Skylights

Newsletter of the Astronomical Society of Northern New England

MAY 2025

Skylights Editor:
Paul Kursewicz

Member of NASA's Night Sky Network

Astronomical League Member

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 May

By Bernie Reim

The month of May is named after Maia, Greek goddess of growing plants and fertility. That is what is going on now in nature in this part of the northern hemisphere since we have reached the half-way mark to the first day of summer.

The earth is re awakening once more as the tender new leaves are emerging from the tree branches, transforming the whole landscape into many wonderful shades of light green. Buds of all kinds are opening and flowers are blooming everywhere as planted as the days continue to lengthen. Migratory songbirds like the warblers and thrushes are returning from Central and South America in their epic nocturnal journeys and spreading northward into this country and along the east coast.

Just as the earth is changing and warming as this hemisphere is tilting more and more towards the sun, so the celestial constellations above are always changing as we finally lose the last vestiges of the winter hexagon and Orion even as parts of the Summer Triangle like Cygnus the Swan and Aquila the Eagle rotate back into view in the evening sky this month.

There are several good highlights to look for as the days are getting longer and the nights are getting shorter and warmer. These include Mars entering the Beehive star cluster in Cancer, and Jupiter getting lower in the sky in Taurus, part of the Winter Hexagon. Mercury, Venus, and Saturn are all present low in the morning sky before sunrise, the bright asteroid Vesta is visible in binoculars in Virgo this month, some nice conjunctions with the moon and planets will happen, a faint comet will pass through Leo, and the second good meteor shower of the year, the Eta Aquarids, will peak on Monday, May 5.

Mars is now well past lining up with Castor and Pollux again in Gemini moving eastward towards the Beehive Open star cluster in Cancer the Crab. It will skim right through the northern part of this cluster of about 1000 stars, also known as Praesepe in Latin, which means "the manger" for a couple of days in early May as the waxing crescent moon joins the pair on Saturday, May 3. The Beehive is about 600 light years away and its stars are only about 600 million years old, which is almost 8 times younger than our own sun and earth. When you look at the combined light from these roughly 1000 stars remember that the actual photons you are seeing that night left there about the time the printing press was invented by Gutenberg in 1440, forever changing and improving the course of history on Earth since that time.

The nearby Pleaides open star cluster in Taurus near where Jupiter is currently residing in our sky is about 400 light years away, so that light left there about when Galileo first pointed the telescope towards the heavens in 1609 and discovered many new things in our nearby sky that were always there but never seen before by any humans. These include the phases of Venus, the rings of Saturn, sunspots on the sun, and 4 moons of Jupiter that orbit like a mini solar system. These great discoveries in turn launched our collective understanding forward as much as the printing press did 170 years earlier. Then the Hubble Space Telescope gave us another giant leap forward in our understanding of the universe soon after it was launched 35 years ago on April 24 of 1990. It is still up there and working fairly well, considering it was only designed to work for

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

about 10 to 15 years at the most. The next giant leap forward was provided by the James Webb Space Telescope, launched on Christmas morning in 2021. These giant leaps in our understanding of how the universe really works are now getting closer together and they will never end.

Notice how quickly Mars is moving through our sky. It is moving in direct, eastward motion at the rate of about one degree per day or one constellation per month. That is the same rate that our sun is constantly moving eastward through our sky. Jupiter moves 12 times slower from our line of site, spending an entire year in each of our 12 zodiac constellations instead of just one month. Mars physically moves around the sun at an average speed of 15 miles per second. That is nearly twice as fast as Jupiter moves at just over 8 miles per second and a little slower than the earth moves at 18.6 miles per second, or exactly 10,000 times slower than the speed of light.

