Skylights

Newsletter of the Astronomical Society of Northern New England

Nov 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 November

By Bernie Reim

Nature's brilliant display of our fall foliage is winding down now and soon the trees will be bare and the landscape will become bleak in preparation for winter. The celestial wonders overhead always offer new and exciting views and possibilities and they don't pass through any bleak seasons.

The nights are getting colder and longer now, but there are several very interesting highlights this month, as happens every month. Jupiter reaches opposition on the third when it shines at its best and brightest for the year; about two months after Saturn did the same thing. Mercury puts in an evening appearance and Venus is still a brilliant morning "star". The annual Leonid meteor shower peaks on the 17th and 18th and there is a new comet that you can see in Cancer the Crab near the Beehive star cluster with a telescope that might become almost as bright as the brightest stars by next October if it survives its passage around the sun on Christmas day of this year.

I just returned from Texas to see the entire Ring of Fire annular eclipse. It was worth the trip, but only because I was able to see and experience many other things including Big Bend National Park and the Rio Grande river and the tall canyons it is still carving in the Chihuahuan Desert, the largest desert in all of North America. West Texas is completely different from New England in almost every way. It exhibits a rugged beauty all of its own with very strange shaped eroded mountains and hundreds of species of cacti and smaller trees and grasses that are well adapted to this harsh life. Big Bend is prime ground for all kinds of fossils and dinosaur bones since it was once at the bottom of the Cretaceous Seaway which split our country almost in half connecting the Gulf of Mexico to the Arctic Ocean until 65 million years ago.

I also visited the McDonald Observatory in Ft Davis nearly 7000 feet high in the Davis Mountains, home to the third largest telescope in the world, the 11 meter Hobby-Eberly. You were allowed to go inside and look at the telescope, but obviously not through it. It is mostly being used for spectral analysis to decode the light from stars and galaxies to study their properties. It is starting a new project to search for dark energy in the early universe called Illuminating the Darkness, which will produce the largest map of the cosmos ever created and hopefully uncover the true nature of this dark energy which comprises about two thirds of the entire universe.

Then I visited the Odessa meteor craters, the largest one of which was nearly 2 football fields in diameter and about 50 feet deep, created by a roughly 25-foot wide asteroid that broke up and hit us about 63,000 years ago with the force of 20,000 tons of TNT, or about the force of the first atomic bomb we dropped on Hiroshima in 1945. By comparison, the Tunguska event over Siberia and the Barringer Meteor crater 700 miles west of Odessa were created with a force of about 20 megatons, or 1000 times more powerful, or equal to the hydrogen bomb.

I was also able to experience the beauty of some of the darkest skies in this country and how a scorching hot day quickly turns into a cool and windy night over the sand dunes near Odessa. For a few fleeting moments I could clearly see the earth's shadow sharply etched on our atmosphere across the eastern horizon with its subtle purple and gray hues, its upper edge tinged with the pink belt of Venus. The endless expanse of sand and scrubby vegetation all the way to the horizon for days on end made all of this possible. A few hardy yet delicate flowers were able to bloom right in this sand along with numerous bunches of 5-foot-tall western sunflowers called Helianthus Anomalus, a fairly young and still evolving new species of sunflower only about 100,000 years old that contributed a great sense of joy and color to this harsh, hot, and monochromatic landscape. The first flowers appeared on Earth about 130 million years ago.

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What's Up "*Continued from page 1*"

The story of how all of this sand got here over 500 miles from the nearest ocean is extremely fascinating and shows how far geographical connections can reach. These sand dunes form a narrow band of sand that stretches for hundreds of miles into New Mexico. It was all carried here one grain at a time by the Pecos River from the erosion of the Rocky Mountains about 40,000 years ago. Then the plants that anchored the sand died off during the last ice age and the sand was further transported eastward by the strong winds and is still constantly changing and moving today.

Jupiter is at opposition now, which means that it will rise right at sunset and remain in our sky all night long and that it is closest and largest and brightest now for the whole year from our perspective. You can see it high in the sky by 10 pm in Aries the Ram near the Pleiades open star cluster in Taurus the Bull in the Winter Hexagon shining at a brilliant magnitude of minus 2.9, or about 30 times brighter than Saturn which is already starting to fade in Aquarius, two constellations to the west of Jupiter. Saturn had its own opposition back on August 27 and it will end its retrograde loop in the sky and return to its normal eastward motion on November 4, one day after Jupiter's opposition.

Mercury will be visible low in the southwestern evening sky in Scorpius towards the end of the month right after sunset. Venus is still the brilliant morning star in Virgo. It will pass near Spica, Virgo's brightest star on the 27th. It is getting more illuminated by the sun even as its disk is getting smaller and farther away from us as it is traveling faster than we are around the sun. Notice that Venus is about 3 times brighter than Jupiter and exactly 100 times, or 5 magnitudes brighter than Saturn.

The conditions will be good for the Leonid Meteor shower this year since the 5-day-old waxing crescent moon will set before 10pm on the 17th and 18th. You can only expect about 15 meteors per hour from a dark sky site, which is less than they used to produce. Created by debris from Comet 55P/Temple-Tuttle, which orbits the sun every 33 years, these meteors tend to be very swift, many of which will leave glowing and persistent trails behind them.

