

Skylights

Newsletter of the Astronomical Society of Northern New England



OCT 2021



Member of NASA's
Night Sky Network



Astronomical League

ASNNE MISSION

ASNNE is an incorporated, non-profit, scientific and educational organization with three primary goals:

- 1) To have fun sharing our knowledge and interest with others.
- 2) To provide basic education in astronomy and related sciences to all who are interested.
- 3) To promote the science of Astronomy.

What's Up In October

By Bernie Reim

This is the first full month of fall for us in the northern hemisphere. Our wonderful flaming foliage will transform our terrestrial landscape with brilliant colors even as our celestial skyscape is being changed as part of its continual and much longer cycles. Summer constellations including the prominent summer triangle are slowly sinking lower into the western sky even as winter constellations like Taurus and Orion and the whole winter hexagon are already beginning to rise in the east. Since any given star will rise 4 minutes earlier each night, the entire sky will appear to rotate at the rate of 2 hours each month. So if you look at the sky at midnight now in early October, you will see that same sky at 10 pm in early November and at 8 pm in early December.

This month will host its share of interesting highlights including three evening planets, Jupiter, Saturn, and Venus, and the best morning apparition of Mercury for the year. Of the 5 brightest planets only Mars will be missing since it is too close to the sun now and will not reappear until December in the morning sky. There will also be the usual close conjunctions of the moon with the planets, not one but three comets visible in telescopes, several asteroids at opposition and a meteor shower, the Orionids on the 21st.

Both Saturn and Jupiter will end their retrograde or westward motion this month. Saturn will do that on the 10th and Jupiter will do it on the 18th. They are both at opposite ends of Capricorn the Sea Goat now. Saturn rises first in the western end of Capricorn and then Jupiter rises in the eastern end of Capricorn about an hour later. They are both up already by the time it gets dark enough to see them. Since Jupiter is about 15 times brighter than the ringed planet, you will see it about half an hour before it gets dark enough to spot Saturn. They are both getting slightly smaller and fainter now as the earth is pulling farther ahead of them in our faster orbit around the sun.

I had some of my best views of Saturn through our 8 inch Zeiss reflecting telescope at the observatory in Kennebunk at our recent annual Star fest. I could clearly see the Cassini

division in the rings of Saturn, the shadow of the rings on the planet, the shadow of Saturn on its rings, and several of its 82 moons. Then we also witnessed some nice shadow transits of several of the Galilean moons across the face of Jupiter, which has 79 known moons as of now.

Mercury reaches inferior conjunction with the sun on the 9th. That is when a transit across the face of the sun is possible, but the sun, Earth, and the planet have to be lined up perfectly for that to happen, which will not be the case this year. The last transit of Mercury was on May 9 of 2016 and the next one will not be until November 13 of 2032. Notice that Mercury transits always have to happen in May or November. We get about 13 of them per century.

Venus transits are much less common; we get less than two per century. They occur in a strange pattern of 8 years apart and then a large gap of 105.5 years, with the next 8 year gap followed by an even larger gap of 121.5 years. I was fortunate to see both of the last Venus transits, in June of 2004 followed by one in June of 2012. Through a telescope with a good solar filter I was treated to a wonderful and unexpected sight.

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What's Up "Continued from page 1"

I could clearly see the brilliantly glowing semicircular arc of the dense and poisonous atmosphere of Venus starkly contrasted against the blackness of space as the planet was just exiting the sun for about 2 minutes.

Mercury starts climbing into the morning sky right after its conjunction with the sun and it will become visible about an hour before sunrise for the last two weeks of this month low in the eastern morning sky. Since our first planet reaches greatest western elongation from the sun at 18 degrees on the 25th, this will be its best morning apparition for this year.

Even though we can't see Mars now in our skies for several more months, we should keep in mind that all of the current missions on Mars involving three different countries are doing very well and producing some good science to further our understanding of this planet and prepare us for humans to walk on its surface within the next couple of decades. The Perseverance Rover came up empty with its first attempt at drilling a rock sample, but living up to its name, it corrected the problem and succeeded the next time.

It has 43 sample tubes to fill that will be collected by a future mission and blasted off the Martian surface and returned to earth in about 10 years, marking the first time in the 200,000 year history of modern humans that we have returned anything from a neighboring planet. We have returned 842 pounds of moon rocks 50 years ago, but that was much easier to do because the moon is so much closer to us.

We expect to capture ancient water bubbles in these samples along with evidence of microbial life. We are in the perfect place to do this, right in a river delta which used to flow into a lake which is now the 25 mile-wide dried lake bed called the Jezero Crater. The Ingenuity helicopter is providing great reconnaissance, having already flown more than a dozen flights and providing high resolution color images of places that the rover could not reach and helping to map its exploration route safely.

The 3 comets visible in telescopes this month are Churyumenko-Gerasimenko and ATLAS in Taurus and Comet Faye in Orion. They will reach 10th or 11th magnitude, or about 100 times fainter than anything you could see with the naked eye, so you would need at least an 8-inch telescope.

