



Penobscot Valley Star Gazers

An Astronomical Society of Central Maine

<http://www.gazers.org>

Now spring has come, the birds rejoice, and chaunt the cheerful lay;
The farmer with exulting joys, prepares for April's day.

March 2019

Getting Down to Business

The March 2019 meeting of the PVSG will be held at John Bapst Memorial High School on Monday the 11th at 6:30 pm. David Clark has indicated that he needs to delay his presentation to a future meeting. However we have several important items that need to be discussed.

First, we have been approached by a deaf person that would like to attend our meeting. Seems like a perfect match for a visually oriented pursuit. But in order for him to participate, we need to provide a signer or other technology to allow him to understand us. We have a couple options available that need to be discussed.

Second, attached you will find a tentative schedule of observing events for our organization. Now that it is roughed out, I need input about whether we need to add or delete events, add more cloud dates and on what days. Please consider this a starting point. I have not confirmed anything with Don Krause, Ben Phillips or the Bangor Land Trust, yet, pending your input.

Plus I look forward to hearing observing reports... any comet reports? I also have a report on a couple meeting/lectures that I have attended in the last two weeks. Anyone wishing to give an astro short is invited to present a topic of their interest. And finally, any other business as may come up... a busy night even without Dave's presentation. ---Dwight

Thanks for last month's program go to Shawn for allowing us to meet in the planetarium and showing us the sweeping epic of Aztec mythology.

Lore of the Aztecs

PVSG Meeting, Jordan Planetarium
February 11, 2019



Attendance:
Dave Clark, Treasurer
Don Krause
Dwight Lanpher,
President
Ralph Mallett
Ralph Foss
Shawn Laatsch
Phil Normand,
Secretary

Meeting was brought to order at approximately 6:40.

Dwight announced that the next meeting will be at John Bapst.

Last month's minutes: Approved

Treasurer's Report: Current balance is: \$703.07. Treasurer's report was approved.

Observers reports: Shawn saw Canopus in Hawaii.

New business: Dwight is working on observing dates with Ben Phillips and Don Krause. He is also looking at an April Star Party on a Friday after a public showing at the Jordan Planetarium. Shawn mentioned that the Clark Observatory is scheduled to be open after public showings as

well. If we have the Star Party on a Friday, we could set the next night (Saturday) as the rain date.

Comet Iwamoto is binocular visible right now.

Dwight not recruiting astronomers for Acadia night sky this year.

At March meeting, Dave will give a program on filters. (Update: Dave will be unable to present at the March meeting.)

Program: Shawn presented the program: Mexica Archeoastronomy:

Between Space and Time, the companion presentation to last year's Mayan Archeoastronomy: *Observers of the Sky*. After the presentation, Shawn displayed the current night sky for our area showing where comet Iwamoto is as well as what the sky was like on his latest trip to Hawaii. Dwight asked how far south you would need to be to observe the Magellanic Clouds. Shawn displayed

On the Schedule

(Items Subject to Change)

PROGRAMS

March 11:

STAR PARTIES

- ?May 11: International Astronomy Day Event
- ?July 20: Challenger Center, 50th anniversary of Apollo 11 lunar landing event
- ?November 23: Bangor Land Trust

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

the night sky at different latitudes and showed that it might be visible farther south in North America, but it would be difficult being so low on the horizon.

Meeting adjourned at 7:50.

Phil

Observe the Sky This Month Some Selected Objects March 2019

General sky comments – At last the winter is going away. It will be spring on the 20th and the Moon is full. Look out for werewolves! Spring, the Vernal Equinox, is when spring peepers start their calling in the newly unfrozen vernal pools. I remember going down to the Sedgwick area and listening to the peepers. The sky is also dark in the Eggmoggin Reach, Blue Hill Bay area near Sedgwick. Remember Daylight Savings Time starts on Sunday the 10th. I hope you have set your clocks ahead one hour. If not you are going to be late for the PVSG meeting.

