

Skylights

Newsletter of the Astronomical Society of Northern New England



Jan2024



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 January

By Bernie Reim

The month of January is named after the Roman god Janus, who faces both forward and backwards at the same time. Janus is the god of transitions, passages, doorways, gates, and the god of all beginnings. Let us resolve to make this a better year than 2023 by learning from the past while at the same time creating a better future for all of us and living closer to our potentials.

The days are already getting longer, although not by much until towards the end of this first month of the New Year. The nights are still getting colder and they will still be quite long all of this month. There are several great highlights this month that will make it well worth your effort to bundle up, search for, and enjoy some or all of these interesting events that will enable you to gain a deeper appreciation of where we really are in space and to get a better sense of our 8,000 mile in diameter earth as it constantly moves through this space around our life-giving sun at 18.6 miles per second our 67,000 mph.

They include the long-awaited return of Mars to the morning sky around the middle of the month. Mars will then perform a celestial dance with Venus and Mercury in the southeastern morning sky including a very close conjunction of Mars and Mercury on the 27th. Saturn and Jupiter remain as the evening planets and they are both back to their normal direct, eastward motion again with respect to the fixed background of stars. Then we will be treated to nice conjunctions of the moon with Saturn around the middle of the month and then Jupiter a few days later. The second in a 5-year-long series of occultation of Antares by the moon that doesn't end until August 27 of 2028. Then there are not one, but two comets that will be visible with binoculars or a small telescope. These are Comet 12P/Pons-Brooks in Cygnus the Swan and Comet 62P/Tsuchinshan in Virgo. The second brightest asteroid, Vesta, will pass through Taurus near Orion and the best highlight of all of them will be a favorable display of the Quadrantid meteor shower during the morning of the 4th with a last quarter moon setting around midnight.

Mars is finally making its reappearance in the morning sky this month after a long absence when it was too close to the sun and as far away from earth as it will get in its 26 month time span between oppositions when it is at its best and brightest and closest to Earth. That will not happen again until January of 2025. Look for the red planet very low in the southeastern sky 30 minutes before sunrise right below Venus and Mercury in the constellation of Scorpius.

The slender waning crescent moon will nicely point out Venus on the 8th, as it will also occult Antares that morning for the western part of this country. Then the moon will be 12 degrees farther east the next morning and can be seen right below Mercury on the 9th. Mars is a little lower than that and you may need binoculars to see it. After that Mars keeps rising higher and Mercury keeps getting lower. The two will meet on the morning of January 27 when they will be just a quarter of a degree apart, which is half the width of the full moon. You will need binoculars to see this very close conjunction well enough to appreciate it.

Venus still rises around 4 am and is moving into Scorpius now, the next constellation to the east of Libra

where it was last month. It shines at minus 4th magnitude and is still getting smaller but more illuminated by the sun as it gets farther ahead of Earth in its orbit around the sun. Watch how these 3 planets, Mercury, Venus, and Mars, our three nearest neighbors in the solar system, dance around each other in the morning sky this month.

Jupiter just ended its retrograde motion on the last day of last year and is now back to its normal eastward or direct motion in Aries the Ram, heading towards Taurus once again. It is still quite high and brighter than usual, but it is getting slightly less bright each night. Shining at minus 2.5 magnitude, the king of the planets is about 4 times brighter than Saturn at first magnitude. Venus is 100 times brighter than Saturn. Every five magnitudes equal 100 times difference in brightness.

Saturn is still in Aquarius, where it will spend just over 2 years as it always does in each of the 12 zodiac constellations since it takes Saturn 29 years to orbit the sun once. The ringed planet now sets by 9pm and we will lose it into the western sky late next month. Look for a bright star named Fomalhaut in Pisces Austrinus 20 degrees to Saturn's south-southeast, which is just slightly fainter than Saturn. The Hubble Space telescope discovered a giant planet orbiting this star in 2008 with about twice the mass of Jupiter creating a dust ring around Fomalhaut, which simply means the mouth of the fish in Arabic. It is quite close at 25 light years away, about the distance to Vega in Lyra in the summer triangle. Watch as a waxing crescent moon passes close to Saturn on the 13th and 14th.

The second occultation of Antares by the moon in a whole series of such occultations ending on August 27 of 2028 will happen on Monday morning, January 8. The first one was on

"Continued on page 2"

Inside This Issue

| | |
|--------------------------------------|-----------|
| Club Contact List | pg. 2 |
| Moon Data | pg. 3-5 |
| Observer's Challenge | |
| January's Night Sky | pg. 6 |
| This Month's Guest Speaker | pg. 7 |
| Meteor Showers in 2024 | pg. 8 |
| Club Merchandise for Sale | |
| Club Membership Dues 2024 | |
| Connecting the 'Dots' with Asterisms | pg. 9-11 |
| Astro-Imaging with a Point & Shoot | pg. 12,13 |
| Club Meeting Minutes | pg. 14-16 |
| Club Info & Directions to ASNNE | pg. 17 |
| ASNNE Club & Library Resources | pg. 18 |
| Become a Member | pg. 19 |

Club Contacts

Officers:

President:

David Bianchi
dadsnorlax@yahoo.com

Vice President:

Bernie Reim
bernard.reim@maine.edu

Secretary:

Carl Gurtman
cgurtman@maine.rr.com

Treasurer:

Ian Durham
idurham@anselm.edu

Board of Directors:

Gary Asperschlager
gasperschlager@gmail.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"

on August 24 of 2023. It will only be visible west of here in this country and in parts of Canada and Mexico.