The Orionid meteor shower peaks on the 21st, but that will be near the full moon this month, so that will wash out most of its

expected 20 meteors per hour. Since this shower is created by Halley's Comet, you will be seeing tiny sand grain-sized pieces of this famous comet returning to Earth only to be vaporized in our atmosphere. This happens again on May 5 during the Eta Aquarids, also caused by Halley's Comet. The comet itself will next return in 2062 with a much better show than it gave in 1985-86.

The four civilians that recently splashed down into the Atlantic near where they launched into space from Cape Canaveral 3 days earlier made history and ushered in a whole new era of space tourism. They made 54 orbits around the earth during those 3 days, since it only takes 90 minutes to complete one orbit. They went up to 360 miles above the earth, fully 100 miles higher than the ISS orbits and they had a much better view than the astronauts since they also had a much bigger 180-degree window. For those short 3 days we had 14 humans in orbit around our planet, more than ever before in our entire history. There are 7 astronauts aboard the ISS and 3 Chinese astronauts that are building the Tiangong Chinese space station by the end of 2022.

Oct.4. On this day in 1957 the Russians launched Sputnik 1, the first satellite ever, marking the beginning of the space age.

Oct.5. On this day in 1923 Edwin Hubble discovered Cepheid Variable stars in the Andromeda Galaxy and used them to estimate the distance to that galaxy.

Oct.6. New moon is at 7:05 a.m. EDT.

Oct.7. Neils Bohr was born on this day in 1885. He was one of the original founders of the revolutionary new understanding of the universe at the tiniest scale, quantum mechanics. Many other great physicists like Dirac, Heisenberg, Pauli, Schroedinger, Planck and others contributed to those great paradigm-shifting discoveries.

Oct. 9. The moon passes near Venus this evening. Kepler's supernova was first seen on this day in 1604 in the constellation of Ophiuchus the serpent-bearer.

Oct. 10. Saturn is stationary and ends its retrograde motion today.

Oct. 12. First quarter moon is at 11:25 p.m.

Oct. 14. The moon passes 4 degrees south of Saturn this evening. The first supersonic flight was accomplished on this day in 1947.

Oct. 15. The moon passes 4 degrees south of Jupiter this evening.

Oct.16. Venus passes just north of Antares in Scorpius this evening.

Oct. 18. Jupiter is stationary and ends its retrograde motion today.

Oct. 20. Full moon is at 10:57 a.m. This is also called the Hunter's Moon.

Oct. 21. The Orionid meteor shower peaks tonight.

Oct. 28. Last quarter moon is at 4:05 p.m. EDT.

Moon Phases

Oct 6
New

Oct 12
First Quarter

Oct 20
Full

Oct 28
Last Quarter

Moon Data

Oct 8
Moon at perigee

Oct 9
Venus 3° south
of Moon

Oct 14
Saturn 4° north
of Moon

Oct 15
Jupiter 4° north
of Moon

Oct 17
Neptune 4° north
of Moon

Oct 21
Uranus 1.3° north
of Moon

Oct 24
Moon at apogee

OBSERVER'S CHALLENGE* – October, 2021

by Glenn Chaple

NGC 6857 – Emission Nebula in Cygnus (Magnitude 11.4, Size 40")

Astronomical literature notes that this month's Observer's Challenge, NGC 6857, is a planetary nebula that wasn't. It was correctly identified as a faint nebula by William Herschel, who discovered it on September 5, 1784. Because of its small size and the presence of a false central star, it was later misclassified as a planetary nebula. Only in recent decades has NGC 6857 returned to its rightful status as a nebula – an emission nebula, to be exact.

NGC 6857 is located in the heart of Cygnus at 20h 01m 48s right ascension and +33° 31' 38' declination. It's just 2 degrees SSE of the 4th magnitude star eta (η) Cygni, which was my starting point for a star-hop (see accompanying finder charts).

I observed NGC 6857 with a 10-inch f/5 reflector on an evening when the magnitude limit was around 5.0. I was unable to see it without the aid of OIII and narrowband filters. Even at 139X, it was small – appearing as a pale ghostly 'flame' emanating eastward from the vicinity of a 13th magnitude star.

NGC 6857 is part of a much larger but fainter emission nebula Sharpless 2-100. Approximately 30,000 light years away, its 40 arc-second apparent size translates to a true diameter of 9 light years.

*The purpose of the Observer's Challenge is to encourage the pursuit of visual observing. It is open to anyone who is interested. If you'd like to contribute notes, drawings, or photographs, we'd be happy to include them in our monthly summary. Submit your observing notes, sketches, and/or images to Roger Ivester (rogerivester@me.com). To find out more about the Observer's Challenge, log on to rogerivester.com/category/observers-challenge-reports-complete.

