

Skylights

Newsletter of the Astronomical Society of Northern New England



OCT 2023



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

The month of October is name "octo", Latin for "eight". This used to be the eighth month of the year when March was the first month in the early Roman calendar. October is also always the first full month of fall for us in the northern hemisphere.

Our famous New England fall foliage will peak later this month, once again transforming our lush green summer vegetation into the much more vibrant reds and oranges of autumn. Just as our terrestrial landscape is being transformed, so is our celestial landscape. Summer constellations like Scorpius and Sagittarius are slowly slipping below the western horizon even as part of the winter hexagon shows up 4 minutes earlier in the east each evening. Look for the Pleiades open star cluster to appear in Taurus along with Capella in Auriga by 9 pm beginning this month and by 7 pm by the end of October.

We can enjoy crisper and cooler nights than last month, so get outside to view some marvels of the heavens as the nights continue to lengthen. The main highlights this October include a partial solar eclipse at new moon on Saturday the 14th, a very partial lunar eclipse two weeks later not visible from southern Maine, Saturn and Jupiter as your bright evening planets with Jupiter nearing its best apparition for the year, the moon passing close to Jupiter twice this month, a return of Comet Encke in the dawn sky, and favorable conditions for the annual Orionid meteor shower on Saturday night the 21st.

We also just successfully returned to the desert in Utah the largest asteroid sample ever received on Earth, around 250 grams or 8 ounces of material from an asteroid named Benu, named after an ancient Egyptian sacred bird corresponding to the phoenix. The sample will be opened on the 11th of this month at the Johnson Space Center in Houston and should be fully analyzed by the end of January next year. An enormous amount of cooperation was required to make this mission so successful. This quarter mile wide asteroid has a slight chance of hitting us in 2182. It would be good to know as much about it as we can for our own safety along with all the scientific reasons for wanting to know more about the primordial origins and chemistry of our solar system and planets that simply can't be gathered from anywhere on Earth. Asteroids also have enormous resource potential due to their metal and water content and all of the amino acids they carry. Benu and the thousands of other larger asteroids each hold many more mysteries with their untouched and unknown records of deep time, truly orbiting time capsules just waiting for us to decipher their myriad of secrets. Now OSIRIS REX, the space craft that gathered and dropped off this sample is already on its way to another potentially hazardous asteroid named Apophis in 2029.

We will only see about 15% of the sun covered here in southern Maine around noon on Saturday, October 14. This will not be a total eclipse anywhere because the moon is near apogee, or a little too far away from Earth to completely cover the sun. The result is a spectacular ring of fire left around the sun. About half of all solar eclipses are total and half are annular due to the elliptical orbit of our moon. We last had a 70% partial solar eclipse right here in Maine on the morning of June 10 of 2021 that was annular over parts of Canada.

Annular eclipses are very interesting and make for great photographs, but they are not even close to delivering all of the drama and other-worldly conditions of a total solar eclipse when the whole sky goes black and all the planets and some stars become visible even as you can see and experience the entire life-giving atmosphere around us all at once. Beyond that, the huge pearly, iridescent, corona or crown of the sun becomes visible for a few brief moments as it stretches fully 5 times the diameter of the sun, or 4 million miles into space in all directions around the sun as a living and ethereal halo. This ever-changing halo is always there, but is simply overpowered by the rest of the light of the sun during each day on Earth. This will next happen on Monday, April 8 right over north central Maine from Rangeley to Mt. Katahdin to Houlton. That total solar eclipse during the very next eclipse season will stretch from Mexico to Canada, and will stretch from Texas to Maine in this country. So use the partial solar eclipse on Saturday the 14th as a warm-up to really prepare for the Big One! Make sure you have good solar filters and practice your camera angles and book a good place to stay for April 8 since it will only be a partial eclipse from southern Maine.

The path of this annular eclipse starts in central Oregon, continues over Nevada, Utah and several of its great National Parks and just north of where the Benu asteroid sample was parachuted down, Los Alamos, Albuquerque during the final days of the largest balloon festival in the world, and Area 51 in Roswell, NM, and ending its trek over this country with San Antonio and Corpus Christi, Texas. The shadow then continues over the Gulf of Mexico and the Yucatan peninsula near

"Continued on page 2"

Inside This Issue

Club Contact List	pg. 2
Moon Data	pg. 3-6
Observer's Challenge	
Meteor Showers in 2023	pg. 7
Club Merchandise for Sale	
From Galileo to Clipper, Exploring Jupiter's Moons	pg. 8-11
Astro-imaging with a Point & Shoot	pg. 12,13
Club Meeting & Presentation	pg. 14,15
Club Info & Directions to ASNNE	pg. 16
ASNNE Club & Library Resources	pg. 17
Become a Member	pg. 18

Club Contacts

Officers:

President:

Ian Durham
idurham@anselm.edu

Vice President:

Bernie Reim
berniereim@kw.com

Secretary:

Carl Gurtman
cgurtman@maine.rr.com

Treasurer:

Ian Durham
idurham@anselm.edu

Board of Directors:

Gary Asperschlagger
gasperschlagger@gmail.com

Larry Burkett
larrybu32@yahoo.com

Keith Brown
silverado93@twc.com

Star Party

Co-ordinator:

Carl Gurtman
cgurtman@maine.rr.com

Skylights Editor:

Paul Kursewicz
pkursewicz@myfairpoint.net

Website Manager:

Paul Kursewicz
pkursewicz@myfairpoint.net

NASA Night Sky Network

Co-ordinator:

Joan Chamberlin
starladyjoan@yahoo.com

JPL Solar System Ambassador:

Joan Chamberlin
starladyjoan@yahoo.com

E-mail coordinator

David Bianchi
dadsnorlax@yahoo.com

What's Up "Continued from page 1"

where the asteroid hit the earth 66 million years ago that wiped out all the dinosaurs and about 75% of all life, on through Central America and Panama, finishing over Columbia and Brazil just south of the equator.

The perfect ring of blazing sunlight surrounding the moon will reach its longest duration of just over 5 minutes in the Caribbean near Panama. Only 91% of the sun will be covered by the moon at its maximum, so you will need a safe solar filter to view the sun at all times during this eclipse even if you are right in the path of annularity. Bailey's beads should be visible during an annular eclipse, and I saw them during the annular eclipse that I saw on May 10 of 1994 from southern Maine. Bailey's beads are caused by the sunlight streaming through the valleys between the mountains on the moon and they only last for a few seconds.