Planets this month – New Moon is on Wednesday the 6th, first quarter is on Thursday the 14th, full Moon is on Wednesday the 20th, and last quarter is on Thursday the 28th. Mercury begins the month low in the evening sky but will be gone by the time you read this only to appear very low in the morning sky also late in the month where it can be observed with difficulty. Venus is very low in the morning sky. Mars is in Aries and moves into Taurus late in the month while in a retrograde motion. As Mars moves east among the stars farther from Earth it is being inevitably overtaken by the Sun and getting lower in the western sky. Jupiter is rising higher in the morning sky in Ophiuchus. Saturn rises 2 hours after Jupiter in the morning sky in Sagittarius. Uranus is difficult to observe in the evening twilight. Neptune is too close to the Sun to be observed. Pluto is impossible to observe in the morning sky. Be sure to get up early this month to observe Jupiter in the southeast morning sky and use a binocular or telescope to see the moons. Saturn follows behind Jupiter. Try to observe the rings with a binocular or get a great view with a telescope.

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. I guess Lacaille did not realize the Argonauts navigated by the stars not a compass. Pyxis is barely 10° above the horizon for us and the three main stars are only 4th magnitude. Pyxis does have at least one open cluster worth observing, NGC 2627 located less than 1° SW of the zeta (ζ) star of the constellation. About 25° north of Pyxis is the first hint of the spring constellations. This is 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. The rest of Hydra will be covered later in the spring. Above Hydra's head is the Zodiac constellation Cancer, the Crab. Cancer contains the naked eye visible open cluster, M44, Praesepe (Latin for manger) also called the Beehive. 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 – Altarf, Beta (β) Cancrī is the brightest star in Cancer at mag 3.5. It is a red giant star and if it were not 300 light years distant it might rival Aldebaran in Taurus because they are similar in color. Altarf has two known companions. The first is located so far from the main star it has never moved a significant distance in its orbit since it was discovered by S. W. Burnham in 1889 at 14th mag. It is definitely a companion because it has always moved with the primary but it must be very far away. The second companion is also 14th mag but not much is known about it. The primary star is a variable of unknown type 50 times larger than our star. It is listed as a variable star but has little observable magnitude change. Therefore the type of variability is unknown.

Featured Constellation – Cancer the crab is a dim constellation with the brightest star Altarf the beta (β) star listed at magnitude 3.5. The constellation is shaped like an inverted Y pattern with M44 at the junction of the three lines. Cancer is the dimmest Zodiac (path of the Sun) constellation. The constellation is best known for hosting M44 but also contains M67. 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.

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 M67. I counted over 100 stars in M67 with the 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 and 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 sky objects of interest – The constellation Hydra has one Messier object M48 (NGC 2528) easily observed this month and two others easier to observe (and to write about) in a later month observation. M48 (NGC 2548) is a large open cluster covering about ½ degree in the sky with 50 to 80 stars noted, some in lanes. To find this cluster start at Procyon, use your finder and go 10° SE to a triangle of 4th magnitude stars in Monoceros. M48 is 4° farther on across the border of Hydra and might already be in the field of view of the finder.

Bill

Discovering the Panhandle Sky From *The Guymon Daily Herald*

On a clear night do you look up and see a bright star or the Moon and think, I should know more about these objects? Come with me and discover objects visible in the night sky and information about some of them. Follow along and become more familiar with the night sky.

At this time of the year if you look to the south you will notice a grouping of bright stars. Look for a pattern of 4 stars in a rectangle with a line of 3 stars in the middle. This grouping of stars called a constellation is known to astronomers as Orion, the Hunter. Now look at some of the less bright stars in the area and you can imagine to the right a curve of stars representing a shield held in his forward hand. Now look up and to the left to find a line of stars ending in two stars representing a club in his other hand ready to strike an unknown prey. Remember those 3 stars inside the rectangle? Those represent the belt of Orion. Notice a short line of stars hanging down, those represent his sword. Look carefully and you might notice a fuzzy star in this line of stars for the sword handle. Using a telescope or even a binocular on this star you will see one of the most beautiful sights in the night sky, the Great Orion Nebula. The names of the bright stars in Orion from the upper left clockwise to the right are Betelgeuse, Bellatrix, Rigel, and Saiph. The names of the stars in the belt are from left to right Alnitak, Alnilam, and Mintaka. For the next bright star look up and to the right from Orion and there is Aldebaran the eye of Taurus, the Bull. Does he have a red or orange eye? If correct he must be angry. Look for the dimmer stars in this area and you should see how they form the “V” shape of his head including his long horns. Almost overhead is the last bright star we will observe, Capella in the constellation of Auriga, The Charioteer. Some people see Capella as the charioteer in his chariot and others see just a chariot. Do you see either of these or maybe just a pentagon of stars?