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Finder Charts for NGC 6857

Chart from theskylive.com

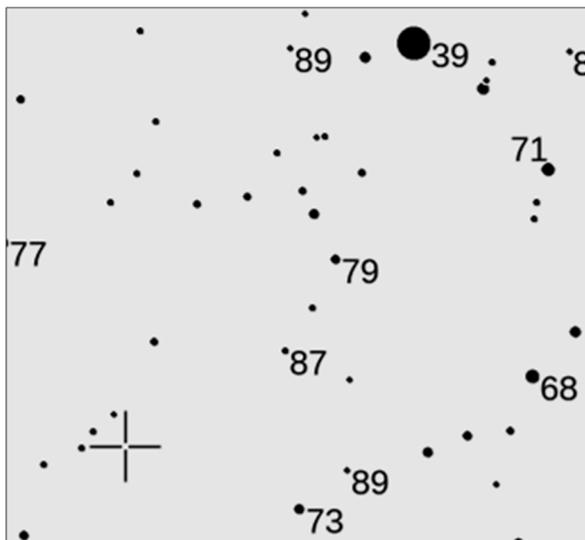


Chart adapted from the AAVSO's Variable Star Plotter (VSP). Numbers refer to stellar magnitudes, decimals omitted. Stars plotted to 9th magnitude. The magnitude 3.9 star is eta Cygni. North is up in this 2 degree field.

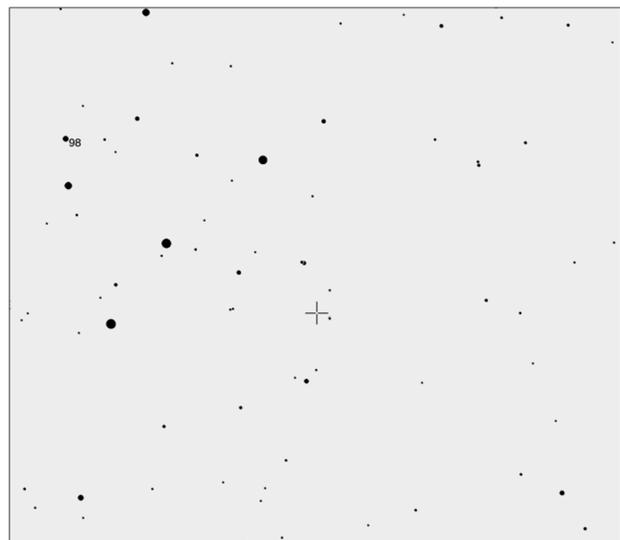
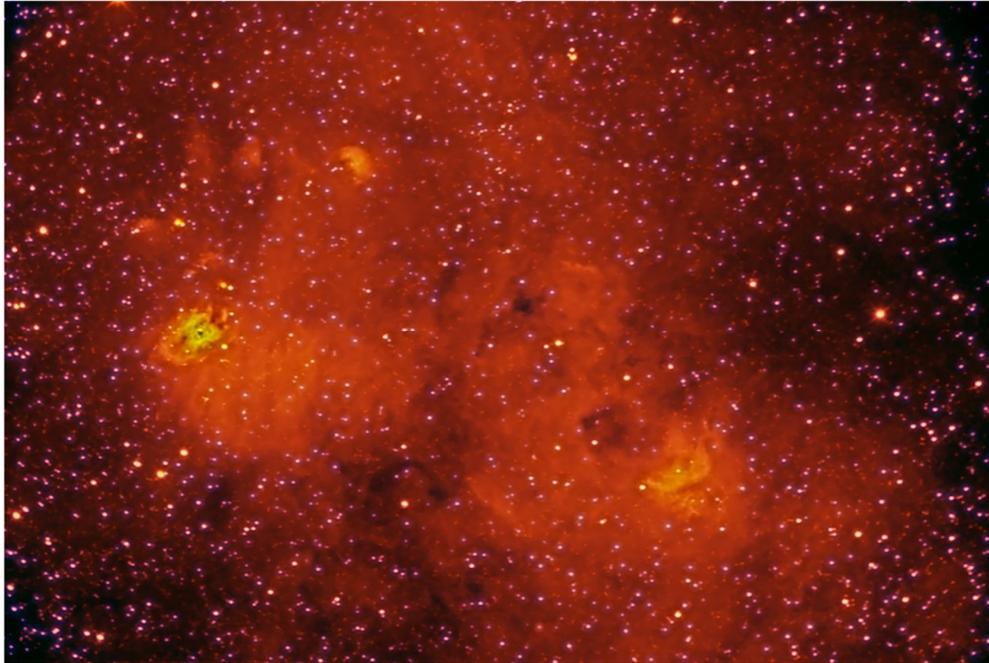


Chart adapted from the AAVSO's Variable Star Plotter (VSP). Numbers refer to stellar magnitudes, decimals omitted. Stars plotted to 12th magnitude. North is up in this 1/2 degree field.