Jupiter is now getting a little fainter and smaller each night in Taurus, but it still shines about 7 times brighter than any of the stars in Taurus the Bull. Notice that the King of the Planets is setting a few minutes earlier each night and we will finally lose this second brightest and largest of all of our planets in early June. Jupiter will be just 1.3 degrees northeast of the Crab Nebula on May 18. The Crab Nebula is the remnant of a supernova that exploded on July 4 in the year 1054 at a distance of about 7000 light years away, or about half way back to the time when the northern half of what is now this country was languishing under a mile of ice during the last ice age. This supernova became about as bright as the combined light of all 300 billion stars in our Milky Way galaxy. Even at that great distance it was so bright that people could see it during the daytime for nearly a month. Only a few supernovae exploded in our galaxy since then that were bright enough for everyone to see without telescopes. The last two were Tycho's supernova in 1572 and Kepler's Supernova in 1604, just before the telescope was invented. We are supposed to have about one supernova that bright in our galaxy every 100 years, so we are way overdue!

Saturn rises first in the morning sky. It will start this month by rising at about 4 am in Pisces the Fish and it will end the month by around 3 am in the same constellation. Saturn spends a little over 2 years in each of the 12 zodiac constellations. It is only orbiting at about 6 miles per second, or about 3 times slower than the earth.

Then brilliant Venus will rise a little later in the same constellation of Pisces about 15 degrees to the east of Saturn. Through a telescope you can see that Venus is now about 40 percent illuminated by the sun, or similar to a waxing crescent moon. It was much thinner just a month ago when it disappeared from our evening sky and then quickly reappeared in our morning sky, where it will now stay for the rest of this year.

Mercury rises last, just 50 minutes before the sun on the 1st and 40 minutes before the sun by the middle of May before it dips out of view again and reaches superior conjunction with the sun on May 29.

The second largest asteroid, Vesta, will reach opposition in Virgo on May 2 and reach a peak brightness of magnitude 5.7, technically visible even without binoculars since the limit of our human vision is 6th magnitude. You should still use binoculars to spot this second largest of all of our over one million asteroids at 330 miles across, or about the size of Arizona. The largest one is Ceres, which is about 600 miles across, or the size of Texas. About 6 percent of all of the meteorites found on Earth come from this one single asteroid. The Maine Mineral and Gem Museum in Bethel has many of the largest pieces of Vesta that have hit the earth over the millennia.

The second good meteor shower of each year will take place from April 19 to May 28. It will peak on the evening of Monday, May 5th into Tuesday morning the 6th. The waxing gibbous moon will set around 2:30 am that morning, which will then give you a perfectly dark and moon free sky in which to enjoy the rest of the meteor shower if it is clear. This is one of two meteor showers caused by Halley's comet as we pass directly through its debris trail twice each year. The other one is the Orionids every October 21. Unfortunately, you can only expect about 10 meteors per hour out of the Eta Aquarids even from a good dark sky site. This number is potentially 50 per hour, but the radiant is low in Aquarius in the morning sky, so that is number is greatly reduced from what it could be if Aquarius where high in our sky at midnight. The meteors will come from just above and to the right of Saturn, Venus, and Mercury, which are all in Pisces now just one constellation to the east of Aquarius. These meteors travel very fast, 40 miles per second, or over twice as fast as we orbit the sun, and many of them will leave long and persistent trains, making it well worth the effort to see and photograph some of them.

May 2. The asteroid Vesta is at opposition this morning in Virgo.

May 3. The moon passes 2 degrees north of Mars this evening.

May 4. First quarter moon is at 9:52 a.m. EDT.

May 5. On this day in 1961 Alan Shepard became the first American in space aboard Freedom 7.

May 6. The Eta Aquarid meteor shower peaks this morning.

May 10, Cecilia Payne was born on this day in 1900. She helped decode the complicated spectra of starlight along with the famous "Harvard Computers". She wrote one of the most brilliant papers in astronomy as she finally determined the true composition of all stars. She was also an excellent musician.

May 11. Richard Feynman was born on this day in 1918. He won the Nobel prize in physics in 1965 for quantum electrodynamics. He made the difficult field of quantum mechanics much more understandable to the general public and he was a great commun14icator.

May 12. Full moon is at 12:56 p.m. This is also known as the Planting, Milk, or Flower Moon.

May 14. Our first space station, Skylab, was launched on this day in 1973. The moon passes 0.3 degrees south of Antares in Scorpius this morning.

May 20. Last quarter moon is at 7:59 a.m.

