



Penobscot Valley Star Gazers

An Astronomical Society of Central Maine

<http://www.gazers.org>

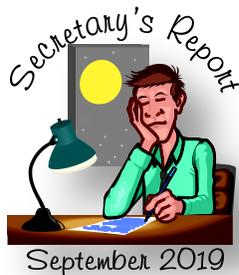
And now the frost is seen in morn, overspreading fields with white;
The farmer gathers in his corn, with pleasure and delight.

October 2019

Picture Perfect

The PVSG will meet at John Bapst Memorial High School at 6:30 pm on Monday, the 14th of October, 2019, which is one day after the anniversary of Charles Messier's discovery of the Whirlpool Galaxy in 1773. The program will be Dwight's astrobit on recent astrophotos from New England amateur astronomers and his report on the numbers for this year's Acadia Night Sky Festival. Anyone who wants to offer an astrobit or main presentation is invited to do so.

Thanks for last month's program go to Dwight for his Stellafane report and to Wade for showing the video of a new spray-on mirror coating method demonstrated at Stellafane.



Stellafane Snapshots PVSG Monthly Meeting Minutes September 9, 2019

Meeting:

- **Call to Order and Welcome**
Meeting called to order at 6:44PM.
Dwight handed out 10 pens to each member present for distribution to those we meet who may be interested in our group.
Attendance:
Dwight Lanpher - President
Scott Burgess - Vice-President
Andy Brown
Audrey Brown
Alan Davenport
Don Ferrell
Ralph Foss
Don Krause
Ralph Mallett
Phil Normand - Secretary
Wade & Donna Smith
Jeff Waring
Visitors: none
- **Secretary's Report and Acceptance of Minutes**
Last month's minutes were approved.
- **Treasurer's Report**
Dave was absent but emailed the Treasurer's Report to Scott. Balance is the same as last month. \$253.07. Phil accepted dues from those who wanted to pay at the meeting.
- **Observing Reports**

On the Schedule

(Items Subject to Change)

PROGRAMS

October 14: Local astrophotos & ANSF numbers

STAR PARTIES

?Sometime this fall: Carver Library in Searsport star party

October 26: Club star party at Ben Philips', setup 6:00 pm

November 14: Challenger Center Mars Open House

November 23: Club star party at Don Krause's, setup 4:00 pm

? Tentative; (rs) rain or shine; (co) clear only; (rd) rain date

Dwight: Observed with CMAS last month at the Brower observatory but had issues with the goto function. Observed a galaxy that was part of the observer's challenge.

Phil: Observed the Moon, Saturn and Jupiter.

Wade & Donna: Saw meteors, looked at Saturn & Jupiter with 4" SCT. Looked at an Open cluster (IC 1662). Saw M5 in 12.5" scope at Maine State Star Party.

Scott: Used an old F7 8" Cave scope that had an unstable mount but he found an adapter ring on Astro Physics web site allowing use of his Losmandy G11 mount. Mirrors were sent to an optician who made a new mirror for the scope. Scott said he is enjoying the views from one of his oldest scopes.

Alan: Could not see aurora from his house. He also mentioned that a past member, Bernie

Bernson passed and his son wants to donate his scope to the club.

Bill: In Oklahoma could not observe due to lots of clouds.

Andy: Observed cash flow leave his wallet as he purchased an 8" Celestron SE SCT to go with his 8" Orion Dobsonian.

- **Program**

Astro Shorts:

Wade: Showed a video from Stellafane on spray-on mirror re-coating video.

Dwight: Talked about Margaretta Days in Machias. Solar scopes were set up by Dwight, Mark Fischer, Charlie Sawyer, Alan Dumont & others.

Dwight showed pictures of the Stellafane convention/star party. Pictures included the MacGregor Observatory and it's Schuppmann folded refractor; In the Domed observatory, a 10" Ritchie Cretien telescope built in 1964; The Porter Turret telescope; The Andrew Simoni observatory on breezy hill solar scope; and the pink clubhouse. Dwight also showed pictures of different hand built telescopes of all types. Dwight received a 3rd place award for his eye piece case.

Dwight showed pictures of the Maine State Star Party as well. Wade spoke about his potato barrel telescope.

- **Old Business**

Calendar review:

Dwight asked about a request from Carver Library. Alan said it had come from The FaceBook page. The request came in June and that is a tough time for a star party since true darkness is so late at that time of year. September 20-23 is the ASNNE StarFest and Stars over Katahdinis on the 21st of September. The Acadia Night Sky Festival in 2 weeks. Dr. Jackie Faherty will be giving the keynote address on Friday night at 6PM at the Criterion Theatre. Friday night's observing will be at the Seal Cove Auto Museum. Neil Commins giving a talk at the Pembroke Library in a couple weeks. On October 5th in North Scituate, Rhode Island - Astro Assembly 2019 - information was sent out in an email from Dave Clark. Star Party on October 26th at Ben Phillips house in Hermon. Wade will

find out when the star party for the challenger center will take place. Dwight mentioned we probably need to update our FaceBook site and our web site. The star party on November 23rd changed from the Bangor Land Trust location to Don Krause's House in Levant.

