Skylights

Newsletter of the Astronomical Society of Northern New England

Dec 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.

ASNNE's Annual Christmas/Holiday Party

Pot Luck Supper 6:45pm (see page 14 for details)

What's Up In December

By Bernie Reim

The month of December always marks the beginning of winter for us in the northern hemisphere. This year that will happen at exactly 10:27 pm on Thursday the 21st. This marks the longest night of the year as the sun reaches its lowest point in our sky. The sun will only reach 24 degrees in our sky at this latitude at high noon. By comparison, the sun reaches 68 degrees in the sky on the summer solstice 6 months later.

These long and cold nights will be made much easier to enjoy this month because there will be more than the usual highlights for December, so it will be well worth it to make some effort to witness some or all of them for yourself. These include Jupiter and Saturn as the bright evening planets, Venus as the brilliant morning star, the planet Uranus just past opposition between Jupiter and the Pleiades in Taurus, a close conjunction of Venus and the moon, the bright asteroid Vesta tracking through Orion, an asteroid eclipsing Betelgeuse which will only be visible over southern Florida, a fairly bright comet in Leo and a two fainters ones in Lyra and Aries, and not one, but 3 meteor showers, one of which, the Geminids, are the brightest and most prolific meteor shower each year.

Jupiter in the constellation of Aries the Ram near Taurus is still the brightest evening planet, about 25 times brighter than Saturn which is located 30 degrees and 2 constellations to the west in Aquarius. Both of them are getting a little fainter and farther away now each evening as we are leaving them farther behind in space in our faster orbit around the sun. Saturn was at its best back in August and Jupiter reached its best in early November.

The king of the planets is still in retrograde or westward motion until the last day of this year. It is now at its highest in our sky since 2015. It will form a close conjunction with the waxing gibbous moon on the winter solstice and several transits of all of its 4 large Galilean moons, Io, Callisto, Ganymede, and Europa will be visible this month through a telescope.

You can look for the bluish-green planet Uranus about 10 degrees to the left of Jupiter half way to the Pleiades along the ecliptic. It glows at 5.7 magnitude, a little brighter than usual since it just reached opposition late last month. The limit of visibility for the unaided human eye is 6th magnitude, so you should be able to see it without any binoculars from a dark-sky site.

Venus rises around 4 am in Virgo. It is about 4 times brighter than Jupiter and fully 100 times brighter than Saturn. The slender waning crescent moon will form a nice conjunction with Spica, the brightest star in Virgo on the 8th and it will be near Venus the next morning. Look for the intriguing earthshine on the crescent moon that morning as our two brightest objects in the night sky are just a few degrees apart. Then our sister planet will keep moving eastward as it races farther ahead of us in our respective orbits around the sun. Venus is getting smaller and fainter and more illuminated by the sun, reaching 78 % lit by the end of the year and dropping to minus fourth magnitude in brightness.

Vesta will reach 6.4 magnitude on the 19th as it tracks through Orion this month. It is the second largest asteroid at 330 miles in diameter, which is the distance across Arizona. The largest asteroid, Ceres, is 600 miles in diameter, which is the distance across Texas. Vesta reflects 40% of its sunlight, which is 4 times as much light as our moon reflects, but still only half as much as fresh snow. About 6% of all of the meteorites found on Earth come from this one source, Vesta. We also have fairly large pieces of the moon and even Mars that have hit the earth after making it all the way through our atmosphere millions of years after asteroids hit the moon and Mars kicking those objects into space before our orbit intersected with theirs.

An asteroid named 319 Leona will pass directly in front of the bright red supergiant star Betelgeuse in Orion on Monday, December 11 at 8:25 pm. 319 Leona is part of the main asteroid belt between Mars and Jupiter, so it is in no danger of running into Earth. We don't know its exact diameter, but we think it is around 40 miles across, much smaller than Vesta and Ceres. It could either completely cover up Betelgeuse so that this brilliant star will actually go out for about 12 seconds, or it may be a little too small and create something like an annular eclipse like the one I just saw in Texas in October. In that case Betelgeuse, located about 650 light years away, would only get a little dimmer and not go out completely.

An occultation of a small asteroid in front of a dimmer star is not that rare, but a star as bright as Betelgeuse,

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Inside This Issue

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

which may not even be there anymore, is very rare. You can get a detailed silhouette of an asteroid if you carefully time its occultation and have the right amateur equipment.

Graze occultations of a star in front of the moon when it will blink on and off several times due to the starlight streaming into the valleys on the moon between its mountains (similar to the effect that creates Bailey's beads during a solar eclipse) are also fairly rare and only happen over a very narrow, 10 mile-wide path across the earth. I saw one of those once about 20 years ago as Electra, one of the 6 bright stars in the Pleiades was grazed by the moon for a few minutes causing it to blink as the moon continually races around the earth at about 2,000 miles per hour.