Almost all of North America, all of Central America, and almost all of South America will see at least a partial eclipse during this event, so this is very extensive. The moon's shadow will carve a narrow, 150-mile-wide path from the Pacific to the Atlantic on this Saturday, racing across 8500 miles of the earth in just three and a half hours, averaging 2400 miles per hour, or over three times the speed of sound in the process.

Saturn was at its best at the end of August, so now it rises before sunset and is visible low in the east as soon as it gets dark enough. The soft golden glow of the ringed planet is getting a little fainter and farther away each night even as Jupiter is still getting a little closer and brighter each evening. The King of the Planets shines brightly in Aries the Ram, two constellations to the east of Saturn in Aquarius. Notice that Jupiter is nearly 30 times brighter than Saturn.

Look for a nice conjunction of the nearly full moon just 2 degrees, or 4 times its own width to the left of Jupiter on Sunday the first. Then the moon will be 12 degrees farther east the next night, right below the Pleiades open star cluster in Taurus. As a nice bonus, the full moon will once again pass very close to Jupiter on Saturday evening the 28th one hour after sunset looking east. Jupiter will be at its very best for the year on November 3, when it will rise at sunset and not set until sunrise. That is called opposition and happens about every 13 months for Jupiter and Saturn.

Comet Encke, one of our shortest period comets, orbits the sun every 3.3 years. Look for it in central Leo during the first two weeks of this month. It could get as bright as 8th magnitude as it heads into Virgo, but you would still need a telescope to see it.

Halley's Comet is currently the only comet that creates two meteor showers for us each year as we pass right through its long debris trail. Those are the May 4 Eta Aquarids and the October 21 Orionids. Halley's Comet is actually one of the darkest objects in our solar system; its dust is coal-black, reflecting very little sunlight. Even the moon only reflects about 10% of the sunlight that hits it, compared to 30% of the sunlight reflected back to space off the earth.

This shower will start in early October since the debris path is so wide, covering about 30 million miles of space. The earth travels through nearly 50 million miles of space each month, or 600 million miles each year. We are constantly traveling through space at 18.6 miles per second, or 67,000 miles per hour. That is only 10,000 times slower than the speed of light. We could get all the way to the west coast in just under 3 minutes at that rate!

You can expect about 20 meteors per hour all emanating from the constellation of Orion about 10 degrees northeast of Betelgeuse from a dark sky site during the mornings of the 21st and 22nd. Orion and the whole Winter Hexagon will be up nice and high by 2 am so that more of the meteors will be visible above the horizon.

The last quarter moon will set just before midnight, so it will not wash out any more meteors after that time. Meteor showers are usually better after midnight because that is when the earth is spinning into the meteors instead of away from them, similar to snowflakes hitting your front windshield when driving into the storm versus the back windshield.

The Orionids are among the fastest of all the showers, traveling at 148,000 miles per hour, or more than twice as fast as we orbit the sun. Many will leave persistent trails in their wakes as high altitude winds distort these trails into many interesting and twisted shapes as these tiny particles of Halley's Comet get ionized right at the edge of space, 60 miles high.

Oct. 1. On this day in 1897 the Yerkes Observatory 40 inch reflecting telescope, the largest in the world at the time and still the largest refractor even now, was dedicated. It was designed by George Ellery Hale, who went on to design and build the next 3 largest telescopes in the world, culminating with the 200 inch Mt. Palomar telescope in 1948. The moon and Jupiter are just 2 degrees apart in Aries the Ram.

Oct. 2. The moon is right below the Pleiades tonight.

Oct. 4. On this day in 1957 the Soviet Union launched Sputnik, the first satellite to orbit the earth, thus beginning the space age and the space race.

Oct.5. Neil deGrasse Tyson was born on this day in 1958 in the Bronx.

Oct. 7. Niels Bohr was born on this day in 1885. He was one of the founders of the quantum revolution that made most of our modern technology possible. The waning crescent moon is in Gemini near Castor and Pollux in the morning sky.

Oct. 8. The moon is near the Beehive open star cluster in Cancer this morning.

Oct. 9. Venus is close to Regulus, the brightest star in Leo this morning. I saw Regulus in the daytime near the sun during the August 21, 2017 total solar eclipse over Idaho near Yellowstone and the Grand Tetons. Kepler's supernova was first seen on this day in 1604 in Ophiuchus. It actually happened 23,000 years ago since that is how far away it is. It was visible in the daytime for several weeks and remained visible without binoculars for a year and a half. It is a type 1A supernova when a white dwarf merges with a red giant until the whole system explodes at 1.44 solar masses, called the Chandrasekhar limit.

Oct. 14. New moon is today at 1:55 p.m. EDT. This will create an annular solar eclipse visible from much of the western hemisphere including 15% right here in Maine.

Oct. 15. Asaph Hall was born on this day in 1829. He discovered both of the moons of Mars, Phobos and Deimos in 1877. Phobos is the larger one at 14 miles across that orbits closer to the planet and Deimos is the smaller one at half that size. Phobos will crash into Mars or get shredded apart in about 50 million years even as Deimos will drift off into space at about the same time, leaving the red planet with no more moons until and if it captures a few more of them again at some time in the distant future.

Oct. 21. The Orionid meteor shower peaks.

Oct. 22. Karl Jansky was born on this day in 1905. He discovered radio waves emanating from the center of our galaxy in August of 1931 with the radio telescope that he invented.

Oct. 23. The waxing gibbous moon is 5 degrees below Saturn this evening.

Oct. 25. Henry Norris Russell was born on this day in 1877. He developed the Hertzsprung-Russell diagram for classifying stars in 1910. That is as important to astronomers as the periodic table of elements is to chemists.

Oct. 28. Full moon is at 4:24 pm EDT. This is known as the Hunters Moon.

Oct. 31. On this day in 2005 the Hubble Space telescope discovered two more moons of Pluto, Nix and Hydra.



Moon Phases

Oct 6
Last Quarter

Oct 14
New

Oct 21
First Quarter

Oct 28
Full

Moon Data

Oct 1
Jupiter 3° south
of Moon

Oct 2
Uranus 3° south
of Moon

Oct 9
Moon at apogee

Oct 10
Venus 6° south
of Moon

Oct 24
Saturn 3° north
of Moon

Oct 25
Neptune 1.5° north
of Moon

Moon at perigee

OBSERVER'S CHALLENGE* – October 2023

by Glenn Chaple

NGC 7027 Planetary Nebula in Cygnus (Magnitude 8.5, Size 16" X 12")

NGC 7027, a planetary nebula in Cygnus, is a true hidden treasure. Don't take my word for it. Just ask Stephen O'Meara, who devoted 5 pages to it in his Deep-sky Companion book *Hidden Treasures*. He writes, "NGC 7027 is one of the brightest, smallest, most unusual, and arguably the most fascinating planetary nebula in the night sky, It is, hands down, *the* most extensively studied – both observationally and theoretically."