May 22. The moon passes 3 degrees north of Saturn this morning.

May 23. The moon passes 4 degrees north of Venus this morning.

May 26. New moon is at 11:02 p.m. Sally Ride was born on this day in 1951. She was the first American woman in space.

May 27. Rachel Carson was born on this day in 1907. She wrote "Silent Spring:" and several other books warning us

May 28. The moon passes 5 degrees north of Jupiter this evening. On this day in 1959 Able and Baker became the first primates in space that returned to earth safely.

May 29. Mercury is in superior conjunction with the sun today. On this day in 1919 Sir Arthur Eddington led a total solar eclipse expedition to Africa that proved Einstein's General Theory of Relativity correct by measuring the exact amount of displacement that the gravity of the sun caused the light of a star behind the eclipsed sun to be bent. It was twice the amount that Newton had predicted. It turned out to be 1.75 arc seconds instead of the 0.8 arc seconds that Newton predicted.

May 31. Venus is at greatest western elongation from the sun at midnight at 46 degrees.

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Moon Phases

May 4
First Quarter

May 12
Full

May 20
Last Quarter

May 26
New

Moon Data

May 3
Mars 2^{o} south of Moon

May 10
Moon at apogee

May 18
Pluto 0.4^{o} north of Moon

May 22
Saturn 3^{o} south of Moon

Neptune 2^{o} south of Moon

May 23
Venus 4^{o} south of Moon

May 25
Moon at perigee

May 28
Jupiter 5^{o} south of Moon

Observer's Challenge – May

by Glenn Chaple

Messier 3 – Globular Cluster in Canes Venatici (Mag: 6.2, Size: 18")

After a steady diet of faint Observer's Challenges in recent months, we can relax our eyes with the bright globular cluster Messier 3. At a magnitude of 6.2, it ranks among the 10 brightest of the roughly 250 globular clusters that inhabit our galaxy. It can be glimpsed with the unaided eye from remote dark-sky locations and is easily spotted in binoculars from suburban areas.

M3 was discovered by Charles Messier on May 3, 1764. To him, it appeared as a nebula without stars. Twenty years later, William Herschel resolved it into a stellar mass.

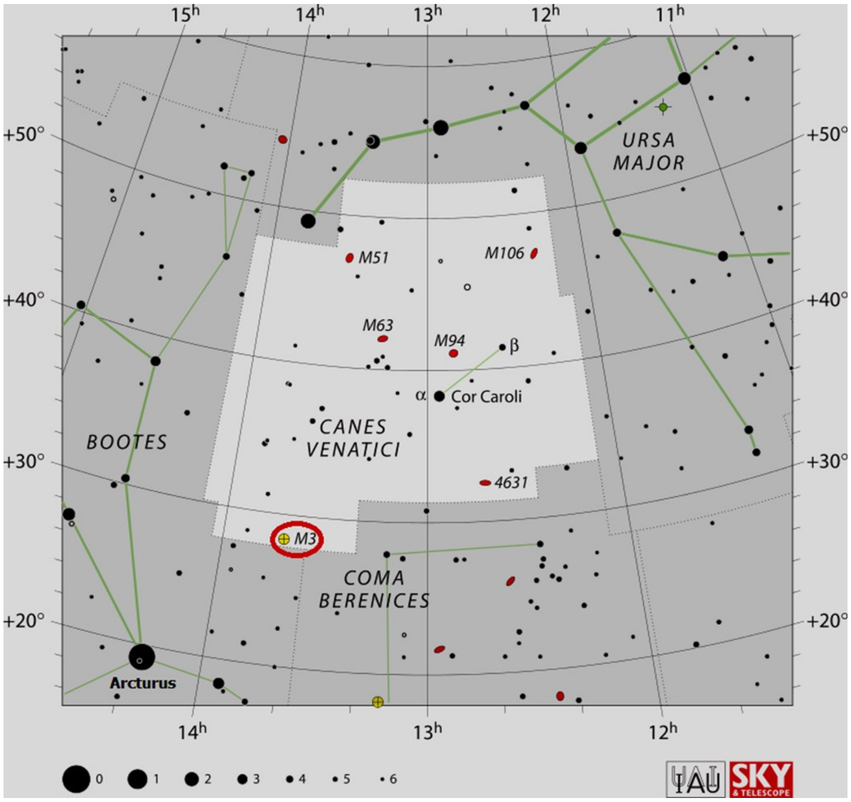
Finding M3 is one of its biggest challenges. It lies in a star-poor region of the constellation Canes Venatici. Owners of GoTo scopes can dial in its coordinates - RA 13h42.2m, DEC +28°22.6'. Star-hoppers will find M3 by aiming their telescopes towards an area roughly midway between Arcturus and Cor Caroli (alpha [α] Canum Venaticorum) and then slowly scanning the area with low power until a hazy circular patch of light comes into view.

