

Skylights

Newsletter of the Astronomical Society of Northern New England



Mar2024



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 March

By Bernie Reim

The month of March is named for the planet Mars, which was named after the Roman god of war. March used to be the first month of the year back in the early Roman calendar over 2500 years ago.

March always marks the return of spring for us in the northern hemisphere. We have not had a very tough winter, but it is always nice to welcome spring back and watch our part of the earth come back to life again. This year that will happen a little earlier than usual, at exactly 11:06 P.M. EDT on Tuesday, March 19. This is also known as the vernal equinox and can be further defined as the sun on the ecliptic crossing over the celestial equator on an upward path. When the sun crosses again half a year later on a downward path that is known as the autumnal equinox. Those are the only two days each year that the sun rises due east and sets due west for everyone on Earth except at the poles. Within a few days of the equinoxes the days are also 12 hours long for everyone on Earth except for the poles.

The reason for the days not being exactly 12 hours long for everyone directly at the equinoxes is that we are tilted at nearly 23.5 degrees to the ecliptic plane and we orbit the sun in an ellipse and not a perfect circle. Our tilt defines the Tropic of Cancer in our hemisphere and the tropic of Capricorn in the southern hemisphere.

Notice how the sun will rise a little farther north of east now each day and set a little farther north of west, thereby tracing out a slightly higher arc each day. There are always interesting highlights and events happening in the sky above us that are well worth making an effort to experience, but this month is packed full of such great highlights and next month will be even more dramatic with the long-awaited total solar eclipse passing right over northern Maine, the first one since July 20 of 1963. The next one over Maine after the upcoming April 8 eclipse will not be until May 1 of 2079, so make sure you plan to see this one! I will write much more about it for my April column.

The planets are evenly split now between the evening and morning sky. Mercury, Jupiter, and Uranus will be the evening planets in that order from west to east and Saturn, Venus, and Mars will be the morning planets in that order from east to west with Saturn being the lowest on the eastern horizon just before sunrise. There will be another very close conjunction of the moon and Antares in Scorpius on March 3 that will be an occultation for much of this country, but not for us. The second largest asteroid, Vesta at 300 miles in diameter, half the size of Ceres, will be easy to spot in Taurus and Gemini just above Orion at about 8th magnitude with a pair of binoculars. You can still look for the zodiacal light around new moon about an hour after sunset in the west, also called the false dusk. Then Comet 12/Pons-Brooks will take center stage passing through Pegasus just below the Andromeda galaxy and then Aries near Jupiter. It could even become visible to the naked eye by the end of the month. The last great highlight will be a deep penumbral lunar eclipse during the night of Sunday the 24th to Monday morning the 25th. We are back in an eclipse season now with the great April 8 total solar eclipse over Maine just 2 weeks away at that time!

Mercury will make its best evening appearance for the whole year this month. Our first planet will reach its greatest eastern elongation from the sun of 19 degrees on March 24th. It will be visible for more than an hour after sunset, which is about the maximum time because it is always so close to the sun. Venus can rise or set up to 3 hours after sunset or rise up to 3 hours before sunrise. Mercury just keeps alternating between being a morning planet and then an evening planet about 5 times each year.

No spacecraft has ever soft-landed on Mercury and only 2 of them have ever even orbited it. We have a third one on the way now named Bepi-Columbo that was launched in 2018 and won't get there until 2025. It takes more energy for a spacecraft to reach Mercury than Pluto, even though Pluto is about 40 times farther away. That is because Mercury is within the powerful and deep gravitational well of the sun. That strong gravity also prevents Mercury and Venus from having any moons and it causes Mercury's orbit to precess 574 arc seconds per century. It took Einstein's General Relativity to accurately predict that number. The number Newton calculated was 531 arc seconds per century. That is not a huge difference, but it is extremely important and it reveals a deeply hidden truth about the universe and the nature of space-time. Newton's laws of motion start breaking down in the presence of strong gravitational fields but otherwise they work perfectly well. Newton did not know that gravity is simply the curvature or topography of the 4-dimensional space-time continuum that all celestial objects including the earth are always embedded in.

Mercury's elliptical orbit traces a continually changing pattern into the sky like a giant spirograph. One day on this little planet with a diameter of only 3000 miles, which makes it smaller than two moons in our solar system, Ganymede

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What's Up "Continued from page 1"

around Jupiter and Titan around Saturn, is equal to 59 earth days. Mercury zips around the sun at 30 miles per second, which is nearly twice as fast as Earth which is only moving at 18.6 miles per second. One year on Mercury is equal to only 88 earth days. That is a perfect 3 to 2 resonance. Mercury rotates 3 times for every two times that it revolves around the sun in that complicated and intriguing pattern that revealed some of the invisible nature of the universe to us once we became brilliant enough to figure that out and then apply it for our collective benefit in the form of GPS and many other practical everyday applications that we all take for granted now.

The other evening planets, Jupiter and Uranus are much easier to get to and are also unique and very different from all the other planets in our own solar system and also from the 5000 or so exoplanets that we have discovered in other solar systems so far. Jupiter is still in Aries the Ram and is moving in its normal eastward or prograde motion again towards Taurus and the Pleiades. It sets a little earlier each night and we will lose it by the middle of May and then it will show up again in summer as a morning planet.

Notice that you can see at least one or two of its 4 large Galilean moons just with a good pair of binoculars. They are named, Io, Europa, Callisto, and Ganymede. We now know of 95 moons of Jupiter and I am sure we will find even more soon.