This comet last returned in 1999, which created some spectacular Leonid meteor showers for several years due to all of the extra debris we were passing through then. I was lucky enough to be able to see nearly 1,000 Leonids per hour officially called a Meteor Storm, during the early morning hours of November 18 of 2001. We had just built our new observatory in Kennebunk and about 30 of us gathered there that cold morning to witness this unforgettable natural event, second only to experiencing a total solar eclipse. It was literally raining meteors all night long, averaging one every 4 seconds with not a single lull of over 10 seconds. I even saw 7 meteors in one second emanating from Leo, as if we were being fired on from space, but it was all perfectly safe since these tiny particles are about the size of a grain of sand and they burn up at the edge of space about 70 miles above us totally harmlessly.

That was the first and only time that I ever got the sense of our constant 18.6 mile-per-second motion through space around the sun as we plowed through this huge debris field of tiny particles. We also saw 15 brilliant bolides that illuminated the entire sky and made it appear bright as day for a split second. We all saw many lifetimes worth of meteors and fireballs during those few hours. To top off this incredible experience, we were even treated to the zodiacal light towards dawn, sometimes also called the "false dawn". This pyramid-shaped cone of light stretches along the ecliptic for 30 degrees or so and is best visible before dawn in the east in November and after dusk in the west in March. You can look for it this month around new moon from a dark sky site with no light pollution. It is caused by sunlight bouncing off trillions of tiny particles of dust in our ecliptic plane, caused by comets and asteroids.

The last major highlight this month will be Comet Tsuchinshan 1 passing right through the Beehive open star cluster in Cancer on its way east from Gemini into Leo. You will need at least a 4 inch telescope to see it and the moon should not be in the sky to wash it out, which will be around the middle of the month. Try to get some photographs of it in this scenic part of the sky if you can. The best part of this comet is that it may become as bright as zero magnitude by next October if it survives its hazardous journey around the sun which will occur on Christmas Day of this year. Many comets don't survive this journey and either plunge right into the sun or lose much of their mass due to the powerful solar winds so close to the sun, almost like Icarus flying too close to the sun. There is even a bonus comet visible this month also with a telescope, 103P/Hartley rising in Hydra at 2 am.

Nov.2. Harlow Shapley, an American astronomer was born on this day in 1885. He discovered the sun's place in our Milky Way galaxy along with where the center of our galaxy is by using Cepheid variable stars as cosmic yardsticks or standard candles and by studying the globular clusters forming a halo around the center.

Nov. 3. On this day in 1957 the Russians launched Sputnik 2. This was the first rocket to carry a live creature into space, a dog named Laika. Jupiter is at opposition.

Nov. 4. Saturn is stationary in Aquarius, ending its retrograde motion for the year.

Nov. 5. Last quarter moon is at 3:37 a.m. EST.

Nov. 6. Tycho Brahe discovered a supernova on this day in 1572 in Cassiopeia without a telescope.

Nov. 8. Edmund Halley was born on this day in 1656. I first saw his famous comet on this day in 1985.

Nov.9. Carl Sagan was born on this day in 1934. The moon passes just one degree north of Venus this morning at 4 am. Albert Einstein won his only Nobel Prize on this day in 1921, for discovering the photoelectric effect. He never won one for general relativity, which was a far greater discovery.

Nov.13. New moon is at 4:27 a.m. Uranus is at opposition in Taurus near Jupiter.

Nov. 14. The moon passes near Antares in Scorpius.

Nov. 16. Mercury passes near Antares, an orange giant star that is 700 times bigger than our sun and about 500 light years away, similar to Betelgeuse in Orion.

Nov. 17. The Hungarian physicist Eugene Wigner was born on this day in 1902. He contributed to our understanding of quantum mechanics and won the Nobel Prize in physics in 1963. His famous thought experiment called "Wigner's Friend" is similar to Schrodinger's Cat and could show that there is no objective reality and that consciousness creates all of reality.

Nov. 25. The moon passes 3 degrees north of Jupiter this morning.

Nov. 26. This moon passes 3 degrees north of Uranus this morning.

Nov. 27. Full moon is at 4:16 a.m. This is the Frosty or Beaver Moon.

★

Moon Phases

Nov 5
Last Quarter

Nov 13
New

Nov 20
First Quarter

Nov 27
Full

Moon Data

Nov 6
Moon at apogee

Nov 9
Venus 1° south of Moon

Nov 20
Saturn 3° north of Moon

Nov 21
Moon at perigee

Nov 22
Neptune 1.5° north of Moon

Nov 25
Jupiter 3° south of Moon

Nov 26
Uranus 3° south of Moon

OBSERVER'S CHALLENGE* – November 2023

by Glenn Chaple

IC 10 Irregular Galaxy in Cassiopeia (Magnitude 10.4, Size 6.3' X 5.1')

Any deep-sky object not included in the Messier or Herschel catalogs will likely prove to be a serious challenge for the visual observer. Such is the case with the irregular galaxy IC 10 in Cassiopeia. It eluded detection until 1887 when it was spotted by American astronomer Lewis Swift with a 16-inch Clark refractor. Its elusiveness is attested to by the fact that IC 10 isn't mentioned in the extensive deep-sky lists found in either *Burnham's Celestial Handbook* or Kepple and Sanner's *The Night Sky Observer's Guide*. IC 10 is also absent from Stephen O"Meara's *Hidden Treasures* and *The Secret Deep* – both guides dedicated to little-known deep-sky objects.