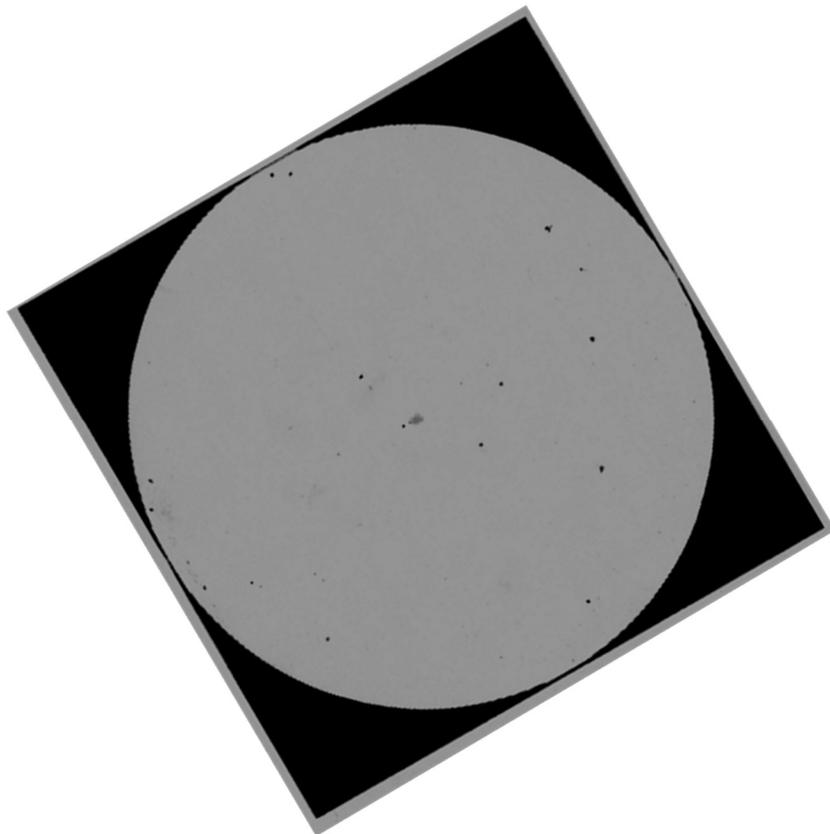
“Continued on page 5”

Images for NGC 6857

Image by Mario Motta, MD (ATMoB) Taken with 32 inch telescope, 3 hours, 1 hour each Ha, S2, O3 filters processed pixinsight, touch up in photoshop. NGC 6857 is the bright area at center left. North is up.



Sketch by Glenn Chaple (ATMoB) with 10-inch f/5 reflector at 139X. North is up in this 0.6 degree field.



Principal Meteor Showers in 2021

January 4
Quadrantids

April 22
Lyrids

May 6
Eta Aquarids

July 30
Delta Aquarids

August 12
Perseids

October 9
Draconid

October 21
Orionids

November 9
Taurids

November 18
Leonids

November 26
Andromedids

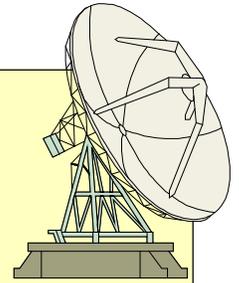
December 14
Geminids

December 22
Ursids

*Note: Dates are
for maximum*

Got any News?

Skylights Welcomes Your Input.



Here are some suggestions:

***Book reviews -- Items for sale -- New equipment --
Ramblings -- Star parties -- Observing -- Photos.***

Our Club has Merchandise for Sale at: www.cafepress.com/asnne



***ALL money raised goes to our operating fund.
Any design can be put on any item.***

Contact David Bianchi dadsnorlax@yahoo.com for further details.

Benefits of Membership

- Attend our monthly meetings and club star parties
 - Our Monthly Newsletter: *Skylights*
 - Discounts on *Sky & Telescope*. and *Astronomy* magazine subscriptions
 - Automatic subscription to the Astronomical League's quarterly newsletter, *The Reflector*
 - With proper training, access to the equipment at ASNNE's Talmage Observatory at Starfield.
 - By special arrangement, free admission to the Southworth Planetarium at USM in Portland
- Enjoy sharing your interest and have fun learning about Astronomy!



This article is distributed by NASA Night Sky Network

The Night Sky Network program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit nightsky.jpl.nasa.org to find local clubs, events, and more!

Weird Ways to Observe the Moon

By David Prosper

International Observe the Moon Night is on October 16 this year– but you can observe the Moon whenever it's up, day or night! While binoculars and telescopes certainly reveal incredible details of our neighbor's surface, bringing out dark seas, bright craters, and numerous odd fissures and cracks, these tools are not the only way to observe details about our Moon. There are more ways to observe the Moon than you might expect, just using common household materials.

Put on a pair of sunglasses, especially **polarized sunglasses**! You may think this is a joke, but the point of polarized sunglasses is to dramatically reduce glare, and so they allow your eyes to pick out some lunar details! Surprisingly, wearing sunglasses even helps during daytime observations of the Moon.

One unlikely tool is the humble **plastic bottle cap**! John Goss from the Roanoke Valley Astronomical Society shared these directions on how to make your own bottle cap lunar viewer, which was also suggested to him by Fred Schaaf many years ago as a way to also view the thin crescent of Venus when close to the Sun:

“The full Moon is very bright, so much that details are overwhelmed by the glare. Here is an easy way to see more! Start by drilling a 1/16-inch (1.5 mm) diameter hole in a plastic soft drink bottle cap. Make sure it is an unobstructed, round hole. Now look through the hole at the bright Moon. The image brightness will be much dimmer than normal – over 90% dimmer – reducing or eliminating any lunar glare. The image should also be much sharper because the bottle cap blocks light from entering the outer portion of your pupil, where imperfections of the eye's curving optical path likely lie.” Many report seeing a startling amount of lunar detail!