NGC 7027 (aka the "Jewel Bug Nebula") merits "hidden" status because its relatively small size (just 16 by 12 arc-seconds) and location in a rich Milky Way field allowed it to avoid discovery until late in the 19th century. It eluded the watchful eye of William Herschel when he conducted his celestial surveys of the late 18th and early 19th centuries and remained "hidden" until spotted by the French astronomer Edouard Stephan with a 31-inch reflector in 1878. Now that we know of its existence and location, we can capture NGC 7027 with a 6-inch scope.

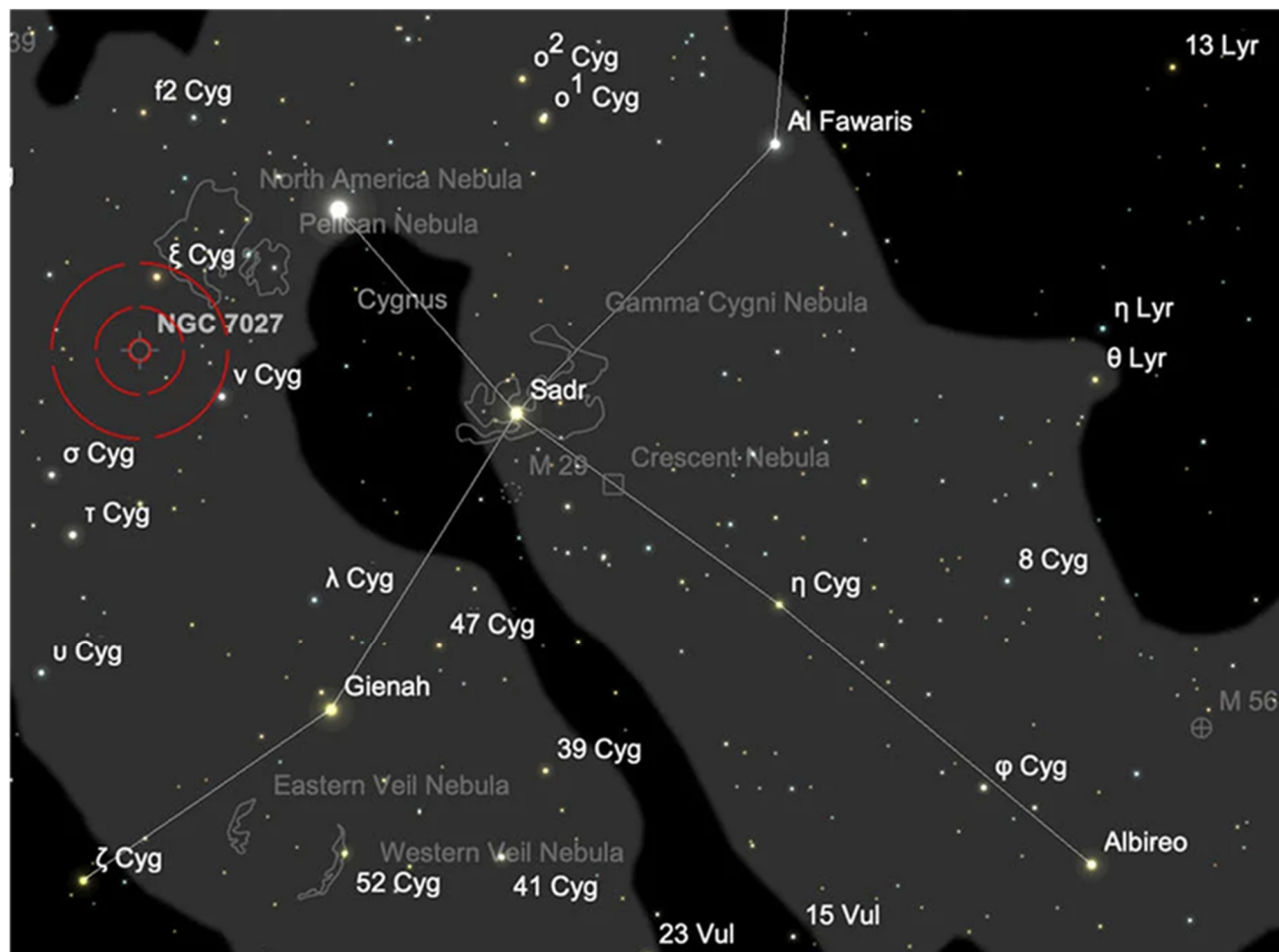
The 2000.0 coordinates for the Jewel Bug are: RA 21^h07^m1.7^s, Dec +42°14'11.0". To get there, star-hoppers will have to navigate 2-degree-long star-strewn paths either SSE from the 4th magnitude star xi (ξ) Cygni or ENE of 4th magnitude nu (ν) Cygni.

I used the latter route in tracking down NGC 7027 with a 10-inch f/5 reflector. At 40X, it looked like a slightly out-of-focus 8th magnitude star. To confirm that I was looking at a planetary nebula, I boosted the magnification to 208X. What I saw was a beautiful light blue, slightly oval patch of light – a definite treasure! It was bright and easy even without the aid of an OIII filter.

The reason NGC 7027 has drawn so much scrutiny from professional astronomers is that it's a planetary nebula in an early stage of development. The Jewel Bug may be as little as 600 years old. At such a young age, it's small as planetary nebulae go – perhaps just 0.1 or 0.2 light years in diameter. Studies indicate a distance of some 3000 light years.