Christian Luginbuhl and Brian Skiff mention IC 10 in their *Observing Handbook and Catalogue of Deep-sky Objects,* noting that it's faintly visible in a 6-inch scope as a "diffuse unconcentrated patch elongated SE-NW." In *Deep-sky Wonders*, author Sue French describes seeing the brightest part of IC 10 (in her words, "a little patch of fuzz about 1' across") with a 4-inch refractor. It fittingly appears in Phil Harrington's *Cosmic Challenge* and is included in a section devoted to medium-scope challenges (apertures between 6 and 9.25 inches). Harrington warns that unless you can see M33 with the unaided eye, you may need to work with larger apertures. Its elusiveness is obvious when you consider that IC 10 is similar in size to M27, the Dumb-bell Nebula (8.0' X 5.6" vs. 6.3' X 5.1'), but a full 3 magnitudes fainter (7.4 vs. 10.4). IC 10 is a visual challenge that will mandate large aperture under skies of average transparency or optimally dark skies if you wish to capture it with a small-aperture instrument. In either case, work with a medium magnification (75-100X).

IC 10 is a member of the Local Group of galaxies that includes our Milky Way, M31 (the Andromeda Galaxy), and M33. It is located about 2.2 million light years away – close as galaxies go. Its faintness arises from its location in Cassiopeia about 1½ degrees east of Caph (beta [β] Cassiopeiae) at 2000.0 coordinates RA 0^h 20^m 17.3^s and Dec +59° 18' 14". This puts it near the plane of the Milky Way where it is dimmed by interstellar gas and dust.

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IC 10 Finder Chart

*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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IC 10 Image

Mario Motta, MD. (ATMoB)

I enjoyed getting this galaxy, it is one of the closest galaxies to earth, about the same distance as Andromeda, 2-3 MLY away. It is partially "hidden" by the winter milky way of Cassiopeia .It is a small irregular galaxy that happens to be going through a starburst phase, as evidenced by the red HA regions. It is also surrounded by a very large neutral hydrogen gas halo.

This image was obtained by my 32 inch telescope, with my ZWO ASI 6200 camera. Taken with 1 hour lum, 45 min each of RGB, and 50 min of Ha imaging (to highlight Ha regions) for a total integration time of about 4 hours.
Fascinating object

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

MEMBERSHIP DUES

Membership fees are for the calendar year beginning in January and ending in December. Dues (see page 23 for prices) are payable to the treasurer during November for the upcoming year. New members who join during or after the month of July shall pay half the annual fee, for the balance of the year. Checks should be made payable to the Astronomical Society of Northern New England (A.S.N.N.E). If you would like to mail in your dues, use the form on page 23.

A Member who has not paid current dues by the January meeting will be dropped from membership, (essentially a two-month grace period.) Notice of this action shall be given to the Member by the Treasurer. Reinstatement shall be by payment of currently due dues.

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.

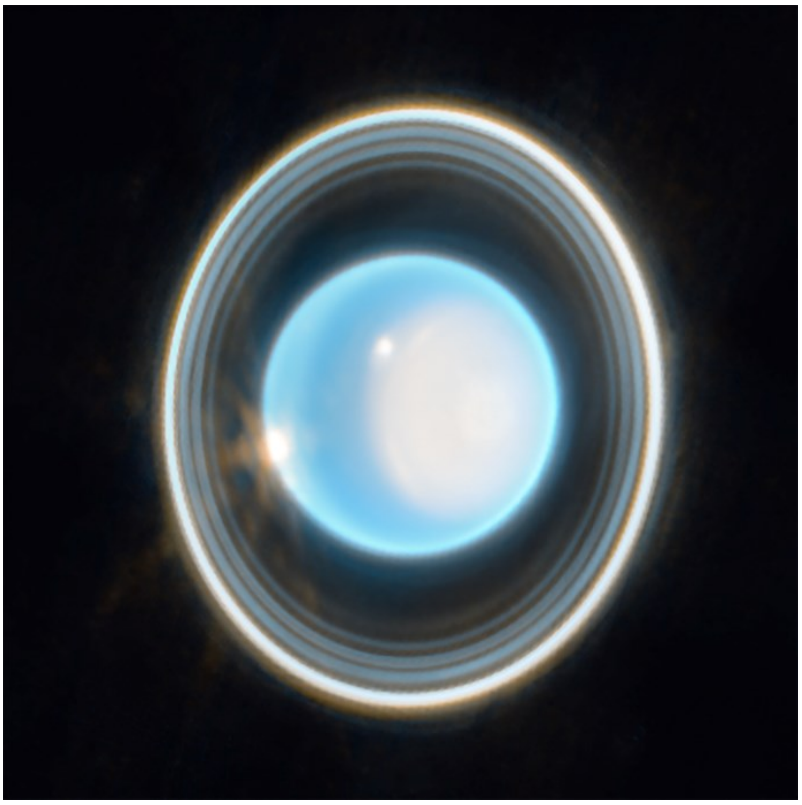
Contact David Bianchi dadsnorlax@yahoo.com for further details.

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!

Spy the Seventh Planet, Uranus

By Liz Kruesi



You might be familiar with Saturn as the solar system's ringed planet, with its enormous amount of dust and ice bits circling the giant planet. But Uranus, the next planet out from the Sun, hosts an impressive ring system as well. The seventh planet was the first discovered telescopically instead of with unaided eyes, and it was astronomer extraordinaire William Herschel who discovered Uranus March 13, 1781. Nearly two centuries passed before an infrared telescope aboard a military cargo aircraft revealed the planet had rings in 1977.