A switch to high power brings M3 to life, especially in scopes with apertures of 6 to 8 inches and above. Smaller instruments at high magnification will hint at its stellar nature. Amateur Telescope Makers of Boston President Rich Nugent reports a grainy appearance when viewing M3 with a 5-inch refractor. Through a 4-inch rich-field scope at high magnification, I suspected a hint of graininess.

M3 lies about 33,000 light years away. Its estimated half million stars occupy a sphere 180 light years across.

(NOTE: Messier 3 was previously featured as the May, 2021 Observer's Challenge)

"Continued on page 4 "



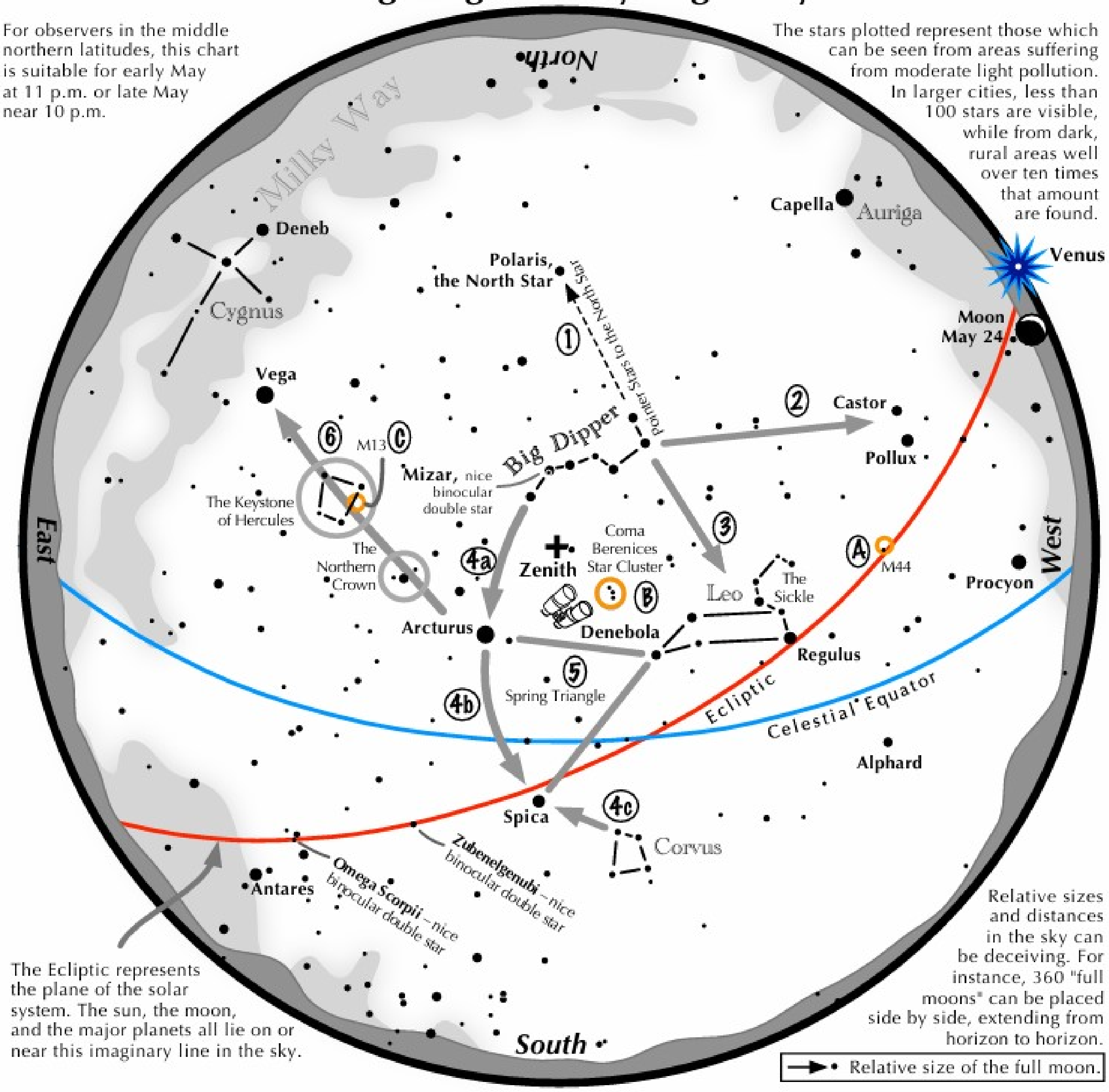
www.messier-objects.com

Image by Mario Motta (ATMoB) Taken with 32-inch telescope, SBIG STL1001E Camera, RGB filters. North is up.

Navigating the May Night Sky

For observers in the middle northern latitudes, this chart is suitable for early May at 11 p.m. or late May near 10 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 May night sky: Simply start with what you know or with what you can easily find.

1 Extend a line northward from the two stars at the tip of the Big Dipper's bowl. It passes by Polaris, the North Star.

2 Through the two diagonal stars of the Dipper's bowl, draw a line pointing to the twin stars of Castor and Pollux in Gemini.