Comet 62P/Tsuchinshan 1, discovered back in 1965, continues to get brighter in Leo. It will reach about 8th magnitude this month and be visible in binoculars or a small telescope. It will pass 6 degrees above Regulus on the 10th and right above the Leo Trio of 3 small galaxies located about 35 million light years away at the end of the month. Try to get some photographs of it since it will show up in a time exposure quite well

Leo now rises around midnight and the best time to look for this comet will be between December 5 and 17 when the moon will not interfere. Another more recently discovered comet, C/2023 A3 (Tsuchinshan-ATLAS) could become as bright as our brightest stars by next October if it survives its perilous journey around the sun.

The next comet is a little fainter. That one is only 10th magnitude, and is named 12P/Pons-Brooks. It will slide right past Vega in Lyra. Then there is even a bonus comet, 144P/Kushida, floating between Jupiter and Uranus in Aries, but it is only 14th magnitude, which is about 40 times fainter than Pons-Brooks and 250 times fainter than Tsuchinshan.

There are 3 meteor showers this month, but only one good one, the Geminids. Caused by an asteroid named 3200 Phaethon, which is probably the nucleus of an extinct comet, this is the best shower of the whole year and it will peak on the night of Wednesday the 13th into the morning of the 14th. You can expect over 100 meteors per hour from a dark sky site since the moon is new on the 12th and will not interfere.

Bundle up and enjoy one of nature's great spectacles as you watch these tiny sand grain sized pieces of an asteroid disintegrate 60 miles above us at the edge of space where our atmosphere ends and space is always black all day long even as our sun shines with the most brilliant white light imaginable. The only other time you could ever get a real sense of this for yourself other than going to the edge of space as only a few people have ever done, is during a total solar eclipse right here on earth as you physically stand in the moon's shadow for a few fleeting moments. Fortunately for all of us, just such an event is coming to us right over central and northern Maine in less than 5 months on Monday, April 8 of 2024.

They will all appear to emanate from a point in the sky right by Castor, the second brightest star in Gemini located about 50 light years away. The brightest one is Pollux, which has a distinct orange hue to it and is only 33 light years away. In mythology Castor is the mortal twin and Pollux is the immortal twin. Castor's father was King Tyndareus of Sparta and the father of Pollux was the god Zeus. The twins became the gods of sailing and horsemanship.

Then you have the annual Ursid Meteor shower on the winter solstice each year. Caused by Comet 8P/Tuttle, you can only expect 5 to 10 meteors per hour. Since the moon will be waxing gibbous, only 5 days before full, you will see even fewer than that, but it is good to know about them. Then you even have a brand new minor meteor shower caused by Comet Wirtanen a few days before the Geminids.

Space X recently performed its second test of the largest rocket ever built by humans. This time Starship did much better than its first test in April, but it was still far from what they had planned. The boosters had to be destroyed and the main vehicle was able to separate successfully after about 3 minutes and got into space up to about 90 miles high, but then it also had to be destroyed. It was supposed to nearly go into orbit and land safely in the Pacific near Hawaii.

Dec.2. Pioneer 11 flew by Jupiter on this day in 1974.

Dec.3. The waning gibbous moon and Regulus rise in the east just 3 degrees apart this evening.

Dec.5. Last quarter moon is at 12:49 a.m. EST.

Dec. 8. The moon will pass just 2 degrees above Spica in Virgo this morning.

Dec.9. The slender waning crescent moon and Venus, our two brightest night time celestial objects, will be just 3 and a half degrees apart this morning.

Dec. 11. Annie Jump Canon was born on this day in 1863. She was part of the famous Harvard Computers who developed the spectral classification system for all stars.

Dec.12. New moon is at 6:e32 p.m. EST.

Dec. 13. The Geminid meteor shower peaks tonight into the 14th.

Dec.14. Tycho Brahe was born on this day in 1546. Tycho's supernova in Cassiopeia was discovered in 1572. It was 13,000 light years away and it shone brighter than Venus and was even visible in the daytime for a while.

Dec. 17. The moon passes 2 degrees south of Saturn tonight. The Wright brothers made the first powered flight of an aircraft on this day in 1903 on a beach in Kitty Hawk NC. The flight only lasted 12 seconds and only went 180 feet, but it proved that it was possible. It only took 65 and a half more years to get all the way to the moon. We are still progressing rapidly and we will probably get all the way to Mars by 2037.

Dec.19. First quarter moon is at 1:39 p.m.

Dec.21. The winter solstice is at 10:27 p.m.

Dec. 22. The Ursid meteor shower peaks tonight. The moon passes 3 degrees north of Jupiter tonight.

Dec.23. The moon passes 3 degrees north of Uranus tonight.

Dec. 25. Isaac Newton was born on this day in 1642.

Dec. 26. Full moon is at 7:33 p.m. This is also known as the Long Night Moon or the Cold Moon.