Since that discovery, multiple observatories have revealed more details of Uranus and its ring system. Most recently, the NASA-led JWST space observatory captured the planet and its rings in detail. This recent image combines just 12 minutes of exposure in two filters to reveal 11 of the planet's 13 rings. Even some of the planet's atmospheric features are visible in this image.

For more about the infrared scope, https://web.archive.org/web/20230429120852/https://www.nasa.gov/vision/universe/watchtheskies/kuiper.html

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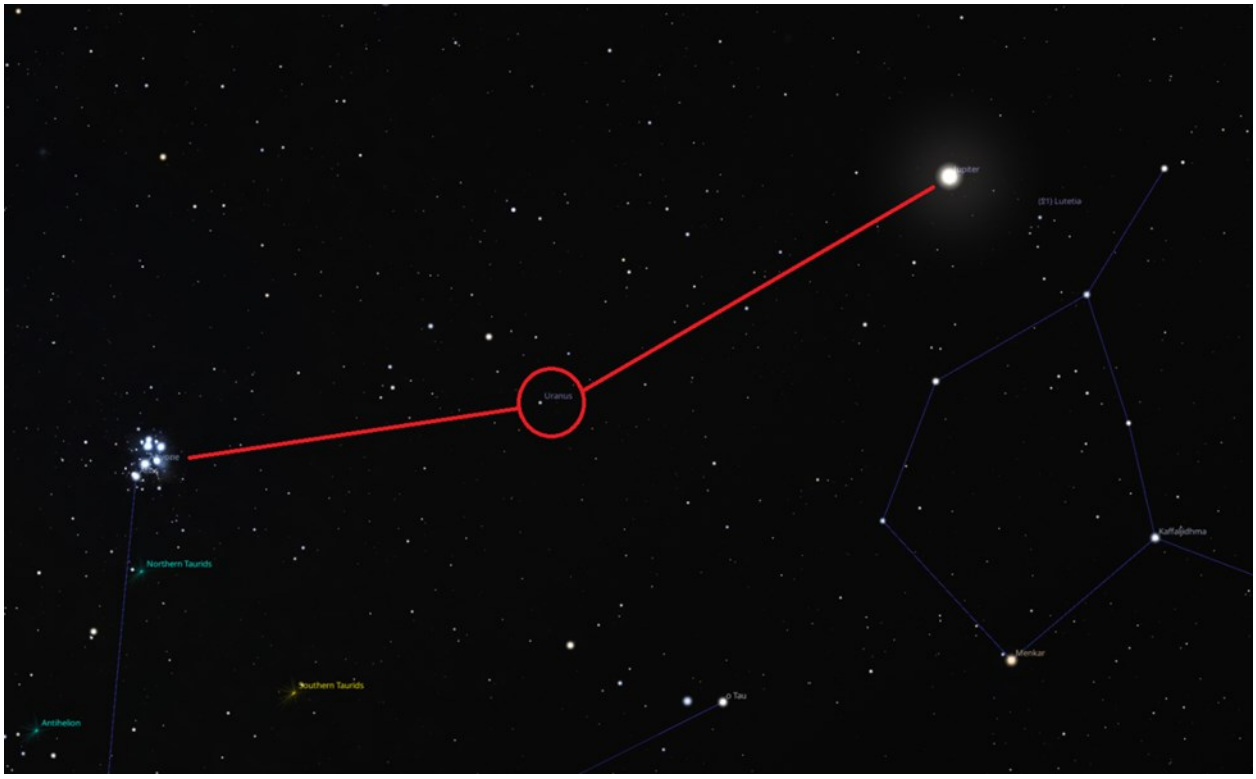
Even with advanced imaging like that from JWST, much of Uranus remains a mystery, including why it orbits the Sun on its side. This is because only one spacecraft has ever visited this planet: NASA's Voyager 2, which flew by the distant planet in the mid-1980s.

Planetary scientists are hoping to change that soon, though. Scientists recommended in a report released last year from the National Academies of Sciences, Engineering, and Medicine that Uranus be the focus on the next big planetary science spacecraft mission. Such a large-scale mission would gain insight into this icy giant planet and the similar solar system planet, Neptune.



Sky map picturing M45, Uranus and Jupiter, Stellarium

If you want to catch a view of Uranus with your own eyes, now is prime time to view it. This ice giant planet lies perfectly positioned in mid-November, at so-called "opposition," when its position in its orbit places it on the other side of the Sun from Earth. That location means our star's light reflects off Uranus' icy atmosphere, and the planet appears as its brightest.