3 Directly below the Dipper's bowl reclines the constellation Leo with its primary star, Regulus.

4 Follow the arc of the Dipper's handle. It first intersects Arcturus, then continues to Spica. Confirm Spica by noting that two moderately bright stars just to its southwest form a straight line with it.

5 Arcturus, Spica, and Denebola form the Spring Triangle, a large equilateral triangle.

6 Draw a line from Arcturus to Vega. One-third of the way sits "The Northern Crown." Two-thirds of the way hides the "Keystone of Hercules." A dark sky is needed to see these two dim stellar configurations.

Binocular Highlights

A: M44, a star cluster barely visible to the naked eye, lies to the southeast of Pollux. **B:** Look near the zenith for the loose star cluster of Coma Berenices. **C:** M13, a round glow from a cluster of over 500,000 stars.

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

www.astroleague.org

Principal Meteor Showers in 2025

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

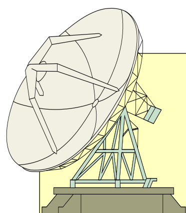
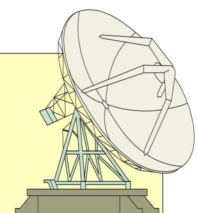
December 22
Ursids

Note: Dates are for maximum

MEMBERSHIP DUES

Membership fees are for the calendar year beginning in January and ending in December. Dues (see page 17 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 17. 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.