"Continued on page 4"

NGC 7027 Finder Chart (from www.deepskycorner.ch)



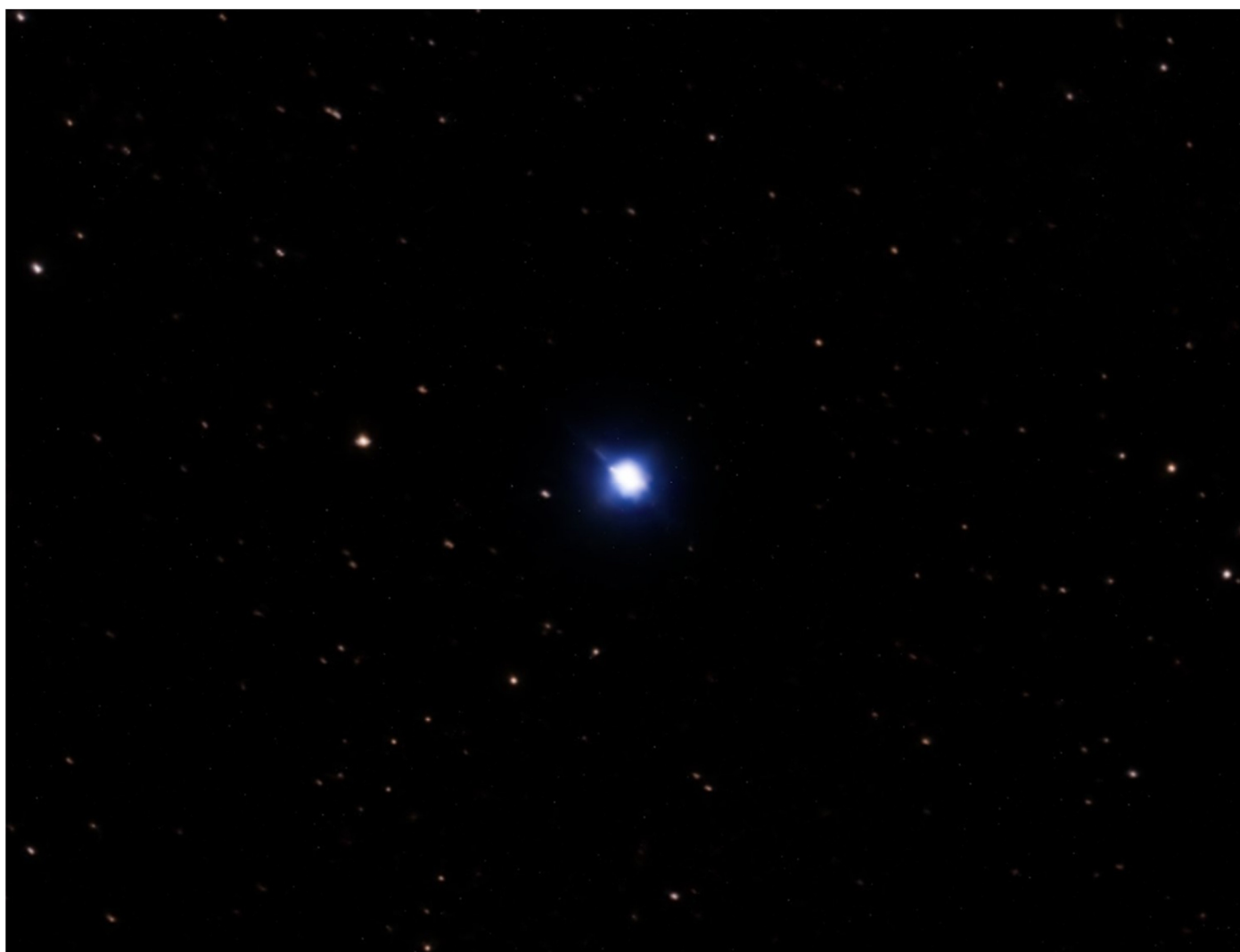
*The purpose of the Observer's Challenge is to encourage the pursuit of visual observing. It is open to anyone who is interested. If you'd like to contribute notes, drawings, or photographs, we'd be happy to include them in our monthly summary. Submit your observing notes, sketches, and/or images to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

"Continued on page 5"

NGC 7027 Image

Mario Motta, MD. (ATMoB)

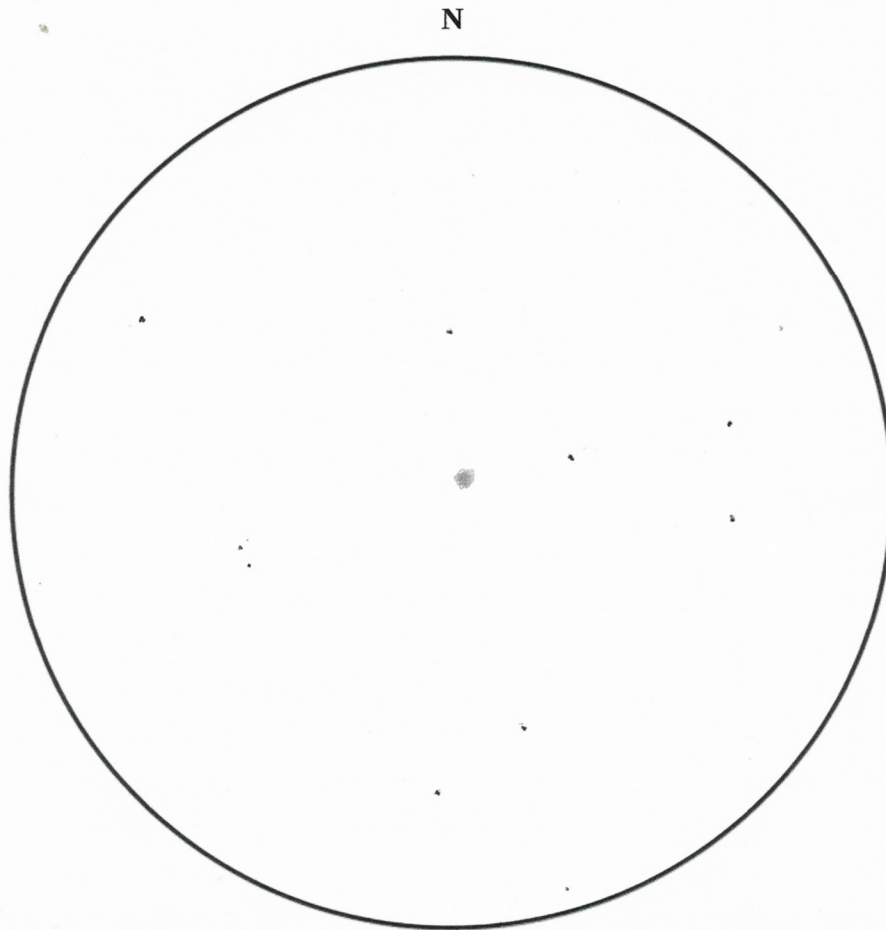
“ I took this object 3 times, a difficult object as it is easily overexposed. Third try I took 15 sec subs to be sure well below saturation in an attempt to get some inner detail, As I saw hints of detail previously. The central star is so bright compared to the surrounding planetary hard to process. So.. Here it is. See attached. There is some inner rectangular shape but can not cleanly separate that from the central bright star. Taken with my 32 inch telescope, NB filters Ha, O3, and S2 about 30 min total imaging time. Taken with my ZWO ASI 6200 camera.”