Antares is a red supergiant star 550 light years away with a diameter of about 700 times that of our sun. If you could place Antares where our sun is in our sky, not only the earth, but also Mars and the asteroid belt would be orbiting inside Antares, which reaches almost all the way to Jupiter which is 500 million miles away. Our sun is 864,000 miles in diameter. That distance and size is similar to Betelgeuse in Orion, but Betelgeuse has an added feature of possibly having exploded as a supernova already since it has run out of hydrogen to fuse into helium.

To make up for that added feature of Betelgeuse, Antares is a double star with a 5.4 magnitude star, Antares B, just 2.7 arc seconds below it. It is usually obscured by Antares A, but you would be able to see Antares B during this occultation because it will reappear first from behind the limb of the waning crescent moon a split second before Antares A reappears. Any occultation of a star by the moon is a great event to watch to give you a real sense of how fast the moon is always orbiting the earth. That averages about 2,000 miles per hour, or about half a mile per second. I experienced this incredible speed and power of our seemingly static moon when its shadow raced over me for a few seconds on its way across our entire country from Oregon to South Carolina, truly "from sea to shining sea", in just 90 minutes. I was at 6,000 feet in Driggs, eastern Idaho, with a view of a few of the peaks of the Grand Tetons visible to my east.

The comets starring this month are 62P/Tsuchinshan and Comet 12P/Pons-Brooks. 62P/Tsuchinshan will be traveling through the sky just below Leo and into Virgo right through the Virgo cluster of 2,000 galaxies this month. It should reach its brightest of 7th magnitude, just two and a half times fainter than anything you could see without optical aid, early this month. It went through perihelion, closest to the sun, on Christmas Day. The best time to look for it this month will be during the moonless stretch of the 5th to the 22nd. It is moving eastward at about half a degree per day. It was discovered back on January 1 of 1965 at the Purple Mountain Observatory in Nanjing, China. Its name means "Purple Mountain" in Mandarin. Usually comets are named for the people or telescopes that discovered them, not the place where they were discovered.

Comet 12P/Pons-Brooks only returns every 71 years. It was first discovered by Jean-Louis Pons in 1812 and then lost and rediscovered by William Brooks in 1883. It will only reach about 10th magnitude, so you would need a telescope to spot it. It is passing through Cygnus this month just above the Veil nebula, a supernova remnant 2100 light years away that covers over 100 light years of the sky from a massive star that ran out of fuel and exploded about 10,000 years ago. This colorful and wispy nebula, made of dust and heated and ionized oxygen, sulfur, and hydrogen gas embodies everything mysterious and wonderful about how these huge stars, many times the size of our average sun, perform the ultimate sacrifice in galactic recycling and provide the heavier elements that make planets, plants, animals, and people possible.

The second largest asteroid, Vesta, is easy to spot now at 7th magnitude passing from Orion into Taurus to the left of Jupiter. It will pass just below the Crab Nebula, M1, from the 11 to the 13th of January. The Crab nebula is another supernova explosion, but a much more recent one that just happened on July 4 of the year 1054.

The best highlight of this first month of the year, if it is clear, will be the annual Quadrantid meteor shower which has a very narrow peak of 4 a.m. on the morning of Thursday the 4th. You could expect between 30 and 40 meteors per hour all originating from its radiant near the Big Dipper and Draco the Dragon. Caused by an asteroid named 2003 EH1, discovered by Brian Skiff at the Lowell Observatory 2003 and also partly by a comet named 96P/Machholz, this shower is named for an extinct constellation Quadrans Muralis. The last quarter moon will set around midnight, so it will not wash out any of these meteors.

Jan.1. On this day in 1801 Giuseppe Piazzi discovered the largest asteroid, Ceres, which is 600 miles in diameter, or about the size of Texas. Mercury is stationary.

Jan. 2. Earth is at perihelion, or closest to the sun for the year at 8 p.m. EST at 91.4 million miles.

Jan.3. Last quarter moon is at 10:30 p.m.

Jan.4. The Quadrantid meteor shower peaks this morning.

Jan. 5. The moon is near Spica in Virgo this morning.

Jan.6. Venus passes 6 degrees north of Antares this morning.

Jan.7. On this day in 1610 Galileo discovered Callisto, Europa, and Io. He would discover Ganymede, the largest moon in our solar system at 3200 miles in diameter, 6 days later.

Jan.8. Stephen Hawking was born on this day in 1942. The moon occults Antares in parts of this country west of us and it will pass less than one degree north of Antares for us in the east.

Jan.9. The moon, Venus, and Mercury will form in the east before sunrise this morning.

Jan.10. The moon passes 4 degrees south of Mars this morning.

Jan.11. New moon is at 6:57 a.m.

Jan.14. The moon passes near Saturn this evening. On this day in 2005 the Huygens probe landed on the shore of a liquid methane lake on Titan, the largest moon of Saturn.

Jan.17. First quarter moon is at 10:53 p.m.

Jan.19. On this day in 2006 the New Horizons mission was launched to Pluto, the same year that Pluto was reclassified as an icy dwarf planet. It arrived there on July 14 of 2015 to discover many new and amazing things including huge plains of ever-shifting nitrogen ice, a thin atmosphere, and ice volcanoes on this lonely outpost of our solar system 4 billion miles away, or nearly 6 hours at the speed of light.

Jan.25. Full moon is at 12:54 p.m. This is also known as the Old or Wolf Moon. Joseph-Louis LaGrange was born on this day in 1736 in Turin, Italy. The LaGrange points in space where the gravity of 3 bodies cancel out are named after him.

Jan.27. Mercury and Mars are only a quarter degree apart very low in the eastern morning sky in Sagittarius 45 minutes before sunrise.



Moon Phases

Jan 3
Last Quarter

Jan 11
New

Jan 17
First Quarter

Jan 25
Full

Moon Data

Jan 1
Moon at apogee

Jan 8
Venus 6° north
of Moon

Jan 9
Mercury 7° north
of Moon

Jan 10
Mars 4° north
of Moon

Jan 13
Moon at perigee

Jan 14
Saturn 2° north
of Moon

Jan 15
Neptune .9° north
of Moon

Jan 18
Jupiter 3° south
of Moon

Jan 19
Uranus 3° south
of Moon

Sky Object of the Month – January 2024

NGC 936 - Barred Lenticular Galaxy in Cetus (Magnitude 10.2, Size 4.7' X 4.1')

by Glenn Chaple

We open 2024 with a galaxy that will be a treat for Star Wars fans. No, it isn't that galaxy far, far away. It's the barred lenticular galaxy NGC 936, whose appearance is remarkably similar to Darth Vader's TIE fighter –hence its nick-name the "Darth Vader Galaxy."

NGC 936 was discovered by William Herschel on the night of January 6, 1785. He described it as "Considerably bright, a very bright nucleus with a chevelure (hazy or misty luminescence) of 3 or 4' diameter." Perhaps he failed to notice the bars, because he entered it as a Class IV object (Planetary nebula) in his catalog. Under less than dark skies or through a small-aperture scope, your eyes may also be greeted by a glimmering fuzzball. In keeping with the Star Wars theme, you can imagine that you're looking at the Death Star moments after Luke Skywalker blew it up.

The Darth Vader/Exploded Death Star Galaxy is located at 2000.0 coordinates RA 02^h27^m37.4^s, Dec -01°09'22", a little over a degree west of the 5th magnitude star 75 Ceti. Once you've captured it in your eyepiece, switch to the highest practical magnification and see if you can detect the bars and connected ring of stars that form the wings of the TIE fighter. If skies are particularly dark and you're working with a medium-to-large aperture scope, turn your attention to a spot some 13' east of NGC 936. Can you detect the faint glow from the 12th magnitude spiral galaxy NGC 941? It was faint even to Herschel, who considered it a Class III (Very faint nebula) object.

Estimates of the distance to NGC 936 range from 50 million to 60 million light years. If we accept the mean value, the Darth Vader Galaxy is 90,000 light years in diameter – a large TIE fighter, indeed!

*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 4"

NGC 936 Finder Chart



“Continued on page 5”

NGC 936 (right) and NGC 941 (left)

Mario Motta, MD (ATMoB)

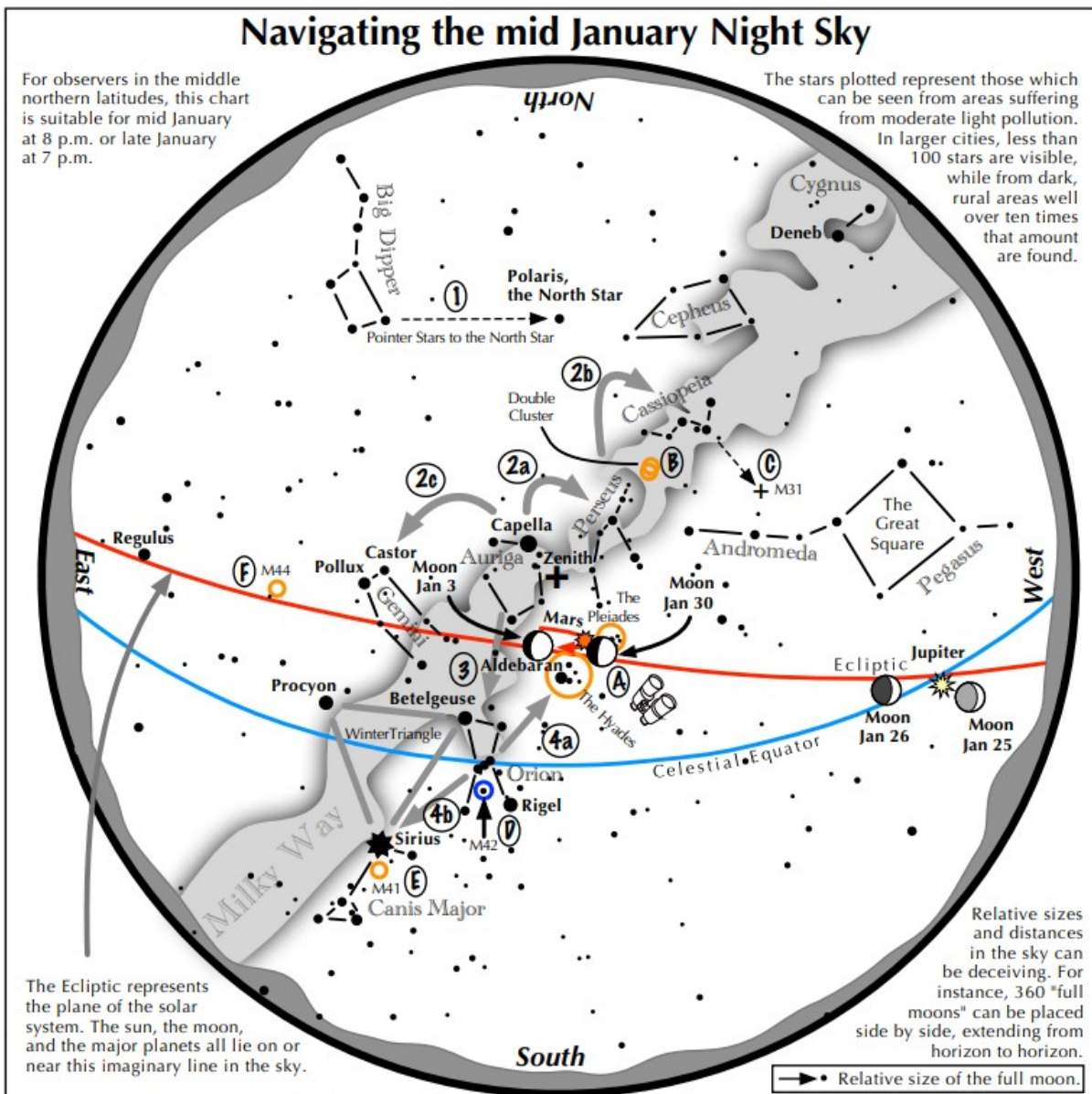
"This was taken through my 32 inch F6.5 telescope with Lum 1 hour, and RGB filters 45 min each. Total integration time is about 3 hours plus. Then processed in Pixinsight."