This article is distributed by NASA Night Sky Network

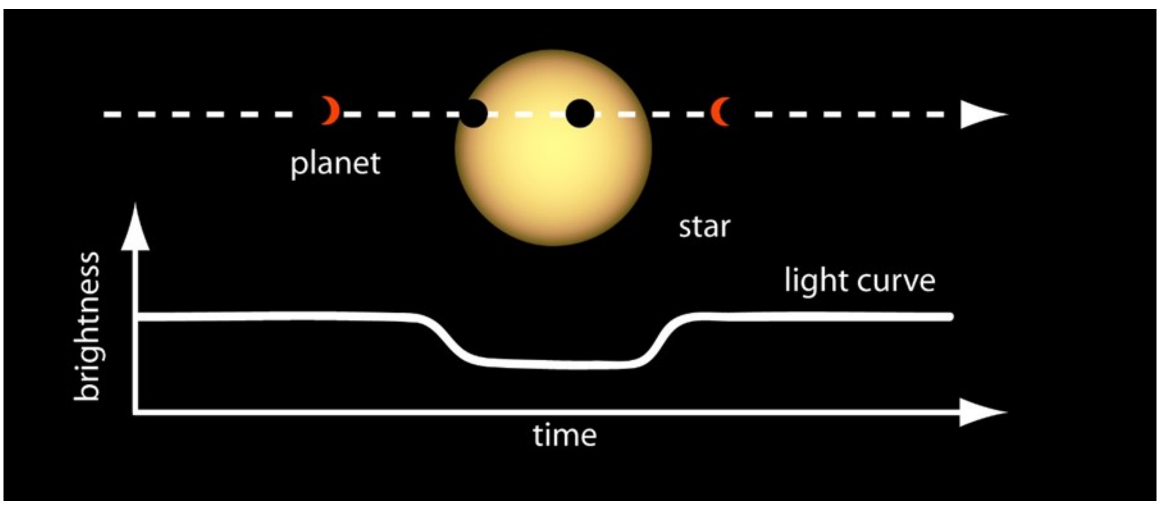
The Night Sky Network program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit nightsky.jpl.nasa.org to find local clubs, events, and more!

May's Night Sky Notes: How Do We Find Exoplanets?

By: Dave Prosper
Updated by: Kat Troche

Astronomers have been trying to discover evidence that worlds exist around stars other than our Sun since the 19th century. By the mid-1990s, technology finally caught up with the desire for discovery and led to the first discovery of a planet orbiting another sun-like star, Pegasi 51b. Why did it take so long to discover these distant worlds, and what techniques do astronomers use to find them?

The Transit Method



A planet passing in front of its parent star creates a drop in the star's apparent brightness, called a transit. Exoplanet Watch participants can look for transits in data from ground-based telescopes, helping scientists refine measurements of the length of a planet's orbit around its star. Credit: NASA's Ames Research Center

One of the most famous exoplanet detection methods is the **transit method**, used by Kepler and other observatories. When a planet crosses in front of its host star, the light from the star dips slightly in brightness. Scientists can confirm a planet orbits its host star by repeatedly detecting these incredibly tiny dips in brightness using sensitive instruments. If you can imagine trying to detect the dip in light from a massive searchlight when an ant crosses in front of it, at a distance of tens of miles away, you can begin to see how difficult it can be to spot a planet from light-years away!

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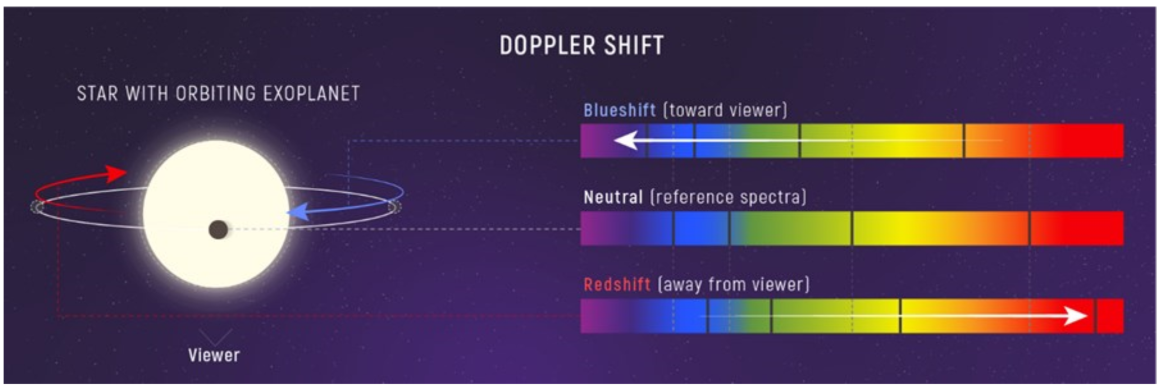
Another drawback to the transit method is that the distant solar system must be at a favorable angle to our point of view here on Earth – if the distant system's angle is just slightly askew, there will be no transits. Even in our solar system, a transit is very rare. For example, there were two transits of Venus visible across our Sun from Earth in this century. But the next time Venus transits the Sun as seen from Earth will be in the year 2117 – more than a century from now, even though Venus will have completed nearly 150 orbits around the Sun by then!