Dec. 27. Johannes Kepler was born on this day in 1571. He worked with Tycho Brahe to discover his 3 laws of planetary motion. His supernova was discovered in 1604 in Ophiuchus. It was about 20,000 light years away and only became as bright as Jupiter, minus 2.5 magnitude. Unlike Tycho's supernova, there is no remnant left of Kepler's supernova. They were both Type 1a supernovae, when a red giant and a white dwarf merge and explode at 1.44 solar masses. They can be used as standard candles or cosmic yardsticks to measure distances out to galaxies billions of light years away. Ironically, these were the last two supernova seen and only 8 of them have been recorded in history since we were able to record such events. Another one was on July 4 of 1054 in Taurus. That is now the Crab nebula. We are way overdue for a supernova since one should occur about every 100 years in a galaxy of our size.

Dec.28. The waning gibbous moon is only two degrees from Pollux in Gemini this morning.

Dec.29. The moon is near the Beehive open star cluster in Cancer this morning.

Dec. 31. The moon is near Regulus in Leo this morning. Jupiter ends its retrograde motion and is stationary in Aries today. ★

Moon Phases

Dec5
Last Quarter

Dec 12
New

Dec 19
First Quarter

Dec 26
Full

Moon Data

Dec 4
Moon at apogee

Dec 9
Venus 4° north of Moon

Dec 13
Mercury 4° north of Moon

Dec 16
Moon at perigee

Dec 17
Saturn 2° north of Moon

Dec 19
Neptune 1.3° north of Moon

Dec 22
Jupiter 3° south of Moon

Dec 23
Uranus 3° south of Moon

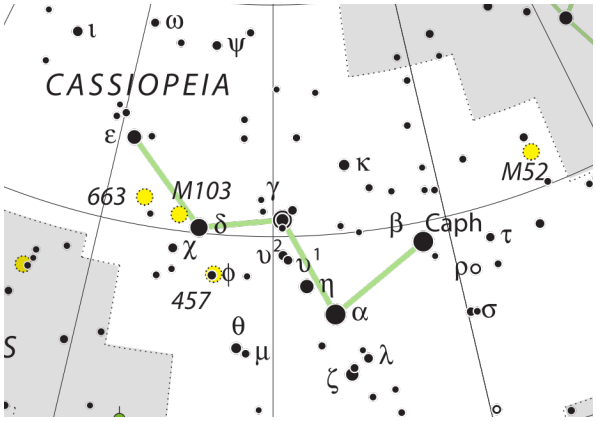
Sky Object of the Month – December 2023 (re-print of Dec 2015)
Messier 52 – Open Cluster in Cassiopeia
by Glenn Chaple

If you're a fancier of open star clusters, Cassiopeia is the place to be. Among the best of the Queen's numerous open cluster offerings of is Messier 52.

In binoculars and finderscopes, M52 appears as a fuzzy patch and remains mostly nebulous when viewed with small-aperture telescopes. My 3-inch f/10 reflector at 30X shows a triangular haze about 10 arc-minutes across and interspersed with a handful of tiny stellar specks. An 8th magnitude star located at the westernmost apex of the triangle gives M52 an appearance not unlike that of the "Wild Duck" Cluster, M11. The similarity isn't coincidental. Like M11, M52 is extremely rich and densely packed. Many dozens of stars, from magnitudes 9 to 13, greet the eye of anyone viewing M52 with a large scope and moderately high magnification. In all, the cluster contains about 200 stars.

You can find M52 by tracing an imaginary line from Shedir (alpha [α] Cassiopeiae) to Caph (beta [β] Cassiopeia) and extending it about 6 degrees beyond. M52 lies less than a degree south of the 5th magnitude star 4 Cassiopeiae and appears in the same low-power field.

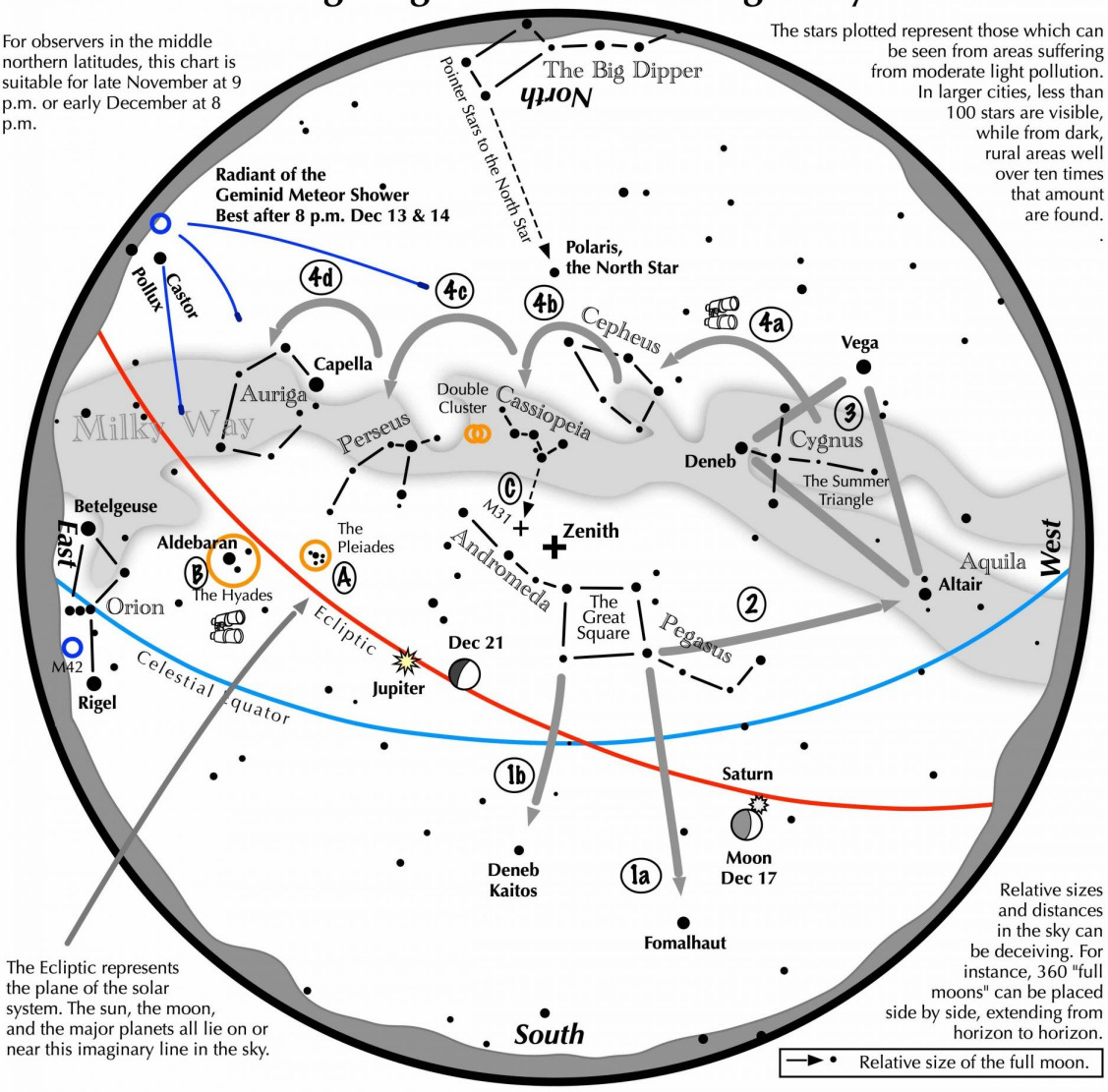
M52 was discovered by Charles Messier on September 7, 1774. Its exact distance is uncertain, but a commonly-stated value of 5000 light years yields a true diameter of about 19 light years.



IAU/*Sky and Telescope*

freestarcharts.com

Navigating the December Night Sky



Navigating the December night sky: Simply start with what you know or with what you can easily find.

1. Face south. Almost overhead is the "Great Square" with four stars about the same brightness as those of the Big Dipper. Extend an imaginary line southward following the Square's two westernmost stars. The line strikes Fomalhaut, the brightest star in the southwest. A line extending southward from the two easternmost stars, passes Deneb Kaitos, the second bright star in the south.
2. Draw another line, this time westward following the southern edge of the Square. It strikes Altair, part of the "Summer Triangle."
3. Locate Vega and Deneb, the other two stars of the "Summer Triangle. Vega is its brightest member while Deneb sits in the middle of the Milky Way.
4. Jump along the Milky Way from Deneb to Cepheus, which resembles the outline of a house. Continue jumping to the "W" of Cassiopeia, to Perseus, and finally to Auriga with its bright star Capella.

Binocular Highlights
A and B: Examine the stars of the Pleiades and Hyades, two naked eye star clusters.
C: The three westernmost stars of Cassiopeia's "W" point south to M31, the Andromeda Galaxy, a "fuzzy" oval.
D: Sweep along the Milky Way from Altair, past Deneb, through Cepheus, Cassiopeia and Perseus, then to Auriga for many intriguing star clusters and nebulous areas.

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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 16 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 16.

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.

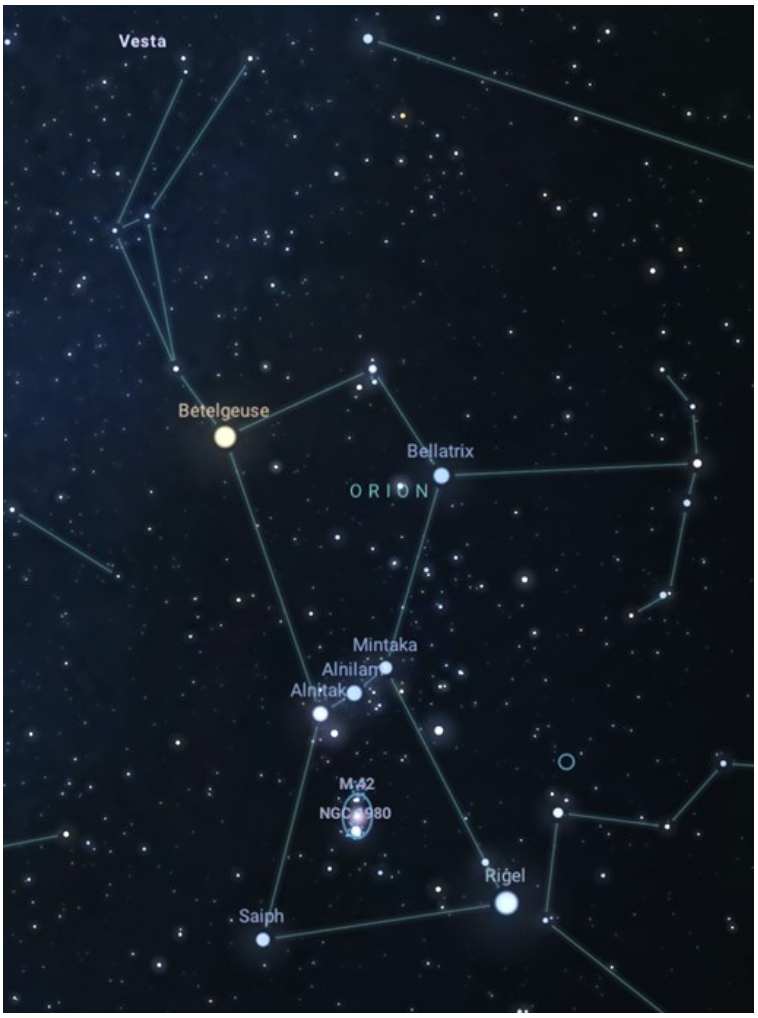
This article is distributed by NASA Night Sky Network

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!

A Flame in the Sky – the Orion Nebula

By Kat Troche

It's that time of year again: winter! Here in the Northern Hemisphere, the cold, crisp sky offers spectacular views of various objects, the most famous of all being Orion the Hunter.



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As we've previously mentioned, Orion is a great way to test your sky darkness. With your naked eye, you can easily spot this hourglass-shaped constellation. Known as an epic hunter in Greco-Roman, Orion and all its parts have had many names and meanings across many cultures. In Egyptian mythology, this constellation represented the god *Sah*. The Babylonians referred to it as *The Heavenly Shepard.* In most cultures, it is Orion's Belt that has many stories: *Shen* in Chinese folklore, or *Tayamnicankhu* in Lakota storytelling. But the Maya of Mesoamerica believed that part of Orion contained *The Cosmic Hearth* – the fire of creation.

1,500 light years away from Earth sits the star-forming region and crown jewel of Orion – Messier 42 (M42), the Orion Nebula. Part of the "sword" of Orion, this cloud of dust and gas sits below the first star in Orion's Belt, Alnitak, and can easily be spotted with the naked eye under moderate dark skies. You may also use binoculars or a telescope to resolve even more details, like the Trapezium: four stars in the shape of a baseball diamond. These young stars make up the core of this magnificent object.

Of course, it's not just for looking at! M42 is easily one of the most photographed nebulae around, by astrophotographers here on the ground, large ground-based observatories, and space telescopes alike. It has long been a place of interest for the Hubble, Spitzer, and Chandra X-ray Space Telescopes, with James Webb Space Telescope joining the list in February 2023. Earlier this year, NASA and the European Space Agency released a new photo of the Orion Nebula taken from JWST's NIRCam (Near-Infrared Camera), allowing scientists to image this early star forming region in both short and long wavelengths.

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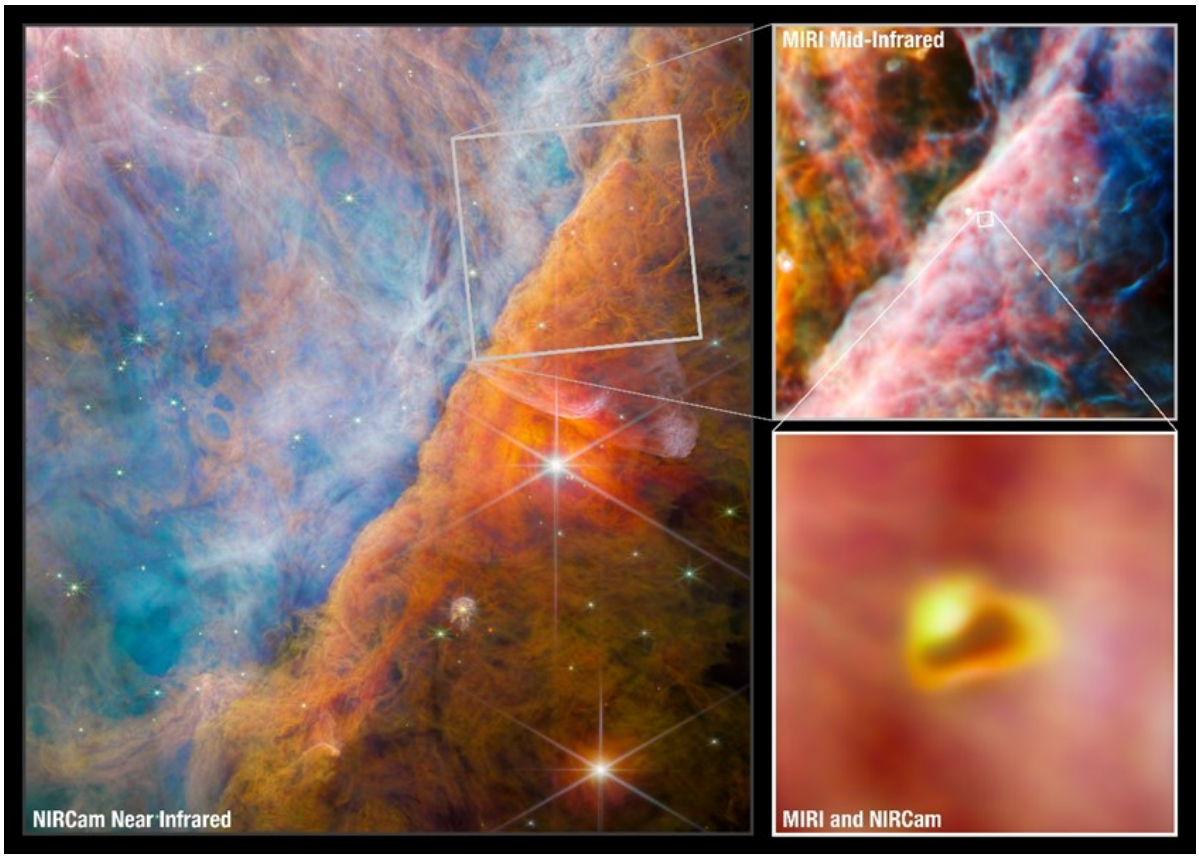

But stars aren't the only items photographed here. In June 2023, JWST's NIRCam and MIRI (mid-infrared instrument) imaged a developing star system with a planetary disk forming around it. That's right – a solar system happening in real time – located within the edges of a section called the Orion Bar. Scientists have named this planet-forming disk **d203-506**, and you can learn more about the chemistry found here. By capturing these objects in multiple wavelengths of light, we now have even greater insight into what other objects may be hiding within these hazy hydrogen regions of our night sky.

In addition to our Dark Sky Wheel, a fun presentation you can share with your astronomy club would be our *Universe Discovery Guide: Orion Nebula, Nursery of Newborn Stars* activity. This will allow you to explain to audiences how infrared astronomy, like JWST, helps to reveal the secrets of nebulae. Or, you can use public projects like the NASA-funded MicroObservatory to capture M42 and other objects.

Learn more about what to spy in the winter sky with our upcoming mid-month article on the Night Sky Network page through NASA's website!

Point and Shoot Camera Astro-imaging (no telescope)

Canon Powershot SX50 HS

Image & write-up submitted by Paul Kursewicz

Heart & Soul Nebula (plus several Open Star Clusters)

RAW Mode, FL 204mm, ISO 800, f/3.5, 8 x 5 min, Baader Filter, 11-10-23

The **Heart & Soul Nebulas** are two bright emission nebulae in the constellation Cassiopeia that emit red light from hydrogen and other elements. The top nebula is the **Heart**, lower is the **Soul**. Each are about 6,000 light years away which together span about 500 light years. There are several small star clusters situated in each nebulae. These two nebulae are massive star-making factories. I was also able to capture several larger star clusters that reside outside of the nebulae, as is seen in the top right-hand corner of my image. The next page provides a close-up view of this area of the sky (but imaged on a different date).

"Continued on page 10"

Point and Shoot Camera Astro-imaging (no telescope)

Canon Powershot SX50 HS

Image & write-up submitted by Paul Kursewicz

Double Cluster of Perseus & Paul's Heart Cluster

RAW Mode, FL 308mm, ISO 1600, f/3.5, 20 x 4 min, 11-11-17

This slightly cropped close-up image shows the **Double Cluster of Perseus** (right side of my image). It was obtained from a picture that I took on November 11, 2017. Back then I was taking my first images of the Heart & Soul Nebula. When looking at my pictures, I noticed an amazing grouping of stars that to my knowledge has gone unrecognized until I spotted it back in 2017. *Can you find a perfectly shaped heart?* It is located in the left side of my image about a third of the way up from the bottom. It's pretty large, the same diameter as the Double Cluster. Just above the Heart Cluster is another loose open cluster of stars and about the same diameter as the Heart. I could not find a designation for it. Another thing that I found amazing is that the Heart Cluster (which I dubbed, **Paul's Heart Cluster**) is just to the upper right of the Heart Nebula. If you go back and look at my image on the previous page you should now see both Hearts. Since most of the stars in the Heart Cluster are very faint, its shape could not be made out visually when I looked at it through my binoculars. Probably why it has gone un-noticed.

Astronomical Society of Northern New England (ASNNE) Membership Meeting Minutes of 3 November 2023

Business Meeting: The Business Meeting was called to order at 7:15 by President Ian Durham.

Directors Present: Ian Durham, President *Pro Tem* and Treasurer

Bernie Reim, Vice President

Carl Gurtman, Secretary

Gary Asperschlager, Director

Bern Valliere, Director

Plus: Paul Kursewicz, *Skylights* Editor

Others Present: There were an additional three people present at the Business Meeting.

Treasurer's Report: There was no Treasurer's Report.

Secretary's Report: The previous Minutes had been e-mailed out. There were two comments. The comments were incorporated. The Secretary's Report was accepted. [This item is out-of-sequence.]

Old Business:

There was no Old Business.

New Business:

In preparation for the Combined Annual Membership Meeting & Christmas Party Pot-Luck Supper, the existing Board, as required by ASNNE's By-Laws, put forward a slate of Directors for the ASNNE Board of Directors for 2024. The Members put forward are Gary Asperschlager, Ian Durham, Carl Gurtman, Bernie Reim, and Bern Valliere. This is five of the seven required. We will ask for volunteers at the Regular Meeting.

We set the time of the Christmas Party in December as 6:45 pm.

There is a Public Star Party scheduled for Friday, 10 November. In a departure from usual protocol, the rain date is Friday/Saturday, 17/18 November. At this Star Party, we are expecting Mr. Will Ross, who is a photo-journalist for WMTW-8 in Portland. He would like to film a story about our telescopes and star-gazing in southern Maine.

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Speakers: President Ian Durham, during his last trip to England, visited the Royal Observatory in Greenwich. This is where the Prime Meridian is, and the home of Greenwich Mean Time. Ian straddled the Prime Meridian, with one leg in the Western Hemisphere, and the other in the Eastern Hemisphere. In our January Meeting, Ian will talk about his trip, and will expand his talk to discuss longitude, and the actions taken to accurately measure longitude.

Carl will try to obtain speakers from UNH. (The ones who talked to us several years ago.)

The Business Meeting was adjourned at 7:30 pm.

Regular Meeting:

Regular Meeting: The Regular Meeting was called to order at 7:35 pm by

President Ian Durham.

Directors Present: Ian Durham, President *Pro Tem* and Treasurer

Bernie Reim, Vice President

Carl Gurtman, Secretary

Gary Asperschlager, Director

Bern Valliere, Director

Plus: Paul Kursewicz, *Skylights* Editor

Others Present:

There was a total of 11 people present at the Meeting. This Meeting was not on Zoom.

Regular Meeting:

Ian had the people present introduce themselves. There was one new person, Chris.

Carl reported on the upcoming Combined Annual Membership Meeting & Christmas Party Pot-Luck Supper. He noted the planned start time, of 6:45 pm. Carl also stated that last year, food was somewhat sparse, and asked that people bring adequate food.

"Continued on page 13"

The slate of nominees for next year's Board; Gary Asperschlager, Ian Durham, Carl Gurtman, Bernie Reim, and Bern Valliere, were put forward. This is only five of the seven required. April Nicholls volunteered. Ron Burk, a Past President was also added, *in absentia*. (His approval will be requested.)

Presentation: There was no Presenter this month.

"What's Up?":

Before his usual "What's Up?", Bernie discussed his trip to Texas to view the Annular Solar Eclipse of Saturday, 14 October. A "Ring of Fire" eclipse. He saw, through occasional clouds, the eclipse. As the Moon's shadow later passed over Maine, we at Starfest saw ~20% of the Sun obscured. While in Texas, Bernie saw the Big Bend National Park, the Chihuahuan Desert, and the Rio Grande. Bernie also visited the McDonald Observatory in Fort Davis. (Secretary's Note: Been there; done that, got the "tee"-shirt.) The area has unusually Dark Skies.

Bernie then gave his usual thorough, comprehensive, and complete discussion of what's in store for us in the skies of November. Of note is the annual Leonid Meteor Shower, which peaks on the 17th and 18th of November. Bernie reminisced about the Leonid Shower he saw on 18 November in 2001, which at about 1,000 (!) meteors per hour, is termed a Meteor Storm.

Bernie then covered "What Happened on this Day. . .", and the names of this month's moon.

Bernie's excellent presentation, in its entirety, can be found, this month, and every month, in *Skylights*, ASNNE's professional-quality newsletter; editor, Paul Kursewicz. Skylights may be found at: http://www.asnne.org/newsletter.php

Astroshorts: There were a few Astroshorts.

Next Meeting:

ASNNE's next Meeting - The Combined Annual Membership Meeting &

Christmas Party Pot-Luck Supper will be on Friday, 1 December, 2023, at the New School, in Kennebunk.

The Regular Meeting was adjourned at ~8:40 pm.

Respectfully submitted,

Carl Gurtman

Club Meeting & Star Party Dates

Date	Subject	Location
DEC 1	**Christmas/Holiday/Party & Club Meeting** **Pot Luck Supper 6:45 PM** **Bring your favorite dish - salad - desert - or drink.** **Club Meeting 7:30 PM** **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. There was no Zoom meeting and no keynote speaker. A slate of nominees for next year's Board was put forward. Bernie did What's Up, and some members gave astro shorts.**	
TBD	**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 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

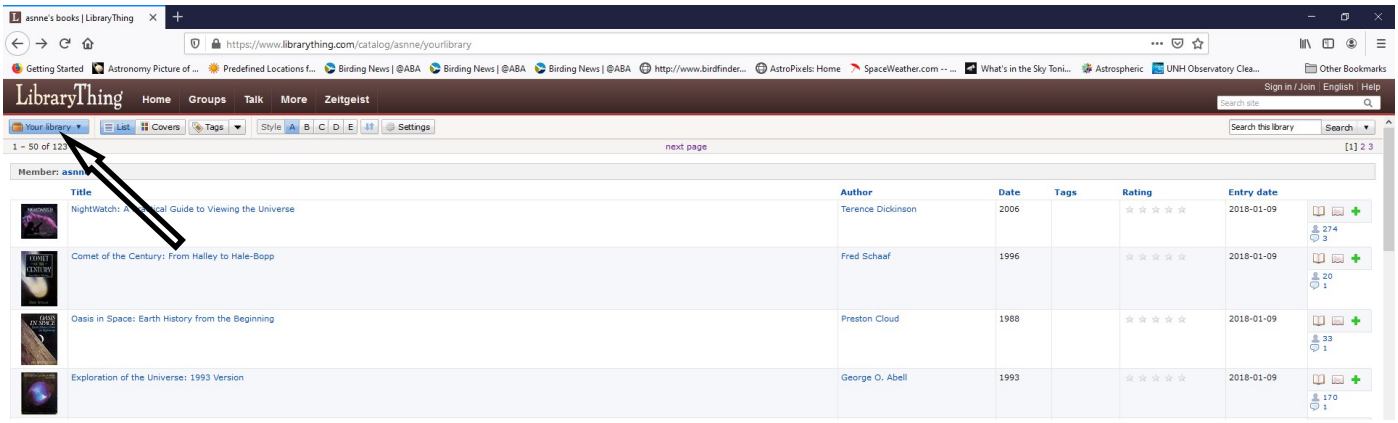
Directions to Talmage Observatory at Starfield [Alewive Road, Kennebunk, ME]

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.

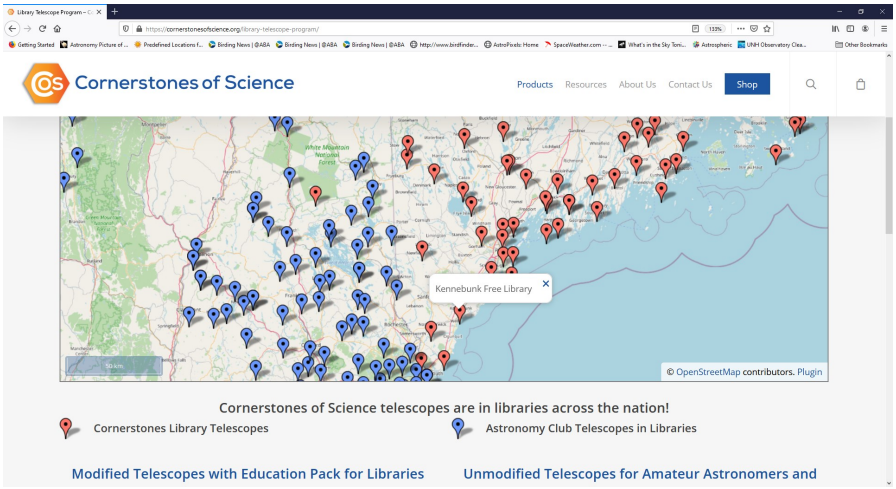
Astronomy Club & Library Resources

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_____