See more about the flyby at https://www.nasa.gov/history/35-years-ago-voyager-2-explores-uranus/

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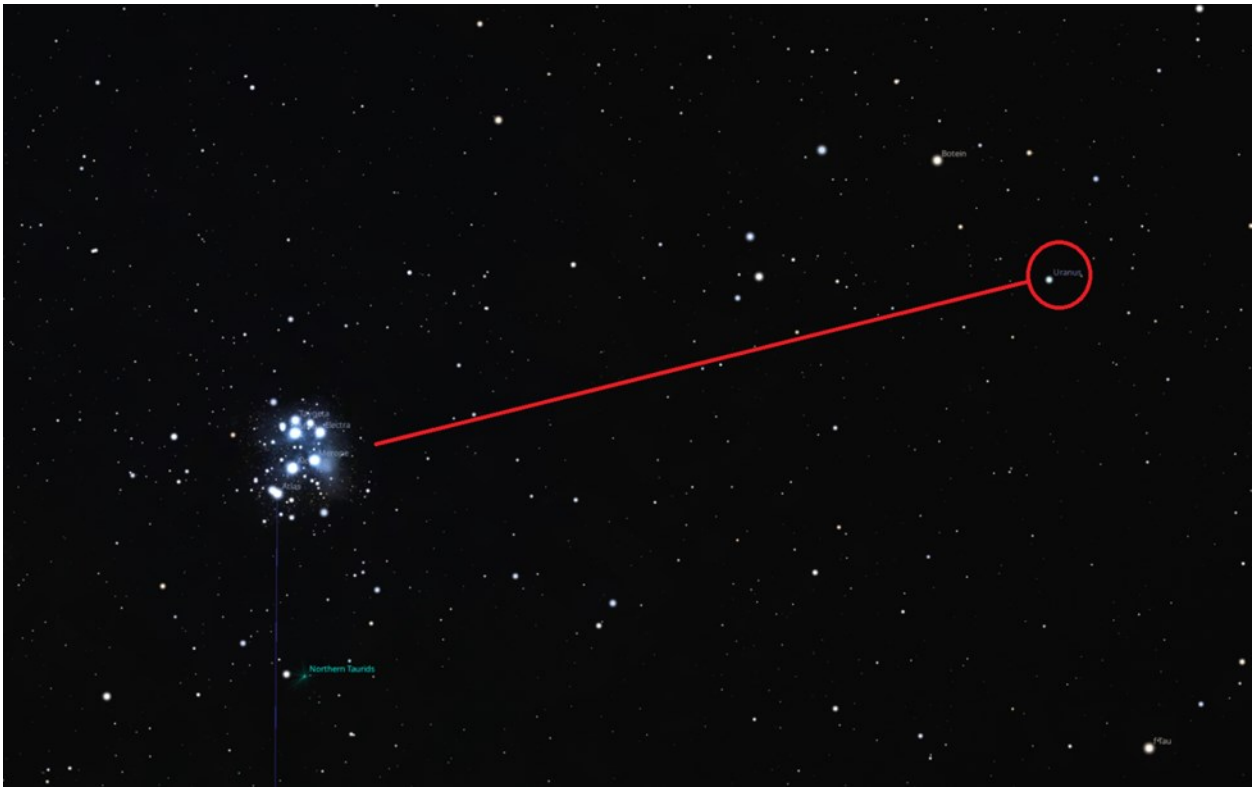


Sky map picturing M45 and Uranus, Stellarium

To find it, look overhead just after midnight on November 13. Uranus will lie about halfway between the brilliant planet Jupiter and the diffuse glow of the Pleiades star cluster (M45). While Uranus may look like a bright blinking star in the night sky, its blue-green hue gives aways its identity. Binoculars or a telescope will improve the view.

For more about this oddball planet, visit NASA's Uranus page.

Image 1:

Uranus hosts 13 faint rings, 11 of which are visible in this JWST image. The planet was 19.67 times the Earth-Sun distance from our planet (1.83 billion miles) when JWST captured exposures through two near-Infrared filters on February 6, 2023. The white region in the right side of Uranus is one of the planet's polar caps. This icy world orbits the Sun differently from the rest of the solar system's planets – Uranus rolls along on its side.

[NASA, ESA, CSA, STScI; Image Processing: Joseph DePasquale (STScI)]

Point and Shoot Camera Astro-imaging (no telescope)

Canon Powershot SX50 HS

Image & write-up submitted by Paul Kursewicz

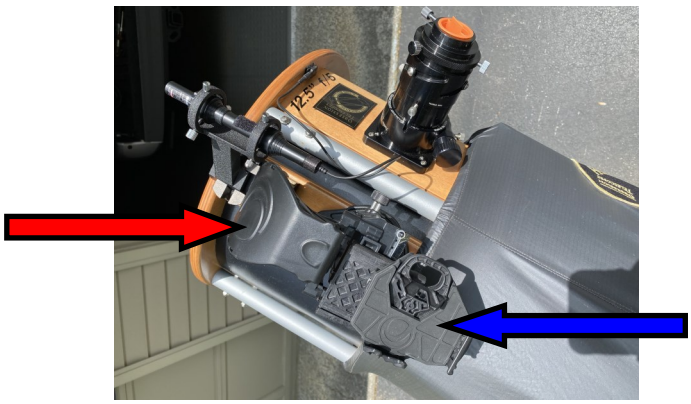
Silver Coin Galaxy (NGC 253)

RAW Mode, FL 1200mm, ISO 1600, f/3.5, 40 x 1 min, 10-13-23

The **Silver Coin Galaxy** is also known as the **Sculptor Galaxy** and is located in the constellation Sculptor. I took this picture during Starfest. It is a Starburst Galaxy that is undergoing intense star formation. It's the brightest galaxy located in the center of the *Sculptor Group*, one of the nearest group of galaxies to the Milky Way. You can see the Silver Coin Galaxy in a pair of bino's. The galaxy is about 11 million light years away; about 90,000 light years in diameter; and around 8th magnitude. If not for its location in the southern sky, NGC 253 would have likely been spotted by Charles Messier and included in his catalog. It contains a super-massive black hole with a mass of about 5 million times that of the Sun, slightly heavier than the Milky Way's black hole. Since the Galaxy resides low in our Southern sky the best time of the year to observe it is around mid October, and during the month of November, when it lies highest above the horizon.