Uranus is about 5 degrees to the left, or east of Jupiter, halfway towards the Pleiades open star cluster on the back of Taurus the Bull. It is still close to its best at 5.8 magnitude, but you will need binoculars or a small telescope to see its eerie bluish-green color well. It has 27 moons including 5 major moons named for characters in some of Shakespeare's plays. It has rings like all of the gas giants have and it is tilted at 98 degrees, so its equator is nearly at a right angle to its orbit, which takes 84 years. That causes it to have the most extreme seasons of any of our planets.

The rest of the planetary action takes place in our morning sky. Mars rises first about an hour before sunrise, followed by Venus a little later and then Saturn by the middle of March.

They are all within about 10 degrees in Aquarius now. Notice that Mars is getting a little higher and brighter each day even while Venus is getting a little lower and fainter each morning.

Comet 12P/Pons-Brooks continues to brighten. It can be seen in binoculars in Pegasus now about 10 degrees below the Andromeda Galaxy. Keep watching as it tracks into Pisces and then Aries. It moves about one degree eastward per day. A good photo op will happen for a few days around the equinox when this comet will be just a couple of degrees below the Triangulum spiral galaxy, which is very similar to Andromeda but a little smaller and fainter. It may even become visible without binoculars towards the end of the month and it may get as bright as 4th magnitude although 5th magnitude is more likely. It does not reach its closest approach to the sun until April 21, which is about the time we will lose sight of it here in the northern hemisphere. It orbits the sun every 71 years, similar to Halley's Comet which orbits every 76 years. That most famous of all comets will make its next appearance in our vicinity in 2061. It is way out near Neptune now and will return in 37 years. I saw it several times in 1985 and 1986.

The last major highlight this month will be a deep penumbral eclipse of the moon starting at 1 am on Monday, March 25. By 3:13 am 96% of the moon's disk will be within the earth's outer shadow, called the penumbra. For it to qualify as a partial lunar eclipse it has to at least partially go into our deeper umbral shadow, which is doesn't quite do this time. It will end at 5:33 am.

Since the moon is only passing into our fainter or penumbral shadow, it will not be very obvious or spectacular, but you should be able to see it pretty well with binoculars or a good telephoto lens. There will be a better partial lunar eclipse visible for us in the eastern U.S. during the very next eclipse season on September 18.

The moon also has a deep umbral shadow and a much fainter penumbral shadow. Most of North America will see at least a partial solar eclipse from the moon's penumbral shadow on Monday, April 8, but you have to be directly in the moon's deep umbral shadow which only cuts a narrow 115 mile-wide path from Mexico to Canada to see and experience totality along with all the amazing things that happen during those 3 and a half minutes.

March 3. The moon passes only one third of a degree north of Antares in Scorpius this morning. Last quarter moon is at 10:23 A.M. EST.

March 4. Patrick Moore was born on this day in 1923. He was an English astronomer that wrote over 70 books and had the longest running TV series of all time, "The Sky at Night".

March 6. Joseph von Fraunhofer was born on this day in 1787. He was a German optician that invented the diffraction grating that we use for spectral analysis and he discovered hundreds of dark absorption lines created by the sun. Carolyn Porco was born on this day in 1953. She was the chief scientist on the Cassini mission to Saturn and its large moon, Titan.

March 7. The moon passes near Mars this morning. John Herschel was born on this day in 1792. He was the son of William Herschel. John was a famous astronomer, mathematician, and chemist and named 7 of the moons of Saturn and 4 of the moons of Uranus.

March 8. The moon passes near Venus this morning.

March 10. EDT starts at 2:00 am this morning. New moon is at 5:00 a.m. EDT.

March 13. Percival Lowell was born on this day in 1855. He drew many canals on Mars and thought there could be intelligent life on Mars. The Lowell observatory in Arizona is named for him. Clyde Tombaugh discovered Pluto there in 1930. On this day in 1781 William Herschel discovered the planet Uranus.

March 14. Albert Einstein was born on this day in 1879. The moon is just below the Pleiades in Taurus today.

March 16. Caroline Herschel, the younger sister of William Herschel was born on this day in 1750. She discovered 7 comets and was the first woman to receive a salary as a scientist. Both of them were also excellent musicians and taught music.

March 17. First quarter moon is at 12:11 a.m. EDT.

March 19. The vernal equinox is at 11:06 p.m. EDT.

March 22. Comet Hale-Bopp made its closest approach to Earth on this day in 1997.

March 25. Full moon is at 3:00 a.m. EDT. This is also known as the Worm, Sap, Crow, or Lenten moon.

March 30. The moon passes very close to Antares again this morning.

March 31. Descartes was born on this day in 1596.



Moon Phases

Mar 3
Last Quarter

Mar 10
New

Mar 17
First Quarter

Mar 25
Full

Moon Data

Mar 7
Mars 4° north
of Moon

Mar 8
Venus 3° north
of Moon

Mar 10
Moon at perigee

Mar 13
Jupiter 4° south
of Moon

Mar 14
Uranus 3° south
of Moon

Mar 23
Moon at apogee

Sky Object of the Month – March

NGC 2440 - Planetary Nebula in Puppis (Magnitude 9.4; Size 74" X 42")

by Glenn Chaple

Our March Observer's Challenge takes us to the southern constellation of Puppis and the planetary nebula NGC 2440. It was discovered by William Herschel discovered on March 4, 1790 and described by him as "a beautiful planetary nebula of a considerable degree of brightness, not very well defined, about 12" or 15" in diameter." Modern-day images reveal faint butterfly wing-like extensions that expand its true dimensions to 74" by 42", hence its nick-name the Butterfly or Bow Tie Nebula.