- **New Business**

Dwight stated that he wanted to have a budget worked up for the club and was working with Dave on that.

Peter Serrada is selling a Unitron telescope with a pier and other accessories.

Possible star party in fort Fairfield next May. Dark sky location. 3 hours north of Bangor. They have places for people to camp with electricity and bathrooms.

Phil is working on a tri-fold brochure and asked for help proofreading. Dwight mentioned it would be great to have the brochure ready for The Acadia Night Sky festival. We discussed where to print the brochures. Phil said he would check with Staples about printing.

After discussion, we determined that some of our web information on sites like the Night Sky Network are out of date.

We have an invitation from Shawn Laatch to set up scopes and observe at the Emera Center after Friday night shows.

Wade mentioned that Lenny Arsenault had fluorescent tape that he thought worked well for marking observing equipment that he had purchased from Hobby Lobby.

Dwight thought he might try to sponsor another trip for New England astronomers to go to a place like Mount Megantic during a new moon in late summer.

- **Adjournment**

The meeting was adjourned at 8:20.

Phil

Observe The Sky This Month

Some Selected Objects

October 2019

General sky comments – What a month September has been. I completed the 36th OkiTex Star Party a few weeks ago with mostly clear nights and a beautiful clear dark sky. I was able to observe very low in the southern sky and locate NGC 6723 a globular cluster in the constellation of Corona Australis. After many years of renting a big tent for activities the Oklahoma City Astronomy Club has plans for a new activity building to be constructed on site. No longer will attendees have to endure a dirt floor, hot, cold, windy days, or a hard to see audio-visual system. The building is purchased but only basic amenities are funded. The OCAC is taking tax deductible donations to complete the building. One of the long time OTSP participants Barbara Marie Rezak Wilson (71) died peacefully in Houston on September 24, 2019. I first met her when she and her husband Buster gave a presentation at OTSP on meteorite hunting in Kansas. She helped with the Astronomical League Guide to the Globular Cluster Observing Club I am currently using. Barbara had observed 137 globular clusters and was a world renowned Deep Sky Observer.

Planets this month – The first quarter moon is on Saturday the 5th, full moon is on Sunday the 13th, last quarter moon is on Tuesday the 22nd and new moon is on Sunday the 27th. Mercury is visible in the evening sky all month and reaches greatest eastern elongation from the sun on the 20th at 25°. Venus is slowly separating from the sun. It can be glimpsed late in the month very low in the sky early in the evening. Mars is in Virgo and slowly emerges in morning twilight late in the month. Jupiter is low in the southwest evening sky setting early. Saturn is low in the southwest in Sagittarius and sets before midnight. The planet Uranus (Οὐρανός) is in the constellation Pisces and at opposition on the 28th. Uranus can be glimpsed as a 5.7 mag star with no optical aid at a dark site. With a telescope it has a 3.7" disk. Neptune has just passed opposition and is in the sky in Aquarius. It is visible most of the night. Pluto is still in Sagittarius in the SW sky and slowly moving east.

Constellations for the month – Fomalhaut, Alpha (α) Pisces Australis is close to the horizon, not as bright as you would expect for a first magnitude star, and viewing usually begins there. To the east of Fomalhaut and Pisces Austrinus, the Southern Fish is the dim constellation Sculptor which contains a handful of stars magnitude 4 or less. Up through the eastern portion of Aquarius above Fomalhaut east of the "Water Jar" is a rough pentagon of 4th magnitude stars which form the western of the two pair of fish forming Pisces. More about Pisces next month. Above this pentagon of stars is an asterism known as the "Great Square" of Pegasus. It consists of a very distinctive square of stars one of which is in the constellation Andromeda, the Princess to be covered next month. This square of stars represents the wings of the great flying horse with

the front portion we covered last month. Within this square of stars is a galaxy only 2½° WNW of the star at the SE corner of the square, the star Algenib, gamma (γ) Pegasus. This galaxy is "The Little Sombrero Galaxy" (NGC 7814, Caldwell 43) a brighter galaxy than I expected to see when I first located it. As written last October in Greek myth Perseus was able to cut off the Head of Medusa, the Gorgon monster whose look turned mortals into stone, by looking at her reflection in a shiny metal shield given to him by Athena. When the blood of Medusa fell onto the sand of the beach, out of the ocean foam appeared Pegasus. On Pegasus jumped Perseus who rode off to rescue Andromeda from her fate. We pass through the eastern portion of Andromeda to arrive at two northern constellations now very prominent in the overhead sky and in prime position for viewing. These are Cepheus, the King and Cassiopeia, the Queen. What I do not like is the high overhead placement of these constellations making them difficult to view with most telescopes. Of course you can just wait until later in the evening when these constellations have moved from such an overhead position. Best of all is to lie back on a lounge chair and use a binocular which allows you to observe the rich star fields of this region of the sky. Cepheus is not a bright constellation with the Alpha (α) star at magnitude 2.5 but the house shape or head with a pointed hat constellation can be found at moderately dark sites and Cassiopeia is easily recognized by most people from its "W" shape. Both of these constellations have been extensively covered before and will be reviewed again next month.

Featured star – Alderamin, Alpha (α) Cephei (I am going to begin using the Genitive form for constellations as it is used most often in astronomy. Any comments will be appreciated.) Alderamin is the brightest star in the constellation of Cepheus, the King. It is variable, one of the 20 brightest A-type stars, one of the closest stars, a rapid rotator, and double. As a type-A star it is a main-sequence star with a hydrogen alpha spectra, hydrogen absorption lines, and class V luminosity with a mass from 1.4 to 2.1 times the sun having a surface temperature between 7600 and 10000 Kelvin. It has been found to have a rotation rate 83% of its breakup velocity. With a high rotation rate it should not have a magnetic field but it has one and emits X-rays about the same as our sun. As a variable it is categorized as a Delta Scuti star with magnitudes between 2.41 and 2.47 and an unspecified period. It has a companion separated by 3.2 arcminutes, likely an optical pair, as they have remained at almost the same separation since they were first observed in 1879. Much remains to be learned.

Featured Messier object – M15 is a globular cluster in the western portion of Pegasus we observed last year but it is still well placed and 4° NW of Enif, epsilon (ε) Pegasi and located at the apex of a triangle between the cluster and two stars. M15 was discovered by Jean-Dominique Maraldi on September 7, 1746 while looking for the Chassaux Comet. Messier re-discovered it in 1764 and added it to his list. M15 is bright and contains chains of stars radiating from its compact

center which is apparently an example of a collapsed core globular cluster. When you observe M15 I think you will agree.

Featured constellation – From last October, observe what you did not observe last year or objects still interesting. Cepheus, the King is one of the lesser known and not often observed constellations but it does contain many interesting objects starting with Herschel's Garnet Star discussed earlier. The beautiful double star Alfirk, beta (β) Cepheus with the primary star a bright white and the blue secondary 13" apart. It is even more impressive in a larger telescope. Also found in Cepheus are numerous open clusters, nebula, one galaxy, and one planetary nebula that both need to be better known. The first is NGC 7160 an open cluster 4° due west of Alderamin alpha (α) Cepheus. NGC 7142 is also located 4° from Alderamin but NE and contains 3 times more stars than NGC 7160. NGC 7510 is an open cluster located 2° SW of M52 in Cassiopeia but in Cepheus. It is an interesting small cluster of about 20 brighter stars and numerous dimmer stars in an oval grouping which makes this cluster unique. While in this area look 2° west and slightly south of delta (δ) Cepheus the star at the bottom left of Cepheus to find NGC 7380 the Wizard Nebula. I saw about 20 stars scattered throughout the field of view with a hint of nebulosity. An O-III filter helps with observing this nebula. The cluster and nebula really come to life with long exposure photography and does resemble a man wearing a big pointed hat especially when the image is not overly processed. Now we will go to the other side of Cepheus to eta (η) Cep the star 4° W of Alderamin. Two° SW is NGC 6939 an open cluster of about 75 to 100 stars in crossing lanes of stars in a "V" pattern on one side. Immediately SE is the galaxy I mentioned at the top of this section. It is NGC 6946 the Fireworks Galaxy or ARP 29. At 135x with my 12" scope I could

detect arms in this galaxy. I do not expect many observers will see much more than the central portion of this galaxy but if you get to see it through a large telescope it looks spectacular. It is known as the Fireworks Galaxy because in the last 100 years there have been over 9 supernova observed in this galaxy compared to our galaxy with an average of one per century. The last supernova observed in NGC 6946 was in May of 2017. This was a type IIP supernova, a supergiant collapsed star. Finally NGC 40 is a planetary nebula located 5½° SE of gamma (γ) Cep. It is known as the "Bowtie Nebula" and has a bright central star at magnitude 11.5. In larger telescopes this planetary is quite spectacular with two bright ends. A 12th magnitude field star lies just outside to the SW.

Other objects of interest – In Cepheus is NGC 7142 a magnitude 9 open cluster located 4° NW of Alderamin. It contains upwards of 100 9th to 14th magnitude stars. You may have some difficulty finding this one as its stars tend to blend with the background stars. NGC 7789 was discovered by Caroline Lucretia Herschel in 1783 after being missed by Messier several years earlier. It is known as the Magnificent Cluster, the White Rose Cluster, and Caroline's Cluster. NGC 7789 is larger and has more stars than either M52 or M103. It contains upward of 300 stars and in my 12" telescope I could easily count at least 150 stars. To find this cluster go 3° SW of Caph, beta (β) Cassiopeia. NGC 7662, the Blue Snowball is a planetary nebula. Its name describes it quite well. It is a blue-green color, not quite round, lighter in the middle, and the central star is visible at 14th Mag. in my 12" telescope. Find it in the far western side of Andromeda not far from the group of stars ψ , λ , κ , ι , 2½° WSW of ι .

Bill

Come see great views, observe the sky.