STARFEST 2023

Starfest began on Friday the 13th somewhere after 1:30 pm. That is when the first person, Peter Gillette, arrived at Talmage Observatory. I arrived a bit later. We were debating as to setting up the tarp since Saturday's weather forecast was showing wind gust up to 25 mph. So, no tarp this year. And it actually worked out fine not having it up. We had clear skies on Friday. Seven club members came and a little over 30 guest. At times the observatory was full of people. Some of the spill over ventured out to my scope that was set-up in the field. I brought my 12.5-inch Dob.



I recently added Celestron's StarSense Explorer's cell phone dock to my telescope. This particular line of telescopes from Celestron (all are manual) allows you to use your cell phone to show you exactly which celestial objects are currently visible in the night sky, and where to move your telescope to place those objects in the telescope's eyepiece. You need the code that comes with your Celestron telescope in order to download their App onto your phone. You cannot purchase the cell phone dock and code separately. So, I ended up purchasing their cheapest Celestron StarSense Explorer telescope, removed the cell phone dock, and re-installed it onto my Dob. The blue arrow points to where your cell phone attaches, over an integrated mirror (under the cap of what the red arrow is pointing to). The star patterns overhead reflect off the mirror and into the smartphone's camera. The App then uses Sky Safari to plate solve in real time where objects are in the night sky. It's ingenious! I found it easy to use, fast, and very accurate.

Later on into the night there were just 3 of us left — Peter, Dave, and myself. So I started setting up my Astroimaging equipment to take pictures of the Silver Coin Galaxy. Dave wanted to know if we wanted to see something in the 16-inch Meade before he closed it down. I said yes, the Silver Coin Galaxy. It was extremely faint. However, when Peter fired up the club's Revolution Imager it showed itself as being very bright. The same was true with the Dumbbell Nebula, bright and in color! I took the picture above just by pointing my camera at the Imagers 7-inch monitor.

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Silver Coin Galaxy & Globular Cluster NGC 288
RAW Mode, FL 510mm, ISO 1600, f/3.5, 10 x 1 min, 10-13-23

Here is a wider field of view picture of the Silver Coin Galaxy. I took it well before my close-up image of it when the Globular Cluster (lower left in my image) was only 18 degrees above the horizon, and why it looks so blurry.

Starfest Saturday began by enjoying the Eclipse

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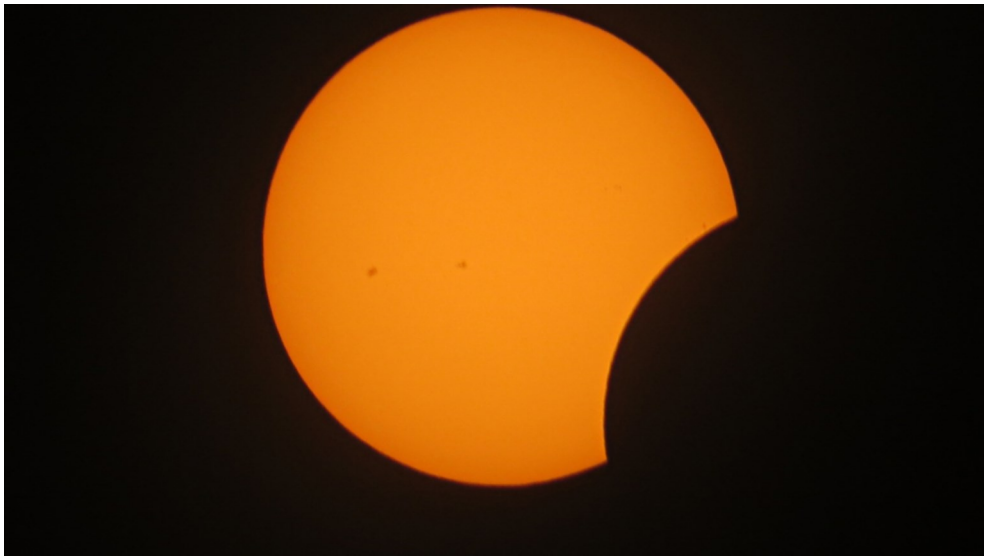
Eclipse Photos and Write-up
Submitted by Peter Gillette



The first one is just a straight Canon Powershot SX50 HS image, using Thousand Oaks Solar Film mounted in a filter ring for the camera. 1200 mm FL, auto-everything, slightly tweaked with AstroSurface.

The second image was also taken with the Canon Powershot SX50 HS, not sure about the FL or any of the rest of the details, but its probably all in the metadata file if you really want it. Again, taken thru solar film, but at a shorter FL, and the camera adjusted on its own. Shows just how good that camera is!

"*Continued on page 14*"

Hi Pau
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And the third photo was taken with my phone, with a piece of solar film slid over the lens of the phone camera. As I mentioned, I keep a piece slipped in between my phone and its case, and simply slide it up and over the lens, any time I want to take a shot of the sun, but don't have my scope. I think people might like to try it, perhaps even with a piece of the filter material from a set of glasses, although I think that stuff isn't as optically good as the Baader or Thousand Oaks material. ★

"Continued on page 15"

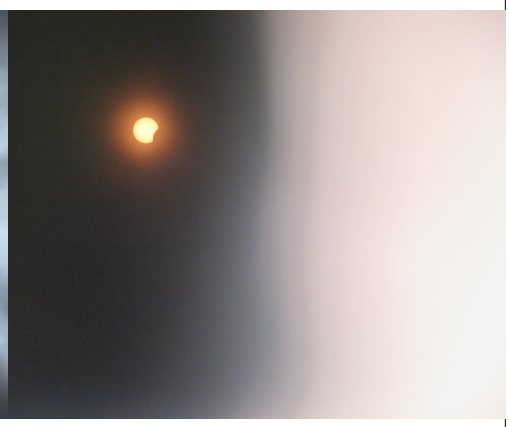
Some photos that I took of Starfest Saturday




Rainbow colored iridescent clouds took place during the Eclipse

1:41 PM No Filter

2:48 PM No Filter



Taken through Solar Glasses

"Continued on page 16






Preparing for the Starfest BBQ

"Continued on page 17"

Raffle Table

A treat to have a fire pit

Bern our keynote speaker--topic “Cosmic Distance Latter”

The night ended with one of Peter’s Sci-fi “B” movies

Thanks to everyone who attended Starfest 2023 and made it a success!

Astronomical Society of Northern New England (ASNNE) Starfest Meeting Notes of 13-15 October 2023

Record Note 1: The dates for Starfest had been set as Friday, 15 September 2023, through Sunday, 17 September 2023. The Event was to last from Noon Friday, until early afternoon Sunday. There was to be a cookout Saturday. Starfest takes place instead of September's usual Regular Meeting, on the first Friday of September at the New School.

Unfortunately, Hurricane Lee pre-empted Starfest, and President Ian Durham had to re-schedule Starfest to 22-24 September for both safety and to prevent a drowned-out weekend

On those re-scheduled dates, however, there was tropical storm Ophelia, and President Ian Durham was once again obligated to re-schedule Starfest, this time to 13-15 October, 2023.

Record Note 2: There was no formal Meeting in September, as Starfest was scheduled; so these Notes are provided, not formal Minutes. I was only present for a portion of Starfest on Saturday, so these Notes are weighed towards the part I was present for. Because there was a regular Meeting in October, 2023, regular Minutes were provided for that Meeting.

Starfest 2023:

Starfest, a weekend-long Event, was recently hosted by the Astronomical Society of Northern New England (ASNNE). Held annually at the Talmage Observatory at Starfield, ASNNE's Observatory, on Alewife Road (Rte 35), in Kennebunk, ME, it was held this year from Friday, 13 October through Sunday, 15 October. This year, again, an effort was made to invite the General Public, as well as our ASNNE Members.

The Event featured both day (solar) observing and night observing.

People were invited to tent (or stay in vehicles) on Friday and Saturday nights. People attended on all three days, but the high-point of the Event was after noon on Saturday.

Attendance was lower than expected, but I believe that the unavoidable twice-repeated rescheduling, had the unfortunate effect of driving attendance down. While the initial date was announced by Press Releases to the local papers, that couldn't be repeated for the new dates.

The re-scheduling of Starfest, made it coincide, happily with a partial solar eclipse, starting, for us, at 12:21 pm on Saturday.

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Starfest on Friday: Quite a few people were here for observing. I observed one tent, and a camping van on Saturday afternoon. It was reported that the Talmage Observatory at Starfield was packed Friday night, with about 40 people there. There was excellent viewing Friday evening.

Starfest on Saturday:

Directors Present: Ian Durham, President & Treasurer

Carl Gurtman, Secretary

Bernard (Bern) Valliere, Director

Plus: David Bianchi, ASNNE E-Mail Manager

Paul Kursewicz, *Skylights* Editor

Others Present: There were an additional twenty-five people present. (People came & went, making it difficult to get an accurate count.)

Major Astronomical Event: At 12:21 pm, the Moon started encroaching on the Sun's limb. While the were quite a few clouds, this partial solar eclipse unfolded slowly enough, so that there was plenty of time for unhindered observation. The Club provided eclipse glasses, and Ian had a nice set of binoculars, with filters. Several sunspots were visible. Interesting as the event was, only about 20% of the Sun was ever covered, and as all who have seen a total solar eclipse can attest, there is a whole world of difference between 99% coverage, and totality.

Starfest Cookout: There was no tent this year. A Port-a-Potty had been rented, just for Starfest. Again, Alyson was in overall charge, and she did her usual thorough job of coordinating all the people bringing items. Thank-you, Alyson! At about 2:30 pm, we started our famous Starfest Cookout. There were unlimited regular & hot sausages, hot dogs, hamburgers, and corn-on-the cob, with all the fixings. Water & soda was also available. A very wide assortment of delicious desserts were also provided. Thank-you to all the people that brought food and other items!

Raffle: After 6:00 pm, President Ian Durham held our raffle, where donated astronomical items were raffled off to raise funds for ASNNE.

"Continued on page 20"

Presentation: At 7:30 pm, ASNNE Director, Bernard (Bern) Valliere, gave his scheduled Presentation. Mr. Valliere is an eleven-year Member of ASNNE, and by day, a software engineer. This was an encore Presentation.