The Wobble Method



As a planet orbits a star, the star wobbles. This causes a change in the appearance of the star's spectrum called Doppler shift. Because the change in wavelength is directly related to relative speed, astronomers can use Doppler shift to calculate exactly how fast an object is moving toward or away from us. Astronomers can also track the Doppler shift of a star over time to estimate the mass of the planet orbiting it. Credit: NASA, ESA, CSA, Leah Hustak (STScI)

Spotting the Doppler shift of a star's spectra was used to find Pegasi 51b, the first planet detected around a Sun-like star. This technique is called the **radial velocity or "wobble" method.** Astronomers split up the visible light emitted by a star into a rainbow. These spectra, and gaps between the normally smooth bands of light, help determine the elements that make up the star. However, if there is a planet orbiting the star, it causes the star to wobble ever so slightly back and forth. This will, in turn, cause the lines within the spectra to shift ever so slightly towards the blue and red ends of the spectrum as the star wobbles slightly away and towards us. This is caused by the blue and red shifts of the planet's light. By carefully measuring the amount of shift in the star's spectra, astronomers can determine the size of the object pulling on the host star and if the companion is indeed a planet. By tracking the variation in this periodic shift of the spectra, they can also determine the time it takes the planet to orbit its parent star.

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Direct Imaging

Finally, exoplanets can be revealed by **directly imaging** them, such as this image of four planets found orbiting the star HR 8799! Space telescopes use instruments called **coronagraphs** to block the bright light from the host star and capture the dim light from planets. The Hubble Space Telescope has captured images of giant planets orbiting a few nearby systems, and the James Webb Space Telescope has only improved on these observations by uncovering more details, such as the colors and spectra of exoplanet atmospheres, temperatures, detecting potential exomoons, and even scanning atmospheres for potential biosignatures!

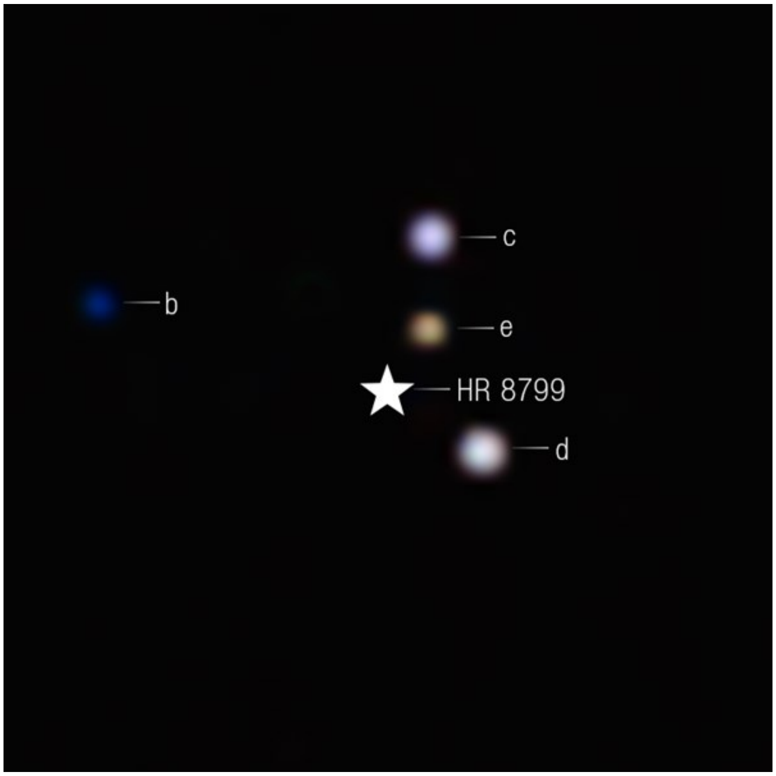


Image taken by the James Webb Space Telescope of four exoplanets orbiting HR 8799. Credit: NASA, ESA, CSA, STScI, Laurent Pueyo (STScI), William Balmer (JHU), Marshall Perrin (STScI)

You can find more information and activities on NASA's Exoplanets page, such as the Eyes on Exoplanets browser-based program, The Exoplaneteers, and some of the latest exoplanet news. Lastly, you can find more resources in our News & Resources section, including a clever demo on how astronomers use the wobble method to detect planets!