You can **project the Moon**! Have you heard of a “Sun Funnel”? It's a way to safely view the Sun by projecting the image from an eyepiece to fabric stretched across a funnel mounted on top. It's easy to make at home, too – directions are here: bit.ly/sunfunnel. Depending on your equipment, a Sun Funnel can view the Moon as well as the Sun– a full Moon gives off more than enough light to project from even relatively small telescopes. Large telescopes will project the full Moon and its phases, with varying levels of detail; while not as crisp as direct eyepiece viewing, it's still an impressive sight! You can also mount your smartphone or tablet to your eyepiece for a similar Moon-viewing experience, but the funnel doesn't need batteries.

Of course, you can join folks in person or online for a celebration of our Moon on October 16, with International Observe the Moon Night – find details at moon.nasa.gov/observe. NASA has big plans for a return to the Moon with the Artemis program, and you can find the latest news on their upcoming lunar explorations at nasa.gov.

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Sun Funnels in action! Starting clockwise from the bottom left, a standalone Sun Funnel; attached to a small refractor to observe the transit of Mercury in 2019; attached to a large telescope in preparation for evening lunar observing; projection of the Moon onto a funnel from a medium-size scope (5 inches).

Safety tip: NEVER use a large telescope with a Sun Funnel to observe the Sun, as they are designed to project the Sun using small telescopes only. Some eager astronomers have melted their Sun Funnels, and parts of their own telescopes, by pointing them at the Sun - large telescopes create far too much heat, sometimes within seconds! However, large instruments are safe and ideal for projecting the much dimmer Moon. Small telescopes can't gather enough light to decently project the Moon, but larger scopes will work.

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International OBSERVE
THE **MOON NIGHT 2021**

SATURDAY
OCTOBER 16TH



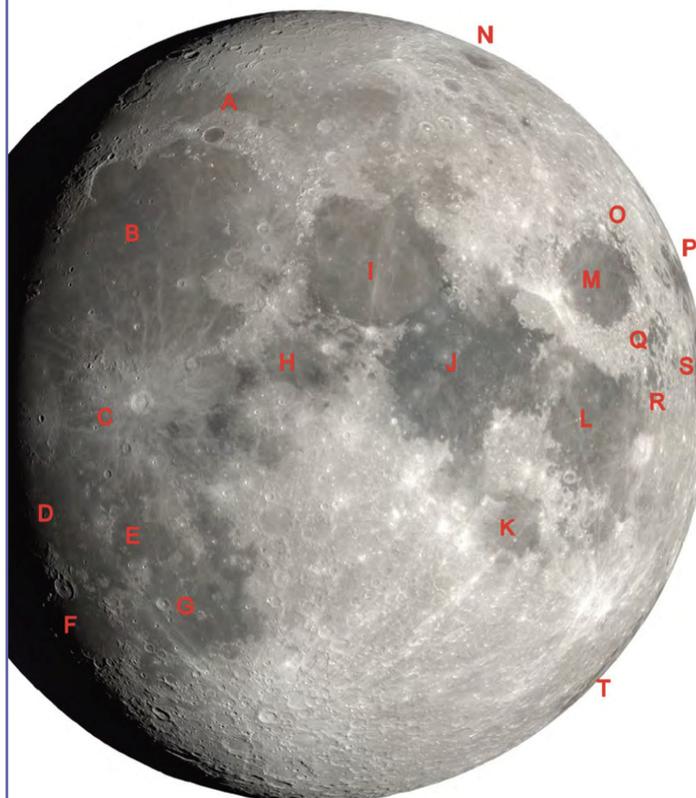
**NORTHERN HEMISPHERE MOON MAP WITH
LUNAR MARIA (SEAS OF BASALT)**

Moon Map

This map was created for International Observe the Moon Night 2021. It depicts the Moon as it will appear from the northern hemisphere at approximately 11:00 PM EDT on October 16, 2021 (3:00 AM UTC on October 17).

Lunar Maria (Seas of Basalt)

You can see a number of maria tonight. Once thought to be seas of water, these are actually large, flat plains of solidified basaltic lava. They can be viewed in binoculars or even with the unaided eye. Tonight, you may be able to identify 18 maria on the Moon. This includes four seas along the eastern edge that are often hard to see. Because of libration, a slight apparent wobble by the Moon in its orbit around Earth, tonight we get to peek slightly around the northeast edge of the Moon, glimpsing a sliver of terrain normally on the Moon's far side.