Navigating the mid January Night Sky

For observers in the middle northern latitudes, this chart is suitable for mid January at 8 p.m. or late January at 7 p.m.

The stars plotted represent those which can be seen from areas suffering from moderate light pollution. In larger cities, less than 100 stars are visible, while from dark, rural areas well over ten times that amount are found.



The Ecliptic represents the plane of the solar system. The sun, the moon, and the major planets all lie on or near this imaginary line in the sky.

Relative sizes and distances in the sky can be deceiving. For instance, 360 "full moons" can be placed side by side, extending from horizon to horizon.

→ • Relative size of the full moon.

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

- 1 Above the northeast horizon rises the Big Dipper. Draw a line from its two end bowl stars upwards to the North Star.
- 2 Face south. Overhead twinkles the bright star Capella in Auriga. Jump northwestward along the Milky Way first to Perseus, then to the "W" of Cassiopeia. Next Jump southeastward from Capella to the twin stars Castor and Pollux of Gemini.
- 3 Directly south of Capella stands the constellation of Orion with its three Belt Stars, its bright red star Betelgeuse, and its bright blue-white star, Rigel.
- 4 Use Orion's three Belt stars to point to the red star Aldebaran, then to the Hyades, and the Pleiades star clusters. Travel southeast from the Belt stars to the brightest star in the night sky, Sirius.

Binocular Highlights

A: Examine the stars of the Pleiades and Hyades, two naked eye star clusters. **B:** Between the "W" of Cassiopeia and Perseus lies the Double Cluster. **C:** The three westernmost stars of Cassiopeia's "W" point south to M31, the Andromeda Galaxy, a "fuzzy" oval. **D:** M42 in Orion is a star forming nebula. **E:** Look south of Sirius for the star cluster M41. **F:** M44, a star cluster barely visible to the naked eye, lies to the southeast of Pollux.



Astronomical League www.astroleague.org/outreach; duplication is allowed and encouraged for all free distribution.

Press Release

Submitted by Carl Gurtman

FOR: THE COMMUNITY CALENDAR

JANUARY ASTRONOMY CLUB MEETING AND PRESENTATION

The Astronomical Society of Northern New England's (ASNNE's) next Meeting will be on Friday, 5 January, 2024, 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 January Meeting, ASNNE is proud and honored to host a Presentation by Dr. Ian Durham. During a recent visit to England, Dr. Durham visited the Royal Observatory at Greenwich. The Royal Observatory was commissioned in 1675 by King Charles II.

Currently a museum, it played a major role in the history of astronomy and navigation, and because the Prime Meridian passes through it, it gave its name to Greenwich Mean Time. The Royal Observatory was a center for the efforts to find an accurate method to determine longitude, and for the awarding of a prize to the person who found that method. Dr. Durham's visit gave rise to this Presentation; titled *Measuring Time and Distance: Exploring the Royal Observatory in Greenwich, England*. In his Presentation, Dr. Durham will be talking about the Royal Observatory's history, some of the things it pioneered and measured, the search for longitude, and will be showing photographs from his visit.

Dr. Ian Durham is both a past President of ASNNE, and a Professor and Chair of Physics at Saint Anselm College. He is also a member of the Foundational Questions Institute (FQXi). His current research centers around foundational problems in physics, particularly the intersection of quantum mechanics, relativity, and information theory, as well as formal models of consciousness. He and his wife live in Kennebunk, and have two adult children. In his spare time he enjoys fly fishing, hiking, and canoeing.

The January 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 January 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.



Dr. Ian Durham, Chair Of Physics Department, St. Anselm College

Principal Meteor Showers in 2024

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 19 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 19. Or you can use PayPal.

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!

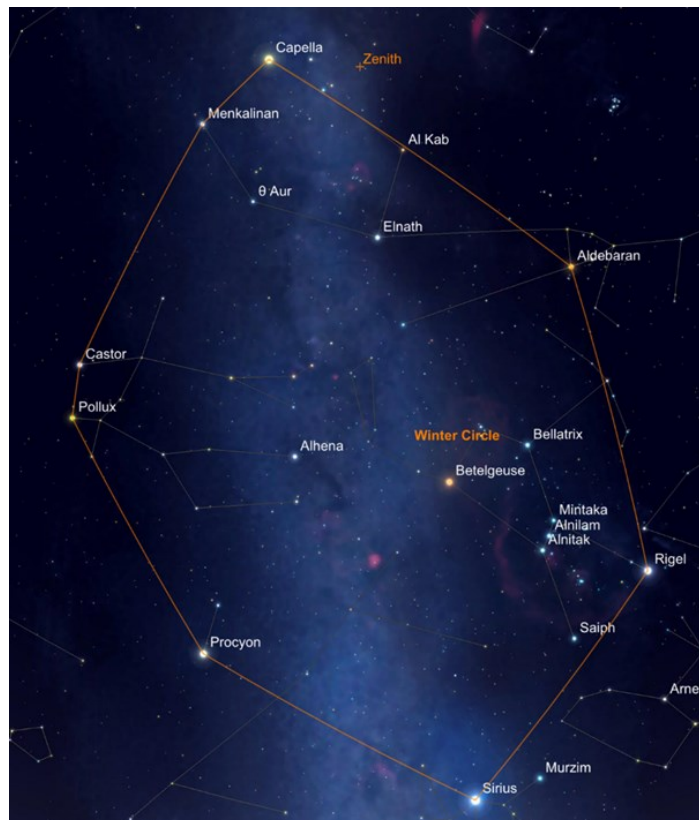
Connecting the ‘Dots’ with Asterisms

By Kat Troche

In our [December Night Sky Notes](#), we mentioned that the Orion constellation has a distinct hourglass shape that makes it easy to spot in the night sky. But what if we told you that this is not the complete constellation, but rather, an *asterism*?

An asterism is a pattern of stars in the night sky, forming shapes that make picking out constellations easy. Cultures throughout history have created these patterns as part of storytelling, honoring ancestors, and timekeeping. Orion’s hourglass is just one of many examples of this, but did you know Orion’s brightest knee is part of another asterism that spans six constellations, weaving together the Winter night sky? Many asterisms feature bright stars that are easily visible to the naked eye. Identify these key stars, and then connect the dots to reveal the shape.

Asterisms Through the Seasons



Stars that make up the Winter Circle, as seen on January 1, 2024

“Continued on page 10

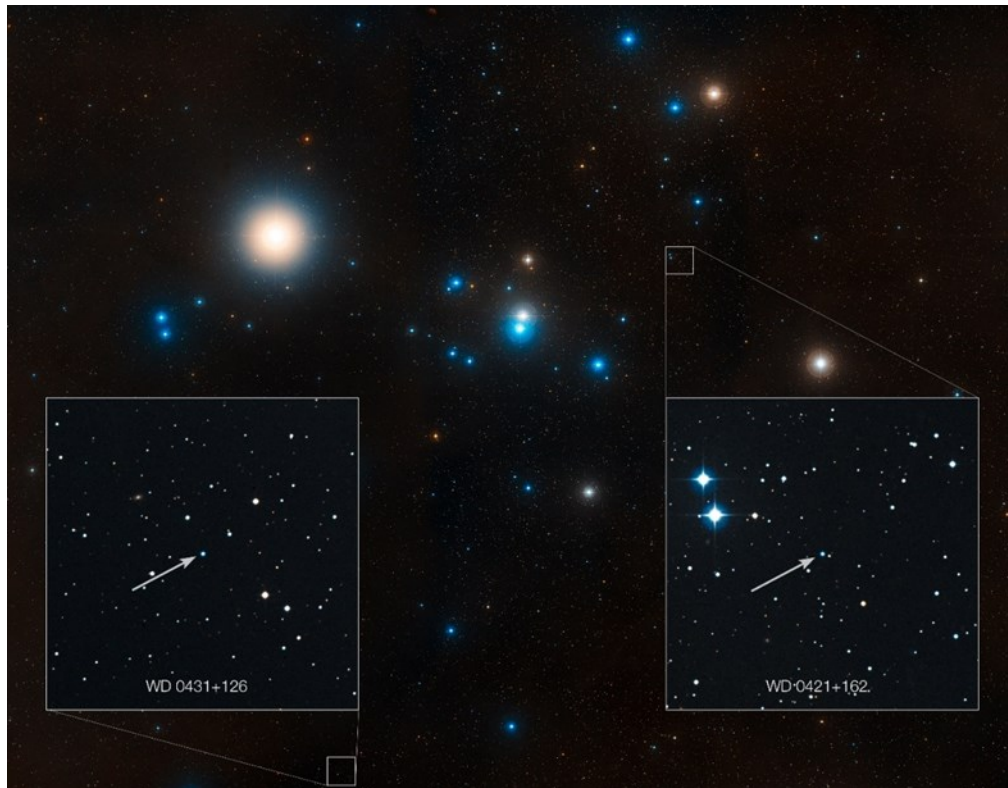
Try looking for these asterisms this season and beyond:

Winter Circle – this asterism, also known as the Winter Hexagon, makes up a large portion of the Winter sky using stars Rigel, Aldebaran, Capella, Pollux, Procyon, and Sirius as its points. Similarly, the **Winter Triangle** can be found using Procyon, Sirius, and Betelgeuse as points. **Orion’s Belt** is also considered an asterism.

Diamond of Virgo – this springtime asterism consists of the following stars: Arcturus, in the constellation Boötes; Cor Caroli, in Canes Venatici; Denebola in Leo, and Spica in Virgo. Sparkling at the center of this diamond is the bright cluster **Coma Berenices**, or Bernice's Hair – an ancient asterism turned constellation!

Summer Triangle – as the nights warm up, the Summer Triangle dominates the heavens. Comprising the bright stars Vega in Lyra, Deneb in Cygnus, and Altair in Aquila, this prominent asterism is the inspiration behind the cultural festival [Tanabata](#). Also found is Cygnus the Swan, which makes up the **Northern Cross** asterism.

Great Square of Pegasus – by Autumn, the Great Square of Pegasus can be seen. This square-shaped asterism takes up a large portion of the sky, and consists of the stars: Scheat, Alpheratz, Markab and Algenib.



This image shows the region around the Hyades star cluster, the nearest open cluster to us. The Hyades cluster is very well-studied due to its location, but previous searches for planets have produced only one. A new study led by Jay Farihi of the University of Cambridge, UK, has now found the atmospheres of two burnt-out stars in this cluster — known as white dwarfs — to be “polluted” by rocky debris circling the star. Inset, the locations of these white dwarf stars are indicated — stars known as WD 0421+162, and WD 0431+126.

NASA, ESA, STScI, and Z. Levay (STScI)

“Continued on page 11”

Tracing these outlines can guide you to objects like galaxies and star clusters. The Hyades, for example, is an open star cluster in the Taurus constellation with [evidence of rocky planetary debris](#). In 2013, Hubble Space Telescope's [Cosmic Origins Spectrograph](#) was responsible for breaking down light into individual components. This observation detected low levels of carbon and silicon – a major chemical for planetary bodies. The Hyades can be found just outside the Winter Circle and is a favorite of both amateur and professional astronomers alike.

How to Spot Asterisms

Use Star Maps and Star Apps – Using star maps or stargazing apps can help familiarize yourself with the constellations and asterisms of the night sky.

Get Familiar with Constellations – Learning the major constellations and their broader shapes visible each season will make spotting asterisms easier.

Use Celestial Landmarks – Orient yourself by using bright stars, or recognizable constellations. This will help you navigate the night sky and pinpoint specific asterisms. Vega in the Lyra constellation is a great example of this.

Learn more about how to stay warm while observing this Winter 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

Triangulum Galaxy (M33)

RAW Mode, FL 1200mm, ISO 800, f/3.5, 20 x 5 min, Baader Filter, 11-11-23



The **Triangulum Galaxy** is located roughly 3 million light years from Earth in the constellation Triangulum (it lies on the extreme western portion). Under dark sky conditions, M33 is just barely visible with the naked eye. It is the third-largest galaxy in the local-group of galaxies, behind the Milky Way and Andromeda. It has a diameter of about 50,000 light years. M33 is believed to contain 40 billion stars, which is significantly less than the two other large galaxies in the Local Group. Unlike the Milky Way, the Triangulum Galaxy does not have a central bulge of stars. The rotation of the Galaxy is clockwise, with the northern arms moving slowly to the right or west; the rotational period is about 200 million years.

“Continued on page 13 ”

From the pages of “Burnham’s Celestial Handbook” copyright 1978
Triangulum Galaxy (M33)



I rotated the page to match the orientation of my image (previous page). This photo was taken with the 13-inch telescope at Lowell Observatory. The Triangulum Galaxy was one of the notable discoveries of Messier, found in August 1764, and described it as a “whitish light of almost even brightness.” Other early visual observers such as J.E. Bode, William Herschel, John Herschel, Admiral Smyth, and T.W. Webb described M33 as a large, distinct, but faint and ill-defined, pale white nebula. Lord Rosse was probably the first to detect some sign of spiral structure; using his great 6-foot reflector telescope at Birr Castle, Parsonstown, Ireland.



The Rosse six-foot telescope

Was the largest telescope in the world from 1845 until 1917. And in contrast, I can use my off the shelf point-and-shoot camera with its 2-inch diameter lens (not shooting through a telescope), and capture the spiral structure of M33.

**Astronomical Society of Northern New England (ASNNE) Membership Meeting Minutes of
1 December 2023**

NOTE: Please remember to pay your 2024 ASNNE Dues!!

Business Meeting: As this was the Annual Membership Meeting & Christmas Party Pot-Luck Supper, there was no Business Meeting.

Directors Present: Ian Durham, President *Pro Tem* and Treasurer
Bernie Reim, Vice President
Carl Gurtman, Secretary
Gary Asperschlager, Director
Bern Valliere, Director

Plus: David Bianchi, ASNNE E-Mail Manager
Paul Kursewicz, *Skylights* Editor

Others Present: There were a total of 16 people physically present, and none present on Zoom.

Christmas Party & Pot-Luck Supper: At 6:45 pm the Pot-Luck Party started. There was a very plentiful provision of food, drink, and dessert. Thank-you to all that contributed! [Much better than last year!]

Regular Meeting:

President *Pro Tem* Ian Durham called the Regular Meeting to order at 7:30.

Presentation:

There was no Presentation.

Board of Directors for 2024:

The 2023 Board of Directors, at the November Business Meeting, nominated a 2024 Board of Directors; Gary Aperschlager, Ian Durham, Carl Gurtman, Bernie Reim, and Bern Valliere. At November's Regular Meeting, April Nicholls volunteered to be a Director. Ron Burk's name had also been suggested, but during a subsequent telephone call (Gurtman, Burk), he declined. At tonight's Meeting, Carl nominated David Bianchi as a prospective Board Member. The nomination was duly seconded. There were no more nominations. As there were no contested elections, Carl moved that he, as Secretary, cast a single vote for the Slate of Nominees. That was accomplished, and the New Board of Directors for 2024 was duly elected.

“Continued on page 15”

In accordance with our Bylaws, at a subsequent time the Board elects the following year's Officers. Since the Club's desire was clear, Carl moved that the Board Elect David as President, Bernie as Vice-President, Carl as Secretary, and Ian as Treasurer. The Board unanimously voted those 2024 officers in.

Carl stated that as a Club, we all owe a vote of thanks to our Officers, especially the President. However, this year was a special case. No Member wished to be President. No Member expressed the slightest interest in that Office. But Ian Durham allowed himself, against his better judgment and inclinations, to be dragooned into taking that Office, as well as retaining his usual Office as Treasurer. Although not his desire, Ian discharged those duties professionally, and well. Therefore, Carl moved that ASNNE Vote a Special "Thank-You" to Ian for his service. That was unanimously passed.

Carl asked about upcoming Speakers. In January, Ian will discuss his trip to the Royal Observatory at Greenwich, England, the 0° Longitude Line, and the search for a way to accurately measure longitude.

In February, Bernie will discuss his trip to the McDonald Observatory in Fort Davis, Texas. It's home to some of the darkest skies and the largest telescopes in the United States.

Carl has contacted four UNH professors. Two have responded so far. Dr. Francois Foucart is tentatively scheduled for 3 May, 2024, and Dr. Fabian Kislak is tentatively scheduled for 7 June, 2024. As the time grows shorter, more details will be provided. The professors who did not respond will be asked again.

David reported that the Night Sky Network will be providing "Outreach Pins". The first three will be free, and others can be purchased at a nominal sum. An example:



David then went over some of the e-mail that he has received. The couple that just wished to tour the Talmage Observatory at Starfield never responded, once David had contacted them. Carl also noted he's responded to some e-mail, and then there was no further contact. David has also received a request from the Seacoast Science Center for a speaker and a Star Party. Carl will contact them; perhaps Bernie, Gary, Carl, and Bern will handle that request.

“Continued on page 16”

"What's Up?":

Before "What's Up?", Bernie discussed a book he's recently read, *Your Brain on Art*. This book describes how art actually transforms our brains - and bodies. Bernie described how brain imaging programs can actually measure each individual's response to art, and how some people are much more sensitive to art than others, and that is revealed by their brain scans.

December is known for the Winter Solstice. This year that will occur at exactly 10:27 pm on Thursday the 21st. This marks the longest night of the year as the sun reaches its lowest noon-time point in our sky.

The planetary show includes Jupiter and Saturn as the bright evening planets, and Venus as the brilliant morning star. Venus rises around 4:00 am in Virgo. It is about 4 times brighter than Jupiter, and fully 100 times brighter than Saturn.

There are three meteor showers, this month; one of which, the Geminids, are the brightest and most prolific meteor shower each year. Caused by an asteroid, 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. The Geminids will all appear to emanate from a point in the sky near Castor, the second brightest star in Gemini.

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>

Next Meeting:

ASNNE's next Meeting will be on Friday, 5 January, 2024 at 7:30 pm at the New School in Kennebunk, Maine. There will be a short Business Meeting prior to the Regular Meeting, at 7:00 pm, at the same location. As always, all Members are always welcome at the Business Meeting.

Respectfully submitted,

Carl Gurtman

Club Meeting & Star Party Dates

| Date | Subject | Location |
|--------------|--|---|
| <u>Jan 5</u> | <p><u>ASNNE Club Meeting:</u></p> <p>Business Meeting starts prior to Club meeting.</p> <p>Club Meeting (in house & on Zoom): 7:30-9:30PM</p> <p>Guest Speaker: Club member Dr. Ian Durham will be our guest speaker. He will discuss his trip to the Royal Observatory at Greenwich, England, the 0° Longitude Line, and the search for a way to accurately measure longitude. Ian's talk will also be available via ZOOM.</p> <p>Bernie Reim - What's UP</p> <p>Astro Shorts: (news, stories, jokes, reports, questions, photos, observations etc.)</p> | The New School, Kennebunk, Me. |
| Last Month | Last month we met at The New School. Had our annual Christmas/Holiday Party & Pot Luck supper. There was no ZOOM & no business meeting. A brief talk about elections & several astro shorts. A special thank you was given to Ian for being our president. Our new president will be David Bianchi. | |
| 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 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:

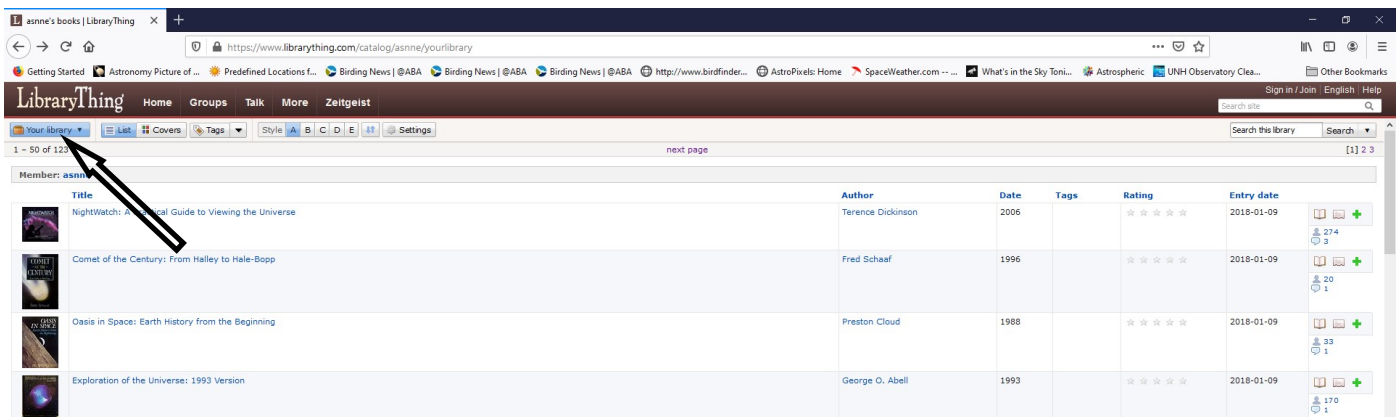
Get off turnpike at exit 32, (Biddeford) turn right on Rt 111. Go 5 miles and turn left on Rt 35. Go 2 miles on Rt 35 over Kennebunk River to very sharp 90 degree left turn. The entrance to the Starfield Observatory site is at the telephone pole at the beginning of the large field on the left. Look for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

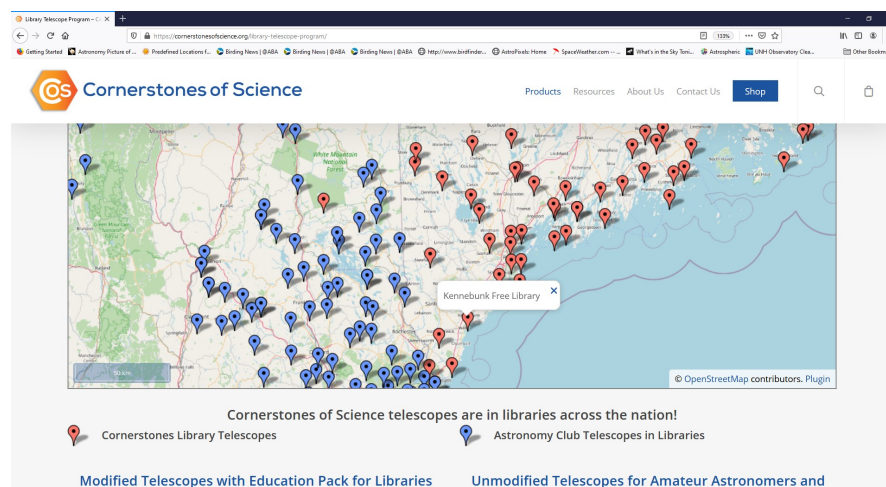
Our club has a library of astronomy books which are stored at The New School in Kennebunk, Maine (our monthly club meeting location). To request a book(s), contact one of the club officers. A listing of books is provided here: <https://www.librarything.com/profile/asmne> . After clicking on the link, 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.



| Title | Author | Date | Tags | Rating | Entry date |
|---|-------------------|------|------|--------|------------|
| NightWatch: A Practical Guide to Viewing the Universe | Terence Dickinson | 2006 | | ☆☆☆☆☆ | 2018-01-09 |
| Comet of the Century: From Halley to Hale-Bopp | Fred Schaaf | 1996 | | ☆☆☆☆☆ | 2018-01-09 |
| Oasis in Space: Earth History from the Beginning | Preston Cloud | 1988 | | ☆☆☆☆☆ | 2018-01-09 |
| Exploration of the Universe: 1993 Version | George O. Abell | 1993 | | ☆☆☆☆☆ | 2018-01-09 |

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/>



Cornerstones of Science telescopes are in libraries across the nation!

- Cornerstones Library Telescopes
- Astronomy Club Telescopes in Libraries

● Modified Telescopes with Education Pack for Libraries
 ● Unmodified Telescopes for Amateur Astronomers and

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) or (You can use PayPal)

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 _____