NGC 2440 is located at 2000.0 coordinates $7^{\text{h}}41^{\text{m}}54.9^{\text{s}}$ right ascension and $-18^{\circ}12'29.7''$ declination. Star-hoppers will find it by starting at the bright open cluster Messier 47 and centering on a 4.9 magnitude star located one degree to its southeast. A three degree drift southward will bring you to the Butterfly.

I first saw NGC 2440 on the evening of March 21, 1979, using a 3-inch f/10 reflecting telescope and a 60X eyepiece. At that magnification, the nebula appeared like a 9th magnitude star. At 120X, it took on a fuzzy appearance when compared to an 8th magnitude star a few arc-minutes to its east. Further east and to the south was a double star whose components were oriented north-south and estimated by me to be 9th magnitude with a 30 arc-second separation. The nebula itself appeared to be a few arc-seconds in diameter – the outer regions were obviously too faint for such a small instrument.

NGC 2440 is of particular interest to professional astronomers because of its complex, chaotic structure. The central star is an extremely hot white dwarf with a surface temperature of 200,000 degrees C (360,000 degrees F). At magnitude 17.5, it's too faint to be seen with most backyard scopes. Most sources place NGC 2440 at a distance of 4000 light years.

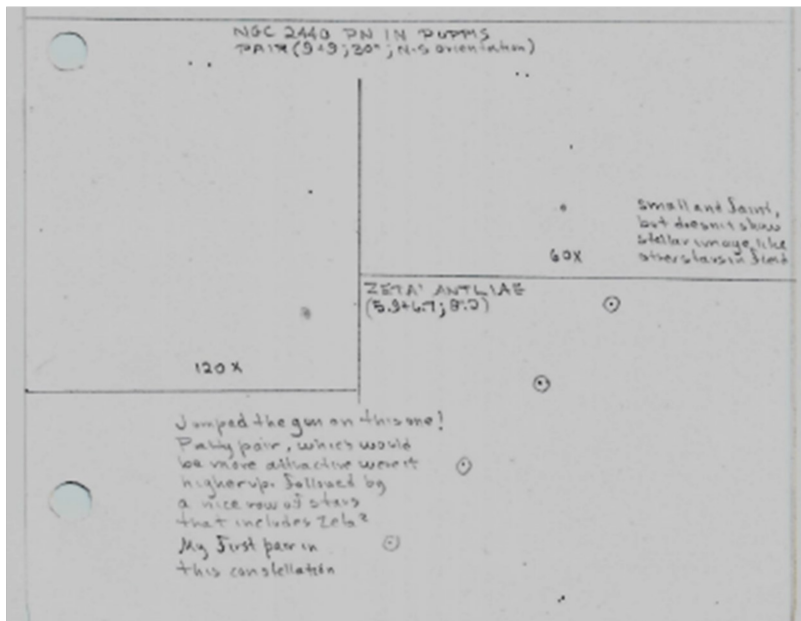
*The purpose of the Observer's Challenge is to encourage the pursuit of visual observing. It is open to anyone who is interested. If you'd like to contribute notes, drawings, or photographs, we'd be happy to include them in our monthly summary. Submit your observing notes, sketches, and/or images to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

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NGC 2440 Finder Chart A
(www.deepskycorner.ch)