“Continued on page 6 ”

NGC 7027 Sketch

Glenn Chaple (ATMoB)

**SUBJECT:** NGC 7027 **DATE/TIME:** 9/3/2023 9:20pm EDT**TELESCOPE/EYEPIECE:** 10-inch f/5 reflector
6 mm Radian**MAGNIFYING POWER:** 208 X **FIELD OF VIEW:** 0.3°**NOTES:**

Surprisingly bright - beautiful light blue color.
No sign of central star. Found after a somewhat
challenging star hop from γ Cygni.

Principal Meteor Showers in 2023

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

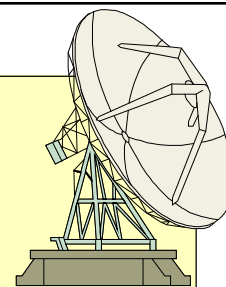
December 14
Geminids

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.***

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!

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.



This article is distributed by NASA Night Sky Network

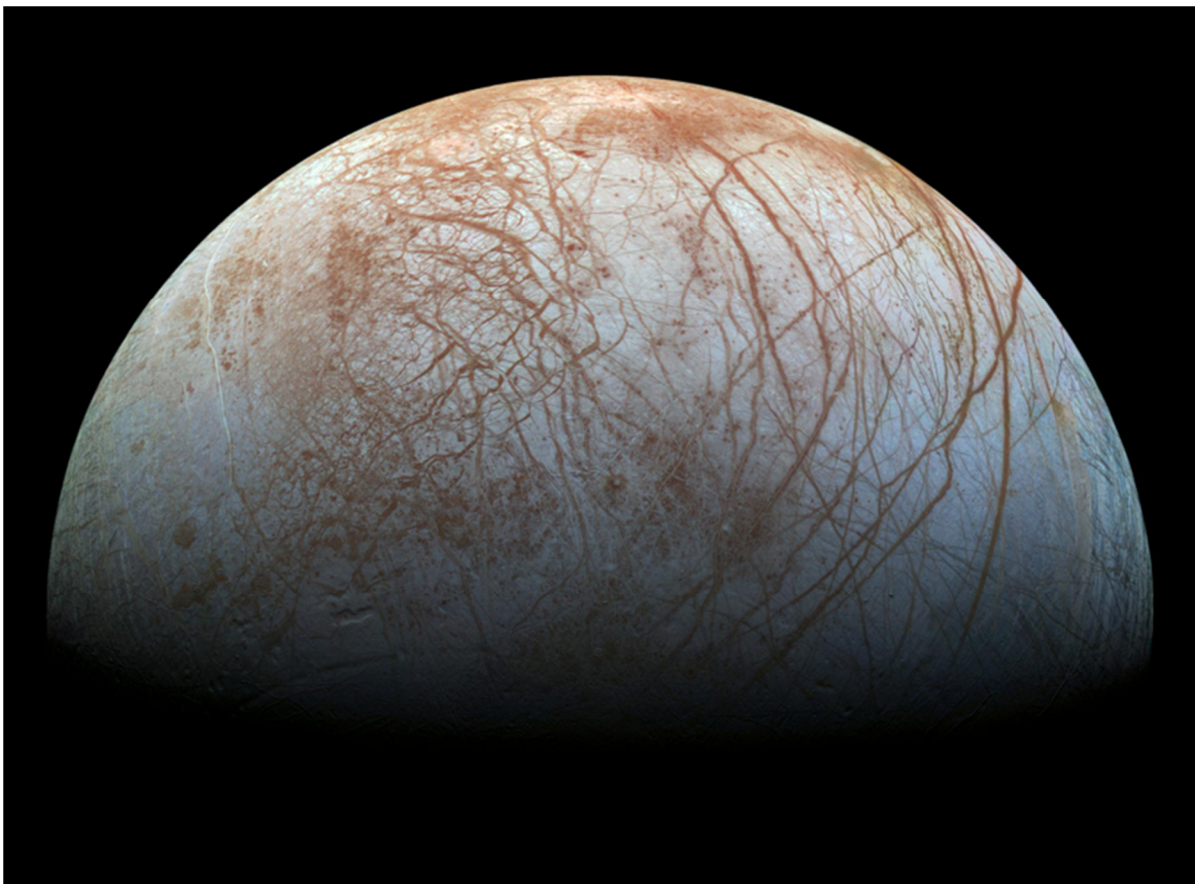
The Night Sky Network program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit nightsky.jpl.nasa.org to find local clubs, events, and more!

From Galileo to Clipper, Exploring Jupiter's Moons

By Vivian White

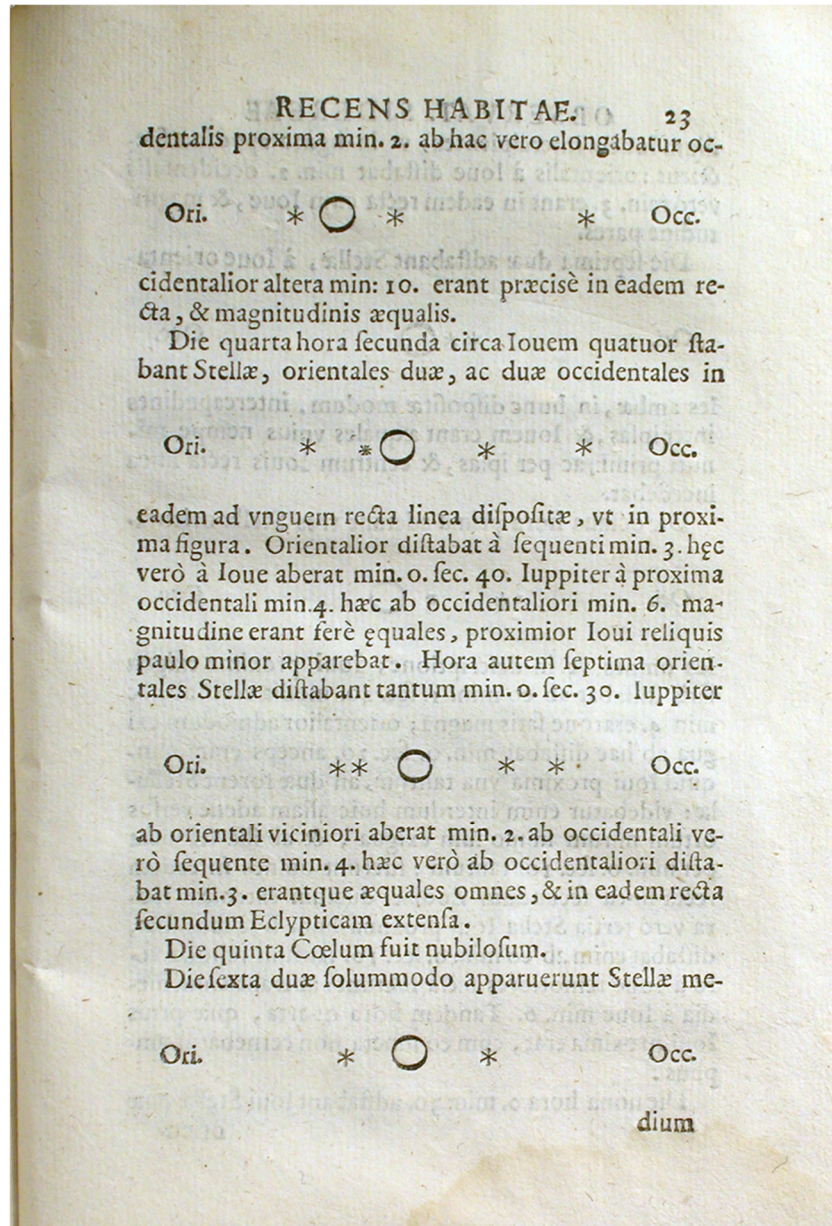
*"... We, too, are made of wonders, of great
and ordinary loves, of small invisible worlds,
of a need to call out through the dark."*

From *In Praise of Mystery: A Poem for Europa* by Ada Limon



"Continued on page 9"

As autumn begins, if you're up late, you may notice a bright point of light rising in the east. Look a bit closer, with a pair of binoculars, and you'll notice it's not a star at all. While stars look point-like no matter how big your backyard telescope, this light appears as a circle under closer examination. Even more curious, you will likely see a line of smaller dots on one or both sides. Congratulations! You've rediscovered the king of the planets - majestic Jupiter - and its four largest moons.

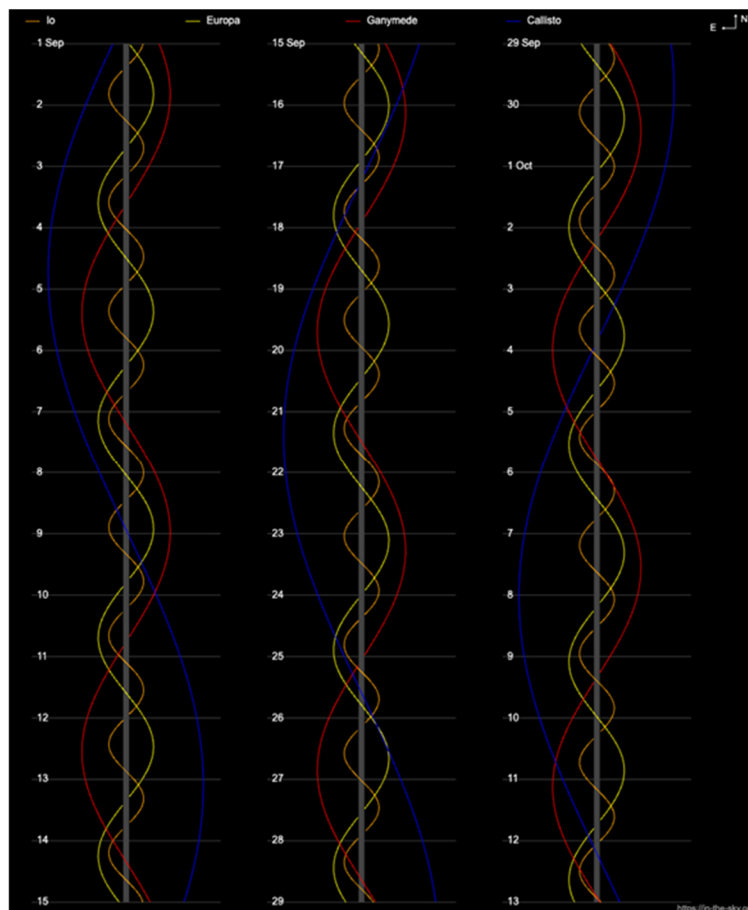


Galileo's drawings of Jupiter and its Medicean Stars from Sidereus Nuncius. Image courtesy of the History of Science Collections, University of Oklahoma Libraries.

“Continued on page 10”

Galileo famously chronicled the four moving dots near Jupiter and surmised that they were orbiting the distant world. While Jupiter has well over 80 discovered moons as of September 2023, these brightest four are called the “Galilean Moons” - Io, Europa, Ganymede, and Callisto. (Great mnemonics exist to remember these in order of distance from Jupiter, such as “I Eat Green Caterpillars”) You can follow these like Galileo did, using stargazing apps or the handy image below. A favorite beginning observing challenge is to [track the movement of the Galilean Moons](#) over the course of many nights. Even within a few hours, you will notice them moving in relation to Jupiter, just as Galileo did.

Fast forward 414 years, and NASA will be sending a robotic mission to investigate the surface of one of these distant worlds. The [Europa Clipper Mission](#) is launching to the cold, icy moon in 2024, to begin orbiting in 2030. With its salty oceans covered by ice, Europa was chosen as an excellent location to continue the search for life outside of Earth. Clipper will be the largest spacecraft ever sent to another planet, designed to withstand Jupiter’s punishing radiation. Once it arrives at Jupiter in 2030, NASA plans to do about 50 flybys of Europa, mapping almost the entire surface of this watery world.



The position of the Galilean Moons of Jupiter in October 2023: <https://in-the-sky.org/jupiter.php>

“Continued on page 11 ”

What was once only dreamed of in the small telescope of Galileo, or in great works of fiction, NASA is turning our wildest imagination into reality. One of the celebrated quotes from the classic 2010: Odyssey Two warns, "All these worlds are yours, except Europa. Attempt no landing there." Science fiction fans can feel relieved knowing that writer Arthur C. Clarke gave his blessing for the Europa Clipper mission.