Map generated with NASA's Dial-A-Moon (<https://svs.gsfc.nasa.gov/4874>)



- | | | |
|--|--|---------------------------------|
| A. Mare Frigoris (Sea of Cold) | H. Mare Vaporum (Sea of Vapors) | O. Mare Anguis (Serpent Sea) |
| B. Mare Imbrium (Sea of Rains) | I. Mare Serenitatis (Sea of Serenity) | P. Mare Marginis (Border Sea) |
| C. Mare Insularum (Sea of Isles) | J. Mare Tranquillitatis (Sea of Tranquility) | Q. Mare Undarum (Sea of Waves) |
| D. Oceanus Procellarum (Ocean of Storms) | K. Mare Nectaris (Sea of Nectar) | R. Mare Spumans (Sea of Foam) |
| E. Mare Cognitum (Known Sea) | L. Mare Fecunditatis (Sea of Fertility) | S. Mare Smythii (Smyth's Sea) |
| F. Mare Humorum (Sea of Moisture) | M. Mare Crisium (Sea of Crises) | T. Mare Australe (Southern Sea) |
| G. Mare Nubium (Sea of Clouds) | N. Mare Humboldtianum (Humboldt's Sea) | |

[MOON.NASA.GOV/OBSERVE](https://moon.nasa.gov/observe) #ObserveTheMoon

You can download and print NASA's observer's map of the Moon for International Observe the Moon Night! This map shows the view from the Northern Hemisphere on October 16 with the seas labeled, but you can download both this map and one of for Southern Hemisphere observers, at: bit.ly/moonmap2021 The maps contain multiple pages of observing tips, not just this one.

Point and Shoot Camera Astroimaging (no telescope)

Canon Powershot SX50 HS

Image & write-up submitted by Paul Kursewicz

Scorpius (Constellation)

Specs: RAW mode, FL 39mm, ISO 1600, 1 x 30 sec image, 9-3-21



I took this picture during one of our Starfest Convention nights. There were clouds early on with pockets of clear seeing here and there. So I decided to point my camera low in the western sky and take a picture of Scorpius (which fills most of my frame). The bright yellow/orange star (just left of center) is Antares. It's known as the rival of Mars because Antares is approximately the same hue and brightness of Mars. Antares is also known as the "Heart of the Scorpion," and has been for a long time. Babylonian writings from 5,000 years ago refer to the constellation as a being with a "burning sting." The two bright stars that are close to each other near the left edge of my image represent the Scorpion's stinger. Antares is a red supergiant star and is among the 20th brightest in the night sky, is 700 times the Sun's diameter and 604 ly away. If Antares replaced our Sun in the solar system, its outer surface would extend beyond the orbit of Mars. There are three bright streaks in my picture. The two that are located in the left half of my image are probably airplanes, the one located in the right half of my image is probably a meteor. Can you see M4, the small fuzzy object just barely visible to the lower right of Antares? To zero in on this Globular Cluster look about half way between the distance of Antares and the bright star to its right, and a bit lower in their line.

"Continued on page 11"

Globular Clusters M4 & NGC 6144 with Antares

Specs: RAW mode, FL 690mm, ISO 800, 29 x 1 min, 7-6-18



I took this picture back in July, 2018. The bright yellow/orange star is Antares and to its right is M4, a very bright Globular Cluster. And because of its apparent magnitude of 5.9 and its closeness to Antares, it's one of the easiest Globular Clusters to find. It was discovered by Philippe Loys de Chéseaux in 1745 and catalogued by Charles Messier in 1764. It was the first globular cluster in which individual stars were resolved. M4 measures 75 ly across, is 7,200 ly away, making it the closest globular cluster to our Solar System. It has an estimated age of 12.2 billion years. The cluster is predicted to contain up to 40,000 white dwarfs. The white dwarfs in M4 are less than one-billionth the apparent brightness of the faintest stars that can be seen with the naked eye. Even the brightest of the detected white dwarfs are no more luminous than a 100-watt light bulb seen at the moon's distance. The faintest are comparable to a 2.5-watt night-light at the same distance. A smaller Globular Cluster known as NGC 6144 is to the upper right of Antares. NGC 6144 is 33,000 ly away. It's over 3 times farther away than M4 and makes it appear around 3 times smaller.

STARFEST 2021



When I arrived on Friday around 1:20 pm Keith was in the process of hanging up our sign.



Peter arrived about 20 minutes before me.



Wayne arrived next and the three of us put up the tent.



Peter was the mastermind on the new tarp setup. The old tarp was much smaller. A new configuration was needed.



Gene arrived soon after things were under way.



The new tent tarp provides more space.

“Continued on page 13



The Talmage Observatory dedication ceremony was held on Saturday. Ian did the unveiling. Chris did not make it.



The Peter Talmage plaque was attached to the inside of the observatory door.



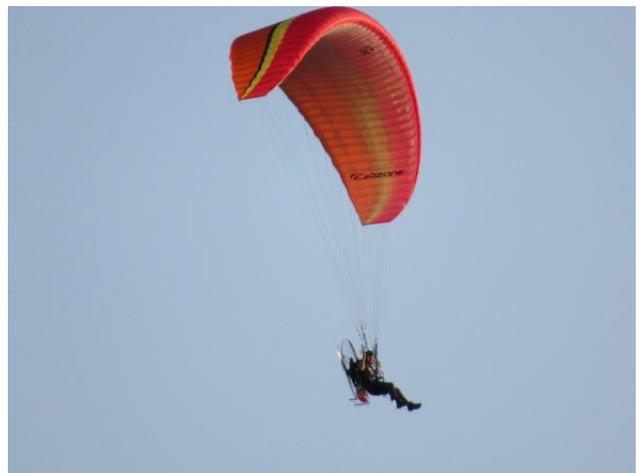
Club BBQ. Alyson did a great job orchestrating this.