Bern discussed how distances on Earth, then in the Earth-Moon System, within the solar system, then to the stars, and then to near & ultimately, distant galaxies are determined. We can now measure distances to the edge of the observable Universe. Bern likens the process to ascending a ladder; where each step up, depends upon the establishment of the step below it. For extreme distances, objects of known luminosity are used; known as "standard candles".

Bern's Presentation was very well received.

Night-Time Observing: The cloud cover precluded night-time observing.

A movie was shown.

Next Meeting:

ASNNE's next Meeting will be on Friday, 3 November 2023, at the New School, in Kennebunk. The Regular Meeting commences at 7:30 pm. The Business Meeting, which all are welcome to attend, at 7:00 pm.

Respectfully submitted,

Carl Gurtman

Club Meeting & Star Party Dates

Date	Subject	Location
Nov 3	**ASNNE Club Meeting:** **Business Meeting starts prior to Club meeting.** **Club Meeting (in house & on Zoom): 7:30-9:30PM** **Guest Speaker:** There is no guest speaker scheduled. Topic TBD. **Bernie Reim** - What's UP **Astro Shorts:** (news, stories, jokes, reports, questions, photos, observations etc.)	**The New School, Kennebunk, Me.**
Last Month	**Last month we met at The New School and had several members attending via Zoom. Our guest speaker was Dr. Elizabeth McGrath. Her topic; Exploring the Growth of Galaxies in the Early Universe with the James Webb Space Telescope (JWST). Also last month we had our annual Starfest festival at Talmage Observatory at Starfield.**	
	Club/Public Star Party: Dependent on the weather. Nov 10 with a rain date of Nov 17/18.	**Talmage Observatory at Starfield West Kennebunk, Me.**

Directions to ASNNE event locations

Directions to The New School in Kennebunck [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

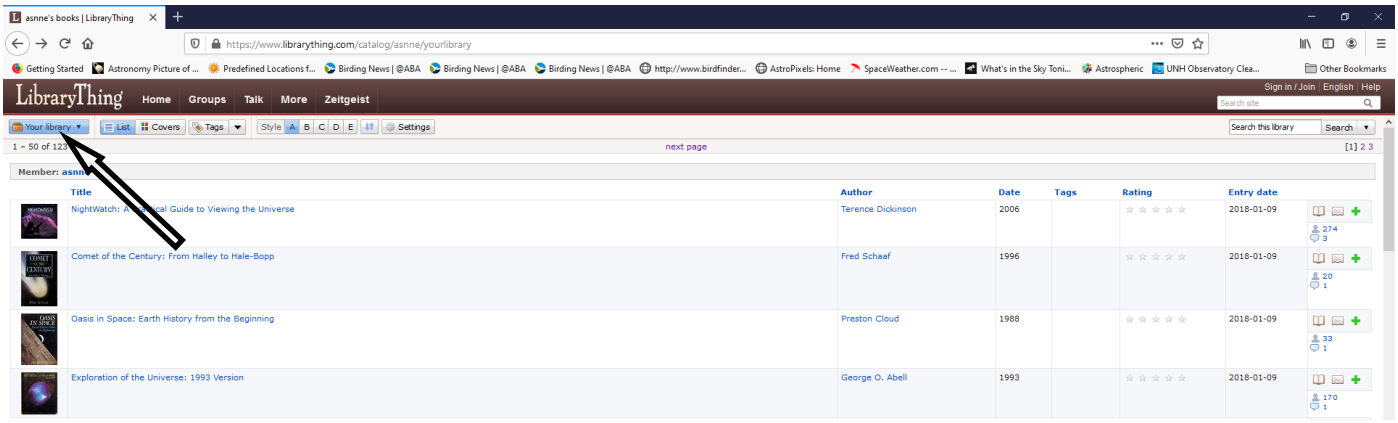
Directions to Talmage Observatory at Starfield [Alewive Road, Kennebunk, ME]

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.

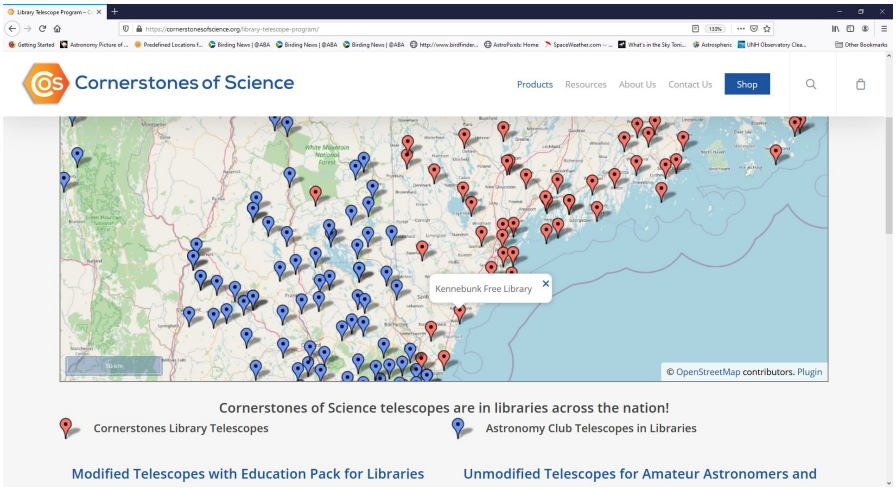
Astronomy Club & Library Resources

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/asnne . 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

2024 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 $50 _____ Family $ 60 _____ 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_____