Join the Europa Message in a Bottle Campaign to send your name with the spacecraft, hear the rest of the poem by the US Poet Laureate, and learn more about the wonders of space travel with the Clipper Mission:

<https://europa.nasa.gov/participate>

Watch a wonderful Clipper webinar with Dr. Cynthia Phillips, planetary geologist with the mission:

<https://www.youtube.com/live/RnnLJBLRBCA?feature=shared&t=269>

Point and Shoot Camera Astro-imaging (no telescope)


Canon Powershot SX50 HS

Image & write-up submitted by Paul Kursewicz

Fox Head Cluster (NGC 6819)

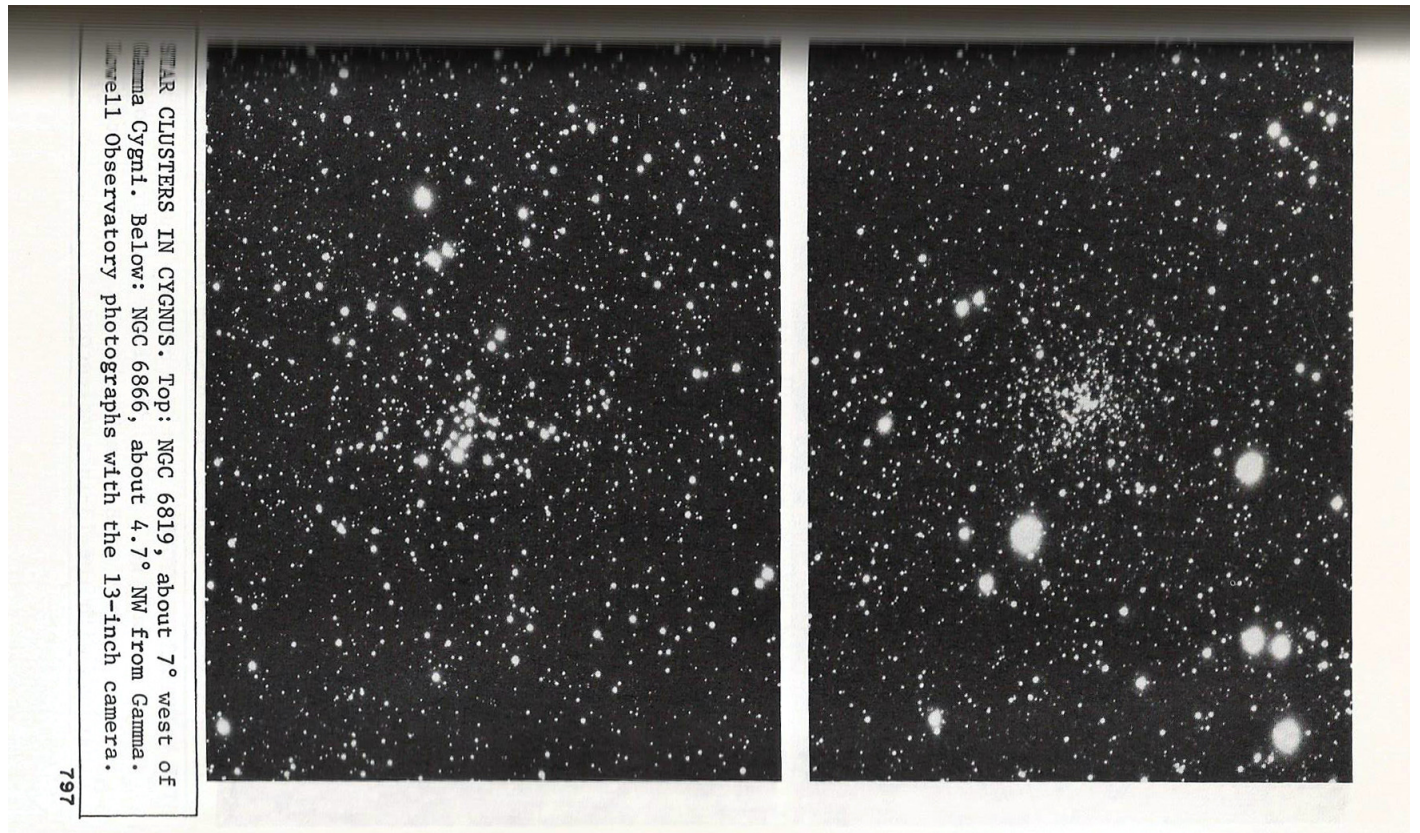
RAW Mode, FL 1200mm, ISO 1600, 34 x 1 min, 9-6-23



The **Fox Head Cluster** (NGC 6891) is a small irregular open cluster in the constellation Cygnus. It has two rows of brighter stars that take the shape of a fox head, hence its nickname “Fox Head Cluster.” To help you see the fox head I created this overlay  with a picture of a fox head, showing its orientation about 7,200 light years away from Earth and has a visual magnitude of 7.3. Not naked-eye visible but should be in reach with a pair of binoculars. Its fox head shape was easily seen through my 4.5-inch refractor, delineated by at least eight bright stars. Larger scopes show around 30 stars. The many fainter stars are hard to resolve and take a slight nebulous appearance.

“Continued on page 13 ”

From the pages of “Burnham’s Celestial Handbook” copyright 1978
Fox Head Cluster (NGC 6819)



The right hand image is a photo of the Fox Head Cluster taken with the 13-inch camera at Lowell Observatory. I orientated the page to match the orientation of my image. NGC 6819 was discovered on 12th March 1784 by Caroline Herschel with her 4.2 inch reflector. It is a Trumpler-type IIr open star cluster having an age of approximately 2.4 billion years. The Fox Head cluster has perhaps 150 members brighter than magnitude 15 as well as a host of many more fainter members.

OCTOBER ASTRONOMY CLUB MEETING AND PRESENTATION

Below are excerpts taken from Carl Gurtman's press release:

The next Meeting will be on Friday, 6 October, 2023, at 7:30 PM at The New School, 38 York Street, Kennebunk. The Business Meeting, also open to the public, commences at 7:00 PM.

At our October Meeting, ASNNE is proud and honored to host a Presentation by Dr. Elizabeth McGrath; her topic; Exploring the Growth of Galaxies in the Early Universe with the James Webb Space Telescope (JWST).

Launched on 25 December, 2021, the JWST is already revealing important new insights into the formation of the earliest galaxies, their growth, their super-massive black holes, the structure of galaxies at early times, and the nature of black hole seeds in these early galaxies. She will present results from the Cosmic Evolution Early Release Science (CEERS) survey, which confirmed one of the first record-breaking distant galaxies detected by JWST, found the earliest evidence of growing super-massive black holes, and contributed to the growing evidence that disk-like, or spiral, galaxies were common in the early universe. She will also discuss the implications of these discoveries, as well as future work that will shed light on some of the greatest mysteries revealed by these observations from JWST.