Plenty of food, deserts and drinks.



It was good to see Pat at Starfest.



Overhead visitor.

“Continued on page 14”



“Continued on page 15”



Astronomical Society of Northern New England (ASNNE) Meeting Notes of
3-5 September 2021

Record Note: There was no formal Meeting in September, as it was Starfest; so these Notes are provided, not formal Minutes. I was only present for a portion of Starfest, so these Notes are weighed towards the part I was present for.

Starfest on Friday: Quite a few people were here for observing. I saw one tent on Saturday that had been erected Friday.

Starfest Barbeque: A blue tarp had been set up for the barbeque. Alyson was in overall charge, once again, and she had coordinated all the people bringing items. Thank-you, Alyson! Cooking started at about 2:30 pm. There were hamburgers, hot dogs, vegetable burgers, spicy sausages, the rolls for them, fresh corn, all the 'fixins', and more. There were about twenty people at the barbeque. There was more than enough food! Thank you to all the people who brought items.

Talmage Observatory at Starfield Dedication: President Ian took over at this point, and gave an abbreviated history of the Observatory, and the major role Peter Talmage had taken in bringing it into existence. Some people also spoke, with remembrances of Peter, and the initial work on the Observatory. We then moved into the Observatory, and President Ian unveiled the dedication Plaque.

Some ASNNE Business: David took over.

First, he provided a verbal sketch of the private Star party that was held in late August for Chris & Barbara Wertman, of Columbia, Maryland. They came with their extended family, just under a dozen people. The "ASNNE Team" of Gary, Berne, David, Paul K., and Carl, operated the telescopes, showed astrophotographs, and in general provided background. The Wertman's provided an envelope with a contribution, which we later saw to be \$1,000.00. So, the ASNNE Team there is clearly our "A" Team.

Secondly, David went over some up-coming Star Parties, and made sure that there would be ASNNE Members present to conduct them.

We all then had dessert.

Observing: Fifteen to twenty people were expected to show up later for observing.

Next Meeting: The next ASNNE Meeting will be at the New School, on Friday, 1 October, at 7:30. Business Meeting to precede the Regular Meeting.

Respectfully submitted,

Carl Gurtman

Club Meeting & Star Party Dates

| Date | Subject | Location |
|--------------|--|--|
| <u>Oct 1</u> | <p><u>ASNNE Club Meeting:</u></p> <p>Business Meeting starts prior to Club meeting.</p> <p>7:30-9:30PM: Club Meeting</p> <p>Guest Speaker/ Discussion Topic - open</p> <p>Bernie Reim - What's UP</p> <p>Astro Shorts: (news, stories, jokes, reports, questions, photos, observations etc.)</p> <p>NOTE: If skies are clear members might go to Starfield Observatory for an observing session.</p> <p>Last Month Last month was Starfest. We had a wonderful weekend. As always, the company was great. Saw my best view of Saturn on Saturday night through my 12.5-inch Dob. The planet casted its shadow on the inside edge of its ring. The Cassini Division was sharp, and a shadow of the front ring was cast onto the planet. Finally saw the Blue Snowball thru the 16-inch Meade. Great planetary for large diameter scopes.</p> | The New School, Kennebunk, Me. |
| <u>Oct 1</u> | Club/Public Star Party: If the weather is clear. | Talmage Observatory at Starfield West Kennebunk, Me. |

Directions to ASNNE event locations

Directions to The New School in Kennebunk [38 York Street (Rt1) Kennebunk, ME]

For directions to The New School you can use this link to the ASNNE NSN page and then click on "get directions" from the meeting location. Enter your starting location to generate a road map with complete directions. It works great. http://nightsky.jpl.nasa.gov/club-view.cfm?Club_ID=137

Directions to Talmage Observatory at Starfield [Alewife Road, Kennebunk, ME]

From North:

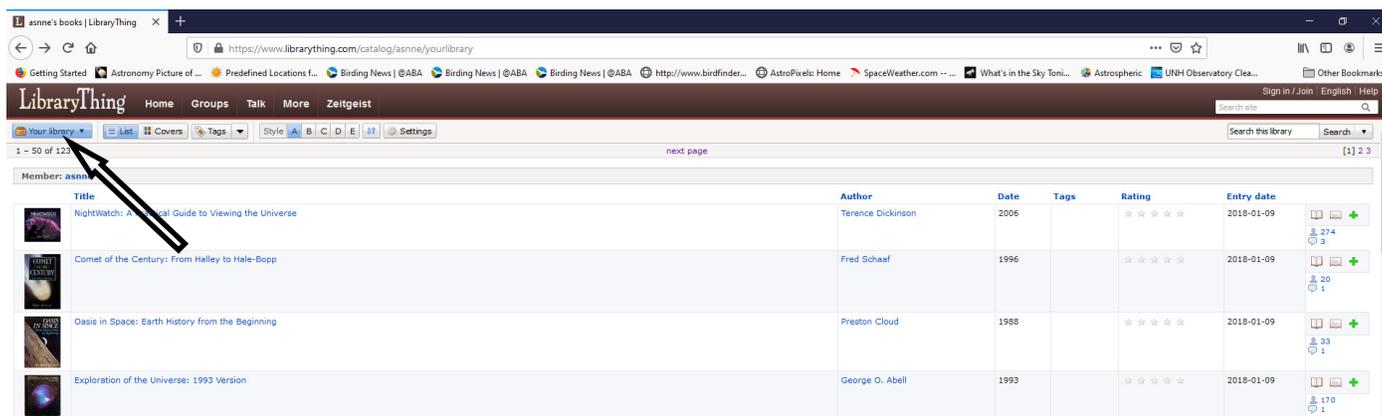
Get off turnpike at exit 32, (Biddeford) turn right on Rt 111. Go 5 miles and turn left on Rt 35. Go 2 miles on Rt 35 over Kennebunk River to very sharp 90 degree left turn. The entrance to the Starfield Observatory site is at the telephone pole at the beginning of the large field on the left. Look for the ASNNE sign on the pole.