The future of exoplanet discovery is only just beginning, promising rich rewards in humanity's understanding of our place in the Universe, where we are from, and if there is life elsewhere in our cosmos.

Point and Shoot Camera Astro-Imaging (no telescope)

Canon PowerShot SX50 HS

Submitted By Paul Kursewicz

M81 & M82

RAW Mode, FL 1200mm, f/3.5, ISO 1600, 109 x 2min, 2-21-25

M81 and M82 are a pair of galaxies located in the constellation Ursa Major. M81 (Bodes Galaxy) is a spiral galaxy about 11.8 million light years away. It is one of the densest known galaxies. One third of the mass is concentrated at the core. M82 (Cigar Galaxy) is an irregular galaxy at roughly the same distance, and is a starburst galaxy, known for its strong rate of star formation. The two galaxies are locked gravitationally. Their actual separation is 150,000 ly.

"Continued on page 11"

From the pages of "Burnham's Celestial Handbook" copyright 1978

M81 & M82

This photo was taken with the Lowell Observatories 13-inch telescope. I rotated the page to match my image. M81 (right) is also known as Bodes Galaxy, named after Johann Elert Bode, who discovered the galaxy in 1774. At that time it was recorded as "a nebulous patch, more or less round, with a dense nucleus in the middle." Messier added it to his catalog in February 1781. Also back then, there were two strange features associated with M82. First, although it appeared as an edge-on galaxy they dismissed it because it had an nebulous appearance in large telescopes. Today however, we can see its spiral arms. Second, the light of M82 was strongly polarized.

Point and Shoot Camera Astro-Imaging (no telescope)

Canon PowerShot SX50 HS

Submitted By Paul Kursewicz

Moon & Pleiades (M45)

JPEG Mode, FL 475mm, f/5.6, ISO 1600, 1/8 sec, 4-1-25

On April Fool's Day the Waxing Crescent Moon cozy-upped to the Pleiades, a bright open star cluster in the constellation Tarus which can easily be seen with the naked-eye. However, on this night, I could not see it with the naked-eye because of the Moon's brightness, being so close. My 1/8 second camera exposure picked up about a dozen of its stars. There is nebulosity associated with the Pleiades. This nebulosity is the result from a collision of an interstellar cloud, rather than being the residual debris from the cluster's formation (see the following page).

"Continued on page 13"

Point and Shoot Camera Astro-Imaging (no telescope)

Canon PowerShot SX50 HS

Submitted By Paul Kursewicz

Moon & Pleiades (M45)

Composite image

I created this composite image to show the nebulosity that is associated with the Pleiades. I took this image back in 2016. I shot it with a focal length of 600mm, and a total exposure time of only 16 minutes. I scaled down the nebulosity image to match my short exposure image. Then I overlayed it exactly with the bright stars in my short exposure image.

Club Meeting & Star Party Dates

Date	Subject	Location
May 2	**<u>ASNNE Club Meeting:</u>** **Business Meeting starts prior to Club meeting.** **Club Meeting (in house & on Zoom): 7:30-9:30PM** **Guest Speaker:** This month's guest speaker will be **Dr. Thomas Moore**. Dr. Moore will be talking about space weather. Current Position: 2020-present, NASA consultant and author of peer-reviewed research, mainly on agu.com, and news/opinion articles, mainly on medium.com . **Bernie Reim** - "What's UP" **Astro Shorts:** (news, stories, jokes, reports, questions, photos, observations etc.)	**The New School, Kennebunk, Me.**
Last Month	**Last month members met at The New School and on Zoom. Our guest speaker had to cancel out at the last minute. Bernie read his "What's Up" article. