close to magnitude -0.15. Venus is too close to the Sun to observe. Mars is also too close to the Sun to observe. Jupiter rises not far after sunset and is in excellent position to observe for most of the night. The gibbous Moon passed 4° north on the 7th. Saturn is now in northeastern Aquarius. It is in great position to be observed with the rings slowly opening. The first quarter Moon passes by on the 26th and 27th. The planet Uranus (ΟΥΡΑΝΟΣ in classic Greek) is in the evening sky well placed for viewing a few degrees south of the Pleiades. Neptune is in the SW evening sky in Pisces. Pluto is in Capricornus too close to the sun to observe.

Constellations for the month – Once again starting at the southern reaches of the Maine sky we begin with the constellation Caelum, the Engraving Tool. This is one of the constellations invented by Nicholas Louis de Lacaille. This constellation lies at the same latitude as Canis Major which we will note next month. If you live at a location where the Big Dog is visible you may be able to observe some northern members of this constellation. Another constellation also invented by Nicholas Louis de Lacaille is Fornax the Furnace visible about 15°above the horizon. He called it Fornax Chemica, the Chemical Furnace. Fornax is obscure and not very bright. The alpha star is only Mag. 3.9 but worth observing. It is a double star with two yellow stars. If you are a deep sky galaxy observer The Fornax I Galaxy Cluster is for you. Use the next constellation Eridanus, the River, the longest constellation in the sky to find Fornax. It is found in the second bend of Eridanus about 40° below the head of Cetus which we observed last month. Eridanus is so long it starts with its beta (β) star Cursa only 5° south of the celestial equator and winds through the sky as a path of stars ending with its alpha (α) star Achernar at -63° S. Cursa is 3° NNW above Rigel, (β) Orion (covered next month) and offers a contrast between beta stars of different constellations. Achernar is well below our horizon. Above the first straightaway of Eridanus is the constellation of Taurus, the Bull with the open cluster Hyades. Don't miss the open clusters NGC 1647 and NGC 1746 between the horns of Taurus. NGC 1746 is one of my most favorite open clusters because it is actually 3 open clusters in one and somewhat of a challenge. I first noticed it with a large binocular (25 x 100). Start with your lowest power to view NGC 1746 and then try to pick out the small concentrations of stars listed as NGC 1750 and NGC 1758 within NGC 1746. NGC 1746 is the grouping of around 20 bright stars. NGC 1750 is the concentration of dimmer stars within NGC 1746. NGC 1758 is the grouping of even dimmer stars partly outside of NGC 1758. Some observers call the whole cluster of stars NGC 1746. Observe this grouping and see if you think it should be one large cluster of stars from very bright to very dim or separate open clusters. The total of all the stars in the three groups is in excess of 75 stars. Included in Taurus is probably the most famous open cluster in the sky M45 aka Pleiades. Also in Taurus is M1 the "Crab Nebula". It is found 1° NE of zeta (ζ) Tauri. Perseus, the Hero is above Taurus (see below). Above Perseus is the dim constellation Camelopardalis, the Giraffe with its brightest star only at mag. 4.5. This is the beta (β) star. [Did you know the giraffe family originated in the Americas? One member still lives here.] The most interesting Camelopardalis view is the asterism "Kemble's Cascade" a string of 8th mag. stars starting with open cluster NGC 1502 forming an equilateral triangle with beta (β) and alpha (α) Camelopardalis then proceeding to the NW. Get out a binocular for this one. While in this area of the northern sky note Polaris and how Ursa Minor, the Little Bear hangs down toward the North horizon at this time of year.

Featured star – Algol, beta (β) Perseus is the most famous eclipsing variable star in the sky. It consists of a primary star and a secondary star in a close orbit only 6 million miles apart. The primary is a white star 100 times brighter than our sun and the secondary is only two or three times as bright as our sun. Because they are eclipsing stars their period and time of eclipse can be measured and predicted very accurately. The eclipse is 10 hours long (5 hours in and 5 hours out) and can sometimes be completely observed in one night. It has a period of 2 days, 20 hours, 48 minutes, and 56 seconds. There is a slight secondary dip in brightness midway through the period phase when the primary star eclipses the secondary but it is only evident with photometry. The two stars shine at a combined magnitude of 2.1 most of the time but dip to 3.4 during the eclipse phase. There is also a third and possibly fourth star in the system but they are far enough away from the other members to not participate in the eclipse. There are numerous opportunities to catch Algol each month.

Featured Messier object – M76, The Little Dumbbell was discovered by Pierre Mechain in September of 1780 and then six weeks later re-discovered by Messier. It usually is called the "Little Dumbbell or Barbell Nebula" because of its resemblance to the larger Dumbbell Nebula (M27) in Vulpecula. William Herschel gave it two numbers then Dreyer changed the Herschel numbers to NGC 650 and 651. In small telescopes M76 looks like a small oblong object and using averted vision it can be seen to have two distinct lobes. In larger scopes more detail can be seen. The following is my perception using my 12" telescope. "A pretty blue planetary. It is elongated with a bar on each side. One end is brighter than the other and slightly angled to the other bar". M76 in even larger telescopes can be seen to have an outer shell. The interior shows two distinct lobes connected by a less bright bridge.

Featured constellation – Perseus, the Hero. Last month it was mentioned Perseus saved the maiden Andromeda by turning Cetus, the Sea Monster to stone with the Gorgon, Medusa's head covered with serpents. Perseus was able to cut off Medusa's head by looking at her head in his brass shield and not being turned to stone himself. Perseus the constellation is in the winter Milky Way and thus contains numerous open clusters, diffuse nebula, and surprisingly numerous galaxies. It also contains two Messier objects, the open cluster M34 and the planetary nebula M76. M34 is located 5° ENE of the variable star Algol, beta (β) Persei. M76 the little dumbbell (see above) is located 1° above phi (ϕ) Persei. Also located in Perseus is the famous double cluster of NGC 869 and NGC 884. Known to ancient Greeks and Babylonians as the scimitar handle Perseus used to decapitate the Gorgon, Medusa. For some reason Messier did not include the Double Cluster in his catalog. Maybe because they would not be confused with any comet. We can imagine these two clusters are decorations on a tree since the Christmas Tree Cluster and bright nebula are not viewable this time of year.

Stars should be seen without a light in view
Bill Shackelford