From South:

Get off the turnpike at exit 25 in Kennebunk. After toll both turn right on Rt 35. Go up over the turnpike and immediately turn right on Rt 35. About 4 miles along you will crest a hill and see a large field on your right. Continue until you reach the end of the field. Turn right into the Starfield Observatory site at the last telephone pole along the field. Look for the ASNNE sign on the pole. If you come to a very sharp 90 degree right turn you have just passed the field.

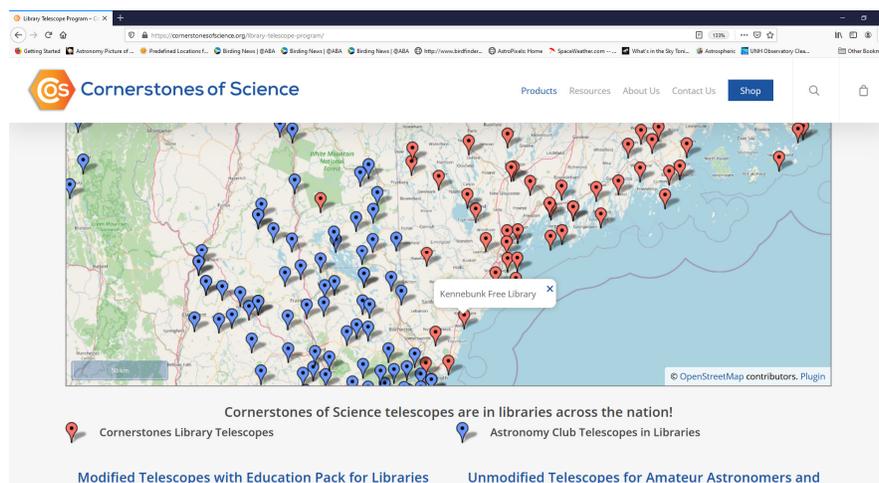
Astronomy Club & Library Resources

Our club has a library of astronomy books which are stored at The New School in Kennebunk, Maine (our monthly club meeting location). To request a book(s), contact one of the club officers. A listing of books is provided here: <https://www.librarything.com/profile/asmne> . After clicking on the link, a window will open. Click on “Your library” near the upper left corner (as shown by the arrow below). Then scroll down to the end of the page to go to the next page.



Would you like to borrow a telescope? While many astronomy clubs may have a scope to lend out, there are also many libraries which have telescopes for their guests to use. Here are a couple of links.

The following link will bring up an active map (see screen shot below) of the USA showing the libraries which have telescopes to lend out: <https://cornerstonesofscience.org/library-telescope-program/>



The below link will show a list of known participating library locations for the state of Maine.
<https://www.librarytelescope.org/locations/usa/maine>

To join **ASNNE**, please fill out the below membership form. *Checks should be made payable to: Astronomical Society of Northern New England (A.S.N.N.E).* For more details, please visit our website: <http://www.asnne.org>



Astronomical Society of Northern New England
 P.O. Box 1338
 Kennebunk, ME 04043-1338

2021 Membership Registration Form

(Print, fill out and mail to address above)

Name(s for family): _____

Address: _____

City/State: _____ Zip code: _____

Telephone # _____

E-mail: _____

Membership (check one):

Individual \$35 _____ Family \$ 40 _____ Student under 21 years of age \$10 _____ Donation _____

Total Enclosed _____

Tell us about yourself:

1. Experience level: Beginner _____ Some Experience _____ Advanced _____

2. Do you own any equipment? (Y/N) And if so, what types?

3. Do you have any special interests in Astronomy?

4. What do you hope to gain by joining ASNNE?

5. How could ASNNE best help you pursue your interest in Astronomy?

6. ASNNE's principal mission is public education. We hold many star parties for schools and the general public for which we need volunteers for a variety of tasks, from operating telescopes to registering guests to parking cars. Would you be interested in helping?

Yes _____ No _____

7. ASNNE maintains a members-only section of its web site for names, addresses and interests of members as a way for members to contact each other. Your information will not be used for any other purpose. Can we add your information to that portion of our web site?

Yes _____ No _____