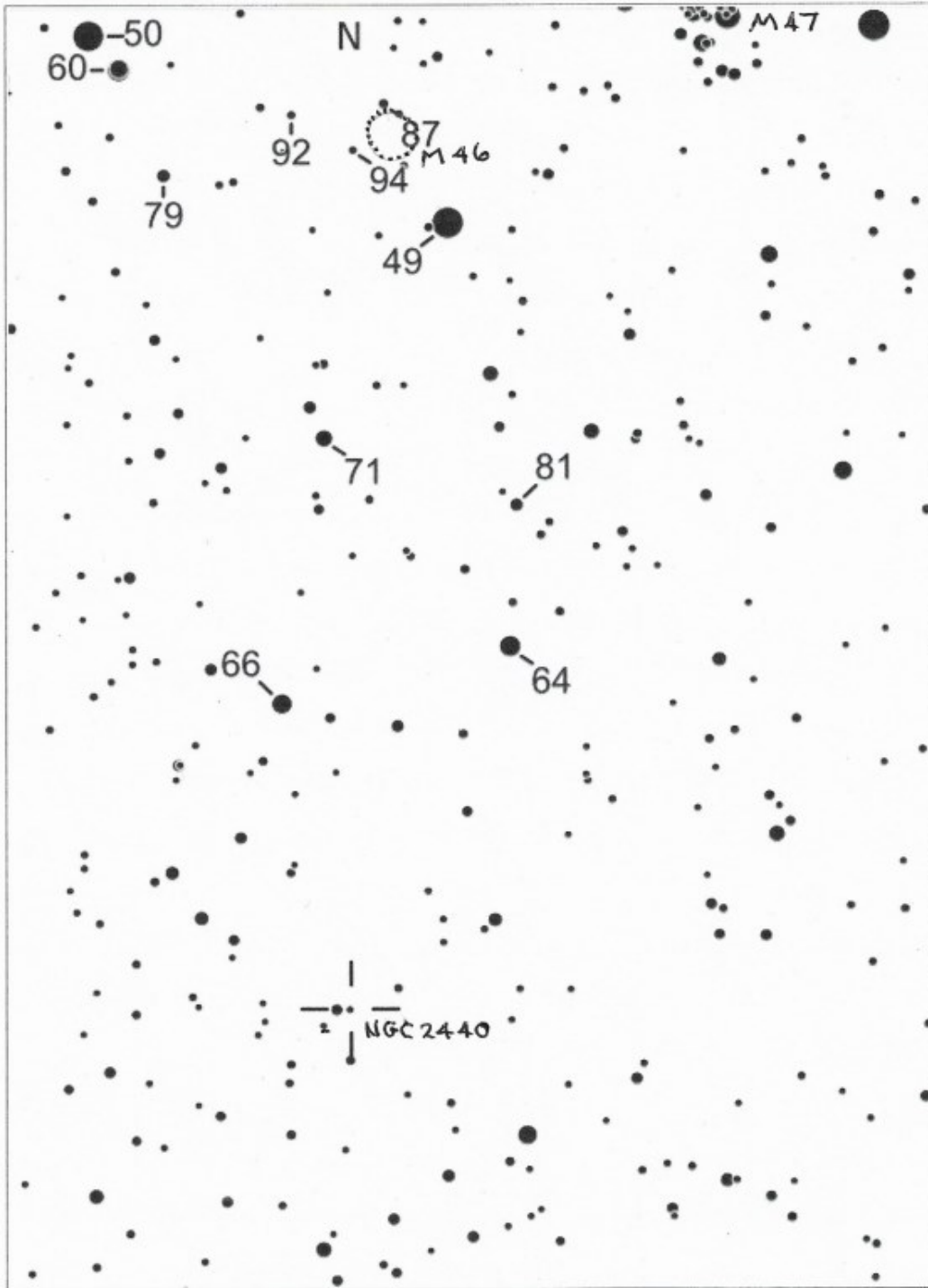


Glenn's sketch, scanned from his observing logbook.



NGC 2440 Finder Chart B

Chart adapted from AAVSO Variable Star Plotter. Numbers are stellar magnitudes, decimals omitted. Stars plotted to 10th magnitude in this 3½ by 5 degree field,



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NGC 2440 Image

Mario Motta, MD (ATMoB)

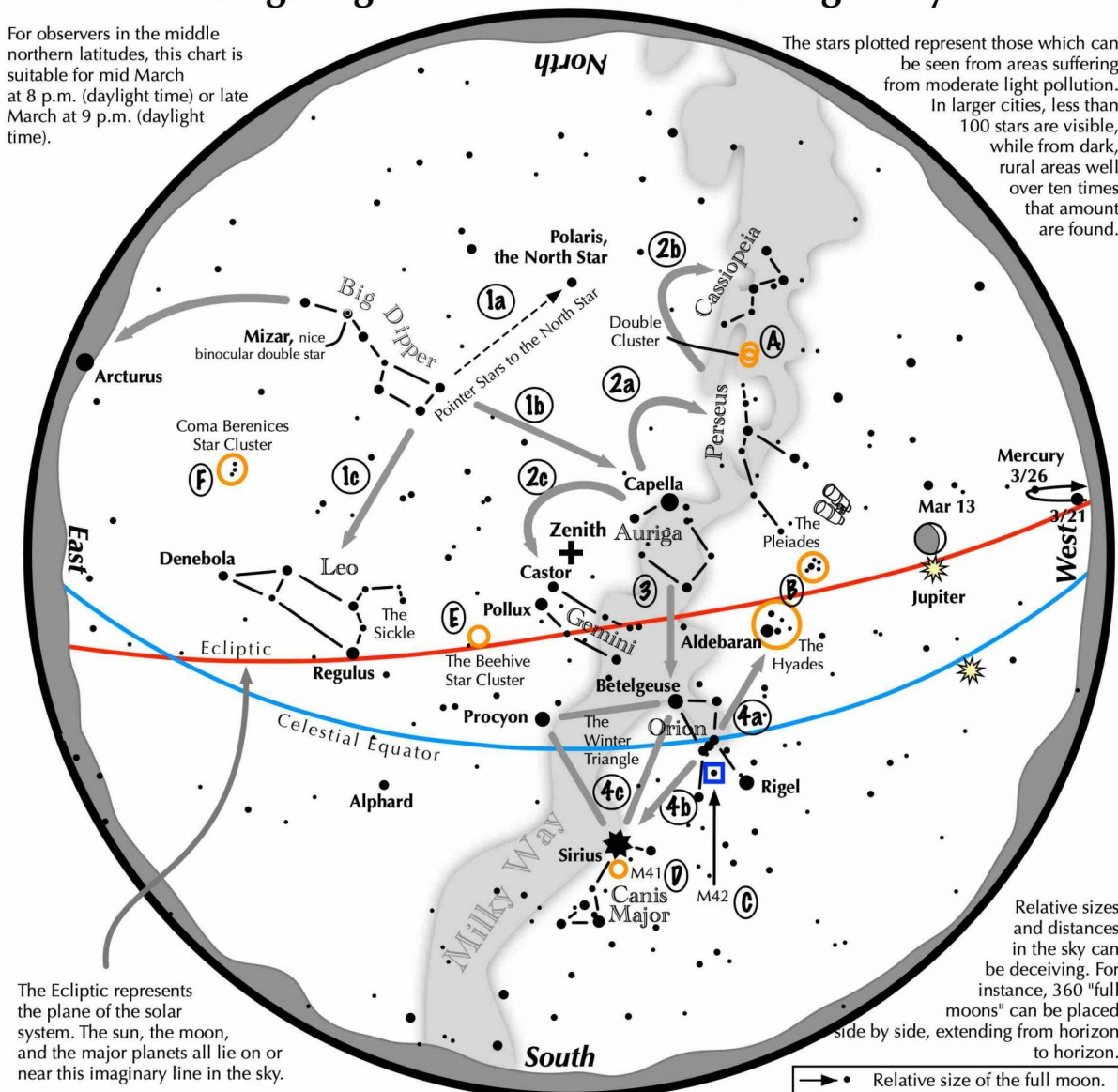
"This was taken with my 32 inch scope with NB filters (Ha, O3, S2) for a total of about 2 hours imaging, with my ZWO 6200 camera. processed in PixInsight."