The moon is at first quarter on the 12th [of February], the full moon is on Tuesday the 19th. Last quarter is on Tuesday the 26th, and new moon is on Monday the 4th. Mercury is too close to the sun to be observed early in the month but by mid-month it has moved far enough away from the sun to be seen in the early evening. By the end of the month Mercury will be making its best appearance of the year. Venus is visible low in the southeast morning sky. Mars is in Aries then moves into Taurus mid-month and still high in the sky early. Jupiter is in Ophiuchus all month where it will be most of the rest of the year. Saturn is in Sagittarius in the early morning sky and will remain there until much later in the year. Uranus is in Pisces when the month begins then passes into Aries early in the month. It sets before midnight. Neptune may be viewed with a telescope briefly after sunset. Pluto is in the morning sky in Sagittarius.

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PVSG 2019 Tentative Observing Schedule

Day	Time	Date(s)	Event	Location	Notes
Saturday		3/30/19	Star Party ???	???	Too cloudy/cold?
APRIL					
Friday		4/5/19	New Moon		
Sat-Sun		4/6-4/7	Northeast Astronomy Forum	Suffern, NY	
Friday		4/26/19	Emera Center Star Party	Univ ME Orono	
MAY					
Friday		5/3/19	Emera Star Party Cloud date	Univ ME Orono	
Saturday		5/4/19	New Moon		
Saturday		5/11/19	Astronomy Day	???	1st Quarter Moon
JUNE					
Saturday		6/1/19	Star Party	Donal Krause, Levant	
Monday		6/3/19	New Moon		
Saturday	9:00-3:00	6/15/19	Margaretta Days Solar Viewing	Univ ME Machias	DEAA invitation to all
Sat thru Sat		6/22-6-29	Grand Canyon Star Party		
JULY					
Monday		7/2/19	New Moon		
Saturday		7/20/19	50th Anniversary of Apollo 11	???	4 days after full moon
Saturday		7/27/19	PVSG Sunfest	???	
Sunday		7/28/19	PVSG Alternate Sunfest	???	
Wednesday		7/31/19	New Moon		
AUGUST					
Sun-Sun		7/28-8/4	Maine Astronomy Retreat	Washington, ME	Paid participation
Thu-Sun		8/1-8/4	Stellafane, Wade & party, DEAA	Springfield, Vermont	Paid participation
Saturday	9:00-3:00	8/10/19	Calais International Festival Solar Viewing		DEAA invitation to all
Saturday	9:00-3:00	8/17/19	Machias Blueberry Festival Solar Viewing		DEAA Invitation to all
Fri-Sat		8/23-8-24	Maine State Star Party	Cobscook Bay State Park	
Friday		8/30/19	New Moon		
SEPTEMBER					
Fri-Sun		9/6-9/8	ASNNE Starfest	Kennebunk, ME	ASNNE invitation to all
Saturday		9/21/19	Stars Over Katahdin	Katahdin Woods & Waters	
Wed-Sun		9/25-9/29	Acadia Night Sky Festival	Mt. Desert Island	
Saturday		9/28/19	New Moon		
OCTOBER					
Saturday		10/26/19	Star Party	Ben Philips, Herman	
Sunday		10/27/19	New Moon		
NOVEMBER					
Saturday		11/23/19	Star Party	Bangor Land Trust?	
Tuesday		11/26/19	New Moon		
DECEMBER					
Thursday		12/26/19	New Moon		

Globe at Night Observing Nights:

1/27-2/5	7/24- 8/02
2/26-3/7	8/22- 8/31
3/27-4/5	9/20- 9/29
4/25-5/4	10/19-10/28
5/25-6/3	11/18-11/27
6/24-7/3	12/18-12/27