Dr. McGrath obtained her Ph.D. from the University of Hawaii in 2007. Her thesis, entitled, "Formation and Evolution of Massive Galaxies and active galactic nuclei (AGN) in the Early Universe," investigated the link between black hole activity and the growth of the most massive galaxies in the Universe. After leaving Hawaii, she was a researcher at the University of California, Santa Cruz, where she worked on designing new adaptive optics technologies to improve the image quality of ground-based telescopes. In 2012, she joined Colby College, where she is now an Associate Professor of Physics and Astronomy. Dr. McGrath's current research involves examining the structure of galaxies across cosmic time using space-based facilities such as the Hubble and the JWST. She is a member of several international teams that were awarded some of the first time on JWST; surveying large regions of the sky, and producing images that were publicly available immediately. These public JWST fields provide a treasure trove of information and have been integral in many exciting new discoveries about our Universe. In her free time, Dr. McGrath enjoys spending time outdoors hiking, and sharing her love of nature with her husband and three-year-old son.

"Continued on page 15"



Dr. Elizabeth J. McGrath
Associate Professor of Physics and Astronomy
Colby College

The October Meeting agenda includes: Bernie Reim's "What's Up for the Month" and the ever popular "Astro Shorts" where attendees and members share questions, activities, news and observations. Our Astro Shorts always give way to lively and informative discussions!

ASNNE is a local association of amateur astronomers that meets monthly

at the New School, on Rte. 1, (York Street) in Kennebunk, Maine. Meeting are on the first Friday of each month; all those interested in astronomy are welcome; from stargazers and hobbyists, to serious observers, astrophotographers, and those interested in astronomical theory. The general public is also most cordially invited and welcome.

ASNNE hosts Star Parties at its own Talmage Observatory at Starfield, on Route 35 in West Kennebunk.

To see any last-minute changes to our October Meeting, due to weather, or other circumstances, please visit us at www.ASNNE.org. For more information about ASNNE, including directions and events, or to contact the Club, you may also visit us at www.ASNNE.org.

Club Meeting & Star Party Dates

Date	Subject	Location
<u>Oct 6</u>	<u>CLUB MEETING:</u> See pages 14 & 15.	The New School, Kennebunk, Me.
<u>Oct 13,14,15</u>	<p><u>STARFEST WEEKEND:</u></p> <p><u>FRIDAY:</u> Starfield Observatory gates open in the morning. Tent set-up in the afternoon. Solar Viewing during the day. And night viewing all night if you would like. Campfire.</p> <p><u>SATURDAY:</u> <i>Day Time:</i> - BBQ 3 PM, Solar Viewing, Raffle Table, What's Up, Tent Talks, Show & Tell, Astro Shorts. <i>Night Time:</i> - Observing, Campfire.</p> <p><u>SUNDAY:</u> Clean-up. TYO Trash.</p>	<p>Talmage Observatory at Starfield West Kennebunk, Me.</p> <p style="color: green;">Feel free to camp in the field. Might want to bring a chair and or a table.</p> <p><u>SATURDAY'S</u> keynote speaker will be club member Bern Valliere. His presentation will be on the Cosmic Distance Latter.</p>
Last Month	Because of severe weather Starfest and our September club meeting was cancelled.	
<u>Oct 13,14</u>	Club/Public Star Party: Dependent on the weather.	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:

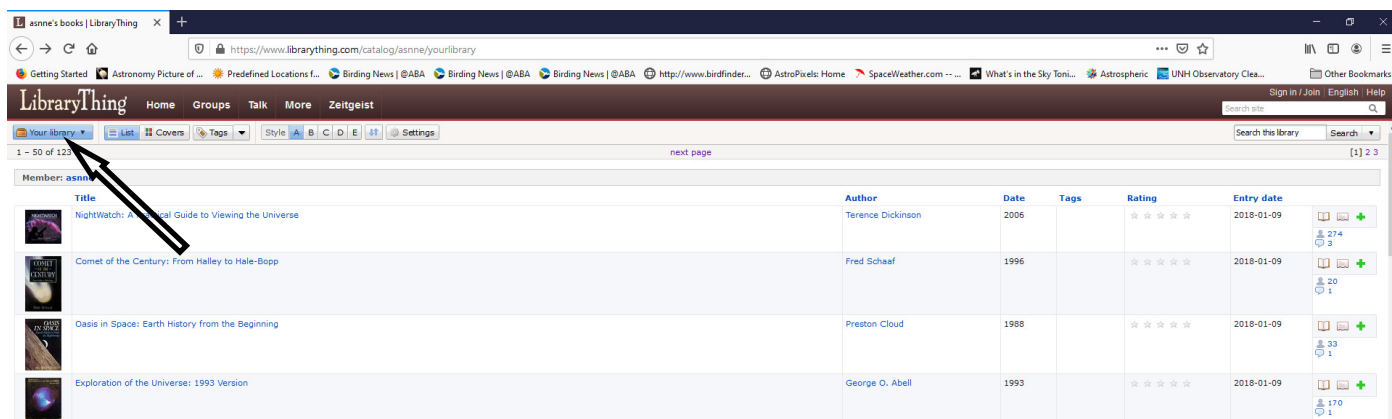
Get off turnpike at exit 32, (Biddeford) turn right on Rt 111. Go 5 miles and turn left on Rt 35. Go 2 miles on Rt 35 over Kennebunk River to very sharp 90 degree left turn. The entrance to the Starfield Observatory site is at the telephone pole at the beginning of the large field on the left. Look for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

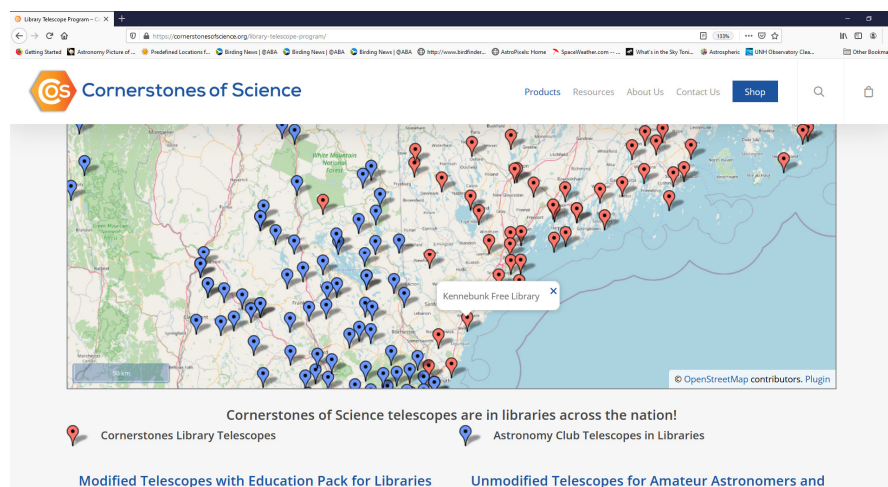
Astronomy Club & Library Resources

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

2023 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 _____