Navigating the mid to late March Night Sky

For observers in the middle northern latitudes, this chart is suitable for mid March at 8 p.m. (daylight time) or late March at 9 p.m. (daylight time).

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 March 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. Its top bowl stars point west to Capella in Auriga, nearly overhead. Leo reclines below the Dipper's bowl.
- 2 From Capella jump northwestward along the Milky Way to Perseus, then to the "W" of Cassiopeia. Next jump southeastward from Capella to the twin stars of Castor and Pollux in 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 northwest to the red star Aldebaran and the Hyades star cluster, then to the Pleiades star cluster. Travel southeast from the Belt stars to the brightest star in the night sky, Sirius. It is a member of the Winter Triangle.

Binocular Highlights

A: Between the "W" of Cassiopeia and Perseus lies the Double Cluster. **B:** Examine the stars of the Pleiades and Hyades, two naked eye star clusters. **C:** M42 in Orion is a star forming nebula. **D:** Look south of Sirius for the star cluster M41. **E:** M44, a star cluster barely visible to the naked eye, lies to the southeast of Pollux. **F:** Look high in the east for the loose star cluster of Coma Berenices.



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

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

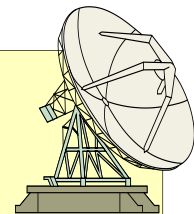
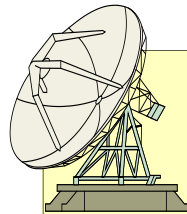
December 22
Ursids

Note: Dates are for maximum

MEMBERSHIP DUES

Membership fees are for the calendar year beginning in January and ending in December. Dues (see page 20 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 20. Or you can use PayPal via asnne.astronomy@gmail.com

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.



Got any News?

Skylights Welcomes Your Input.

Here are some suggestions:

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

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



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

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



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!

Constant Companions: Circumpolar Constellations, Part II

By Kat Troche

As the seasons shift from Winter to Spring, heralding in the promise of warmer weather here in the northern hemisphere, our circumpolar constellations remain the same. Depending on your latitude, you will be able to see up to nine circumpolar constellations. This month, we'll focus on: [Lynx](#), [Camelopardalis](#), and [Perseus](#). The objects within these constellations can all be spotted with a pair of binoculars or a small to medium-sized telescope, depending on your [Bortle scale](#) – the darkness of your night skies.



In the appearance of left to right: constellations Perseus, Camelopardalis, and Lynx in the night sky. Also featured: Cassiopeia as a guide constellation, and Capella as a guide star. Credit: Stellarium Web

Double Stars: The area that comprises the constellation Lynx is famous for its multiple star systems, all of which can be separated with a telescope under dark skies. Some of the notable stars in Lynx are the following:

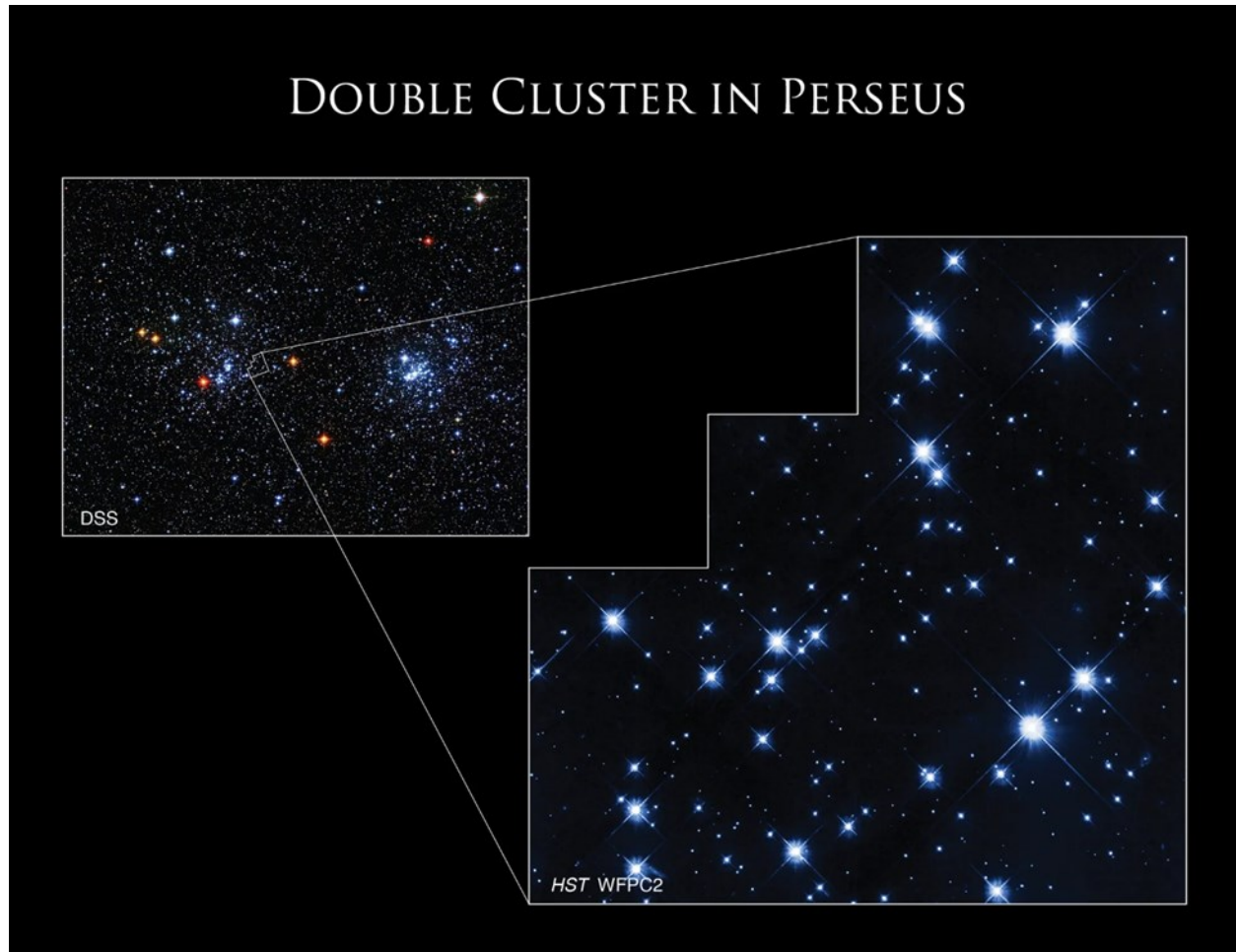
12 Lyncis – a triple star that can be resolved with a medium-sized telescope.

10 Ursae Majoris – a double star that was once a part of Ursa Major.

38 Lyncis – a double star that is described as blue-white and lilac.

“Continued on page 10

Kemble's Cascade: This [asterism](#) located in Camelopardalis, has over 20 stars, ranging in visible magnitude (brightness) and temperature. The stars give the appearance of flowing in a straight line leading to the Jolly Roger Cluster (NGC 1502). On the opposite side of this constellation, you find the asterism **Kemble's Kite**. All three objects can be spotted with a pair of binoculars or a telescope and require moderate dark skies.



A ground-based image from the Digitized Sky Survey (DSS) in the upper left shows Caldwell 14, the Double Cluster in Perseus, with an outline of the region imaged by Hubble's Wide Field and Planetary Camera 2 (WFPC2).

Ground-based image: Digitized Sky Survey (DSS); Hubble image: NASA, ESA, and S. Casertano (Space Telescope Science Institute); Processing: Gladys Kober (NASA/Catholic University of America)

Double Cluster: The constellation Perseus contains the beautiful Double Cluster, two open star clusters (NGC 869 and 884) approximately 7,500 light-years from Earth. This object can be spotted with a small telescope or binoculars and is photographed by amateur and professional photographers alike. It can even be seen with the naked eye in very dark skies. Also in Perseus lies **Algol, the Demon Star**. Algol is a triple-star system that contains an eclipsing binary, meaning two of its three stars constantly orbit each other. Because of this orbit, you can watch the brightness dim every two days, 20 hours, 49 minutes – for 10-hour periods at a time. For a visual representation of this, revisit [NASA's What's Up: November 2019](#).

From constellations you can see all year to a once in a lifetime event! Up next, find out how you can partner with NASA volunteers for the April 8, 2024, total solar eclipse 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

Horsehead & Flame Nebula

RAW Mode, FL 1200mm, ISO 800, f/3.5, 34 x 5 min, Baader Filter, 1-2-24



The **Horsehead Nebula**, also known as **Barnard 33**, is a dark nebula in the constellation Orion. Its signature shape is only visible because its silhouette obscures the light from the brighter nebula behind it. Dark nebulae are made out of cold gas and dust. The **Flame Nebula** or **Christmas Tree Nebula** (NGC 2024) is an emission nebula which sits just under the very bright star Alnitak (Zeta Orionis) in Orion's Belt. A smaller nebula (NGC 2023) is both an emission and reflection nebula, seen just to the lower left of the Horsehead. All three nebulae are about the same distance away from us at 1500 light years.

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From the pages of “Burnham’s Celestial Handbook” copyright 1978
Horsehead and Flame Nebula



I orientated the page to match my picture. The above photo was taken at Lowell Observatory. Burnham's says that the famed Horsehead is undoubtedly the best known example of dark nebula in the entire heavens. However, it is almost completely invisible to the eye at the telescope. In 1913 E. Barnard used the 40-inch Yerkes refractor and could find no sight of it. The significance of the object was not immediately recognized and the early descriptions refer to it as a "bay" or gap in the nebulosity. Barnard seems to be the first to recognize it as great obscuring mass of some sort, seen against a bright region of nebulosity.

Point and Shoot Camera Astro-Imaging (no telescope)

Canon PowerShot SX50 HS

Image & write-up submitted by Paul Kursewicz

Martian Sunspot

JPEG, FL 1200mm, ISO 100, f/5.6, 1/320 sec, 2-5-24

Single Image—Hand-held—Thousand Oaks Solar Filter



The large sunspot to the far left of the Sun is the **Martian Sunspot**. A sunspot so big it was visible from Mars. The Perseverance Rover saw it using the rover's MASTCAM! NOAA has designated this sunspot as AR3576. Its active region is cracking with M-class Solar Flares. It has half a dozen dark cores and a strange tail more than 5 times longer than Earth. Of greater interest than its size is the sunspot's magnetic complexity. It has a mixture of polarities in its core. Opposite polarities bumping together can cause explosive magnetic reconnections. Posing a threat for strong X-class Solar Flares.

**Astronomical Society of Northern New England (ASNNE) Membership
Meeting Minutes of 2 February 2024**

Business Meeting: The Business Meeting was called to order at 7:12 pm by
President David Bianchi.

NOTE: The Business Meeting was held in the same room as the subsequent
Regular Meeting. People started arriving for the Regular Meeting, so there was
no need to brief the Regular Meeting on what had transpired during the Business
Meeting.

Directors Present: David Bianchi, President
Bernie Reim, Vice President
Carl Gurtman, Secretary
Ian Durham, Treasurer
Gary Asperschlager, Director
Bern Valliere, Director

Plus: Paul Kursewicz, *Skylights* Editor

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

Secretary's Report: This Report was omitted.

Treasurer's Report: This Report was omitted.

Old Business:

Seacoast Science Center: [From last month's Minutes.] ASNNE had been asked if we would provide a Presentation and stargazing on 19 January, or 16 February at the Seacoast Science Center (SSC). Carl took the lead for this, planning to be assisted by Bernie, Bern, and Gary; the same Outreach Team that gave the ASNNE Presentation at the Huttopia "glampground". However, Carl was recently appraised that the date has been decided to be in February, and that there will be a Presenter from the UNH Observatory, and no ASNNE Presenter is necessary. They would still like some stargazing. Carl responded that he is not a telescope owner, and suggested that someone else take the lead on this.

The update is that Bernie has taken the lead on this. He will give a Presentation on 16 February. The time currently scheduled is 4:00 pm. Gary, Bern, and Carl, will assist as necessary.

“Continued on page 15”

Kennebunk Free Library: On the calendar is an ASNNE Presentation, at the Kennebunk Free Library. Carl will give it. The Presentation will be similar to last summer's Huttopia presentation, with an added & strengthened section on the total Solar Eclipse of 8 April. It will be at 6:00 pm, on Monday, 11 March. Carl requested the Huttopia team; Gary, Bern, and Bernie assist and participate.

New Business:

David brought up some specific new items:

Ian should see if a check from Nicholas Clayton has been cashed.

Yekta Zahel requests a Star Party in April; from 8:00 - 11:00 pm.

Patty Wright of Maine Public Radio wishes to do a piece on ASNNE. Bernie will call her.

Charlotte Cottin, of Huttopia contacted David, about ASNNE doing presentations this summer at Huttopia. Since we've been contacted by Huttopia about that, it seems like Huttopia's internal communications are somewhat flawed. Bernie will resolve.

Skye Olley contacted us to thank us for the external links that we have on our website. She asked if we could add one regarding the 'space elevator'. Carl said we definitely should. Problem is, we are not fully conversant on how to modify our website. Ian will look into this.

Night Sky Network Outreach Certificates and Pins:

David awarded pins and certificates from the Night Sky Network, to recognize the Outreach efforts of Marty, Gary, Bernie, Bern, and Carl.

The Business Meeting was adjourned at 7:35 pm.

* At this point David left, to go to the hospital, and undergo some surgery.

NOTE: From Saturday: David's surgery was successful, and he is on the mend.

Regular Meeting:

Regular Meeting: The Regular Meeting was called to order at 7:40 pm by Treasurer and past-President Ian Durham. (Ian took the lead, as our Vice-President, Bernie, was the Presenter.

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

Plus: Paul Kursewicz, *Skylights* Editor

Others Present: There were an estimated nineteen people physically present at the Regular Meeting, as well as six on Zoom.

Old Business:

There was no Old Business.

New Business:

Mabel Sterns Award: Each year, the Astronomical League - their Magazine; *Reflector* - recognizes club newsletter editors by the Mabel Sterns Award, named for the Astronomical League's first newsletter editor. There are awards for first, second, and third 'places'. A club officer must do the nominating.

Carl reported that he had nominated Paul Kursewicz, our *Skylights* newsletter editor, for this award, and that he had submitted all the required supporting documentation. *Skylights* is a world-class newsletter, and Paul is well-deserving of the award.

Presentation:

Bernie Reim was recently in Texas to view an annular solar eclipse. In an annular solar eclipse, the Moon is a little bit too far away to totally eclipse the Sun. Thus, at the mid-point of the Eclipse, the Moon is surrounded by a "Ring of Fire", the part of the Sun not obscured by our Moon; a very dramatic sight, indeed.

While in Texas, Bernie visited the McDonald Observatory in Fort Davis, Texas which houses one of the largest telescopes in the world, the 11-Meter (433-inch) Hobby-Eberly telescope. He discussed some of the new and exciting missions and discoveries of this telescope, and its twin in South Africa.

Bernie personally challenged the Meeting attendees to participate in "citizen science" to help discover the true nature of dark energy, by classifying galaxy images taken with the Hobby-Eberly telescope.

“Continued on page 17”

He shared some of his other adventures while he was on his Texas trip. He visited the Alamo, the Big Bend National Park, and the Odessa Meteor Craters.

Bernie provided samples of the special filters that people must use to safely view, and photograph, the next total Solar Eclipse; part of its totality path will pass right over Maine in just two months, on 8 April of this year.

His Presentation was accompanied with photographs he took during his travels and adventures. He also passed out literature about the path of totality of the upcoming total Solar Eclipse and the "citizen science" associated with the Hobby-Eberly telescope.

Currently ASNNE's Vice-President, Bernie has taught all of the astronomy laboratories at the University of Southern Maine (USM) for over thirty years, and he writes a monthly astronomy column for the Portland Press Herald. He co-hosts a weekly radio show called *Scientifically Speaking*, every Friday morning on WMPG 90.9 FM from 11:30 to noon. At every ASNNE Meeting, he speaks on "*What's Up for the Month*". He is also a real estate broker licensed in Maine and New Hampshire.

Bernie had some of his students artistically interpret a total Solar Eclipse. He showed us a student painting; very dramatic, and read some eclipse-based haiku poems written by his students - many very evocative. All by students who had never seen an eclipse.

Bernie's Presentation was excellent.

Introductions:

Ian had all the people present introduce themselves. It turns out that many of the new people had heard about the Meeting by reading about it in one of the local newspapers. The Press Releases about the Meetings are doing their job, and having Presentations also draws people in.

"What's Up?":

Bernie did not have his "What's Up?" discussion with him, so he did not give it. However, Bernie's excellent presentation, 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 no shared Astroshorts.

The Regular Meeting was adjourned at ~10:00 pm.

Next Meeting:

ASNNE's next Meeting on Friday, 1 March, 2024, at the New School, in Kennebunk, at 7:30 pm. The Business Meeting; same location, starts at 7:00 pm. All are welcome to attend the Business Meeting

There is no Presentation currently scheduled for March.

Respectfully submitted,

Carl Gurtman

Club Meeting & Star Party Dates

Date	Subject	Location
<u>Mar 1</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: TBD.</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 and had our Meeting on Zoom. Bernie was our guest speaker. He talked about his recent trip to Texas where he saw an Annular Solar Eclipse. He also talked about his visit to McDonald Observatory, as well as other places that he visited.	
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:

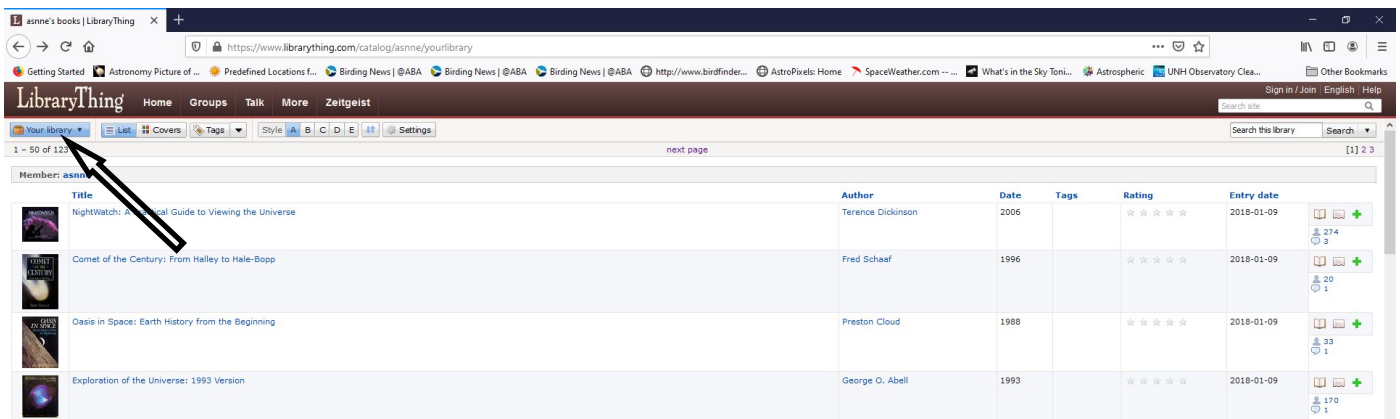
Get off turnpike at exit 32, (Biddeford) turn right on Rt 111. Go 5 miles and turn left on Rt 35. Go 2 miles on Rt 35 over Kennebunk River to very sharp 90 degree left turn. The entrance to the Starfield Observatory site is at the telephone pole at the beginning of the large field on the left. Look for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

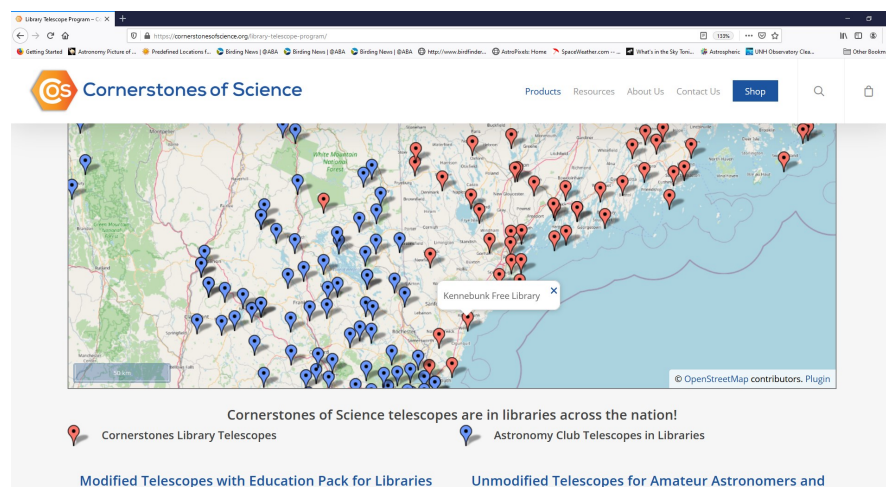
Our club has a library of astronomy books which are stored at The New School in Kennebunk, Maine (our monthly club meeting location). To request a book(s), contact one of the club officers. A listing of books is provided here: <https://www.librarything.com/profile/asmne> . After clicking on the link,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

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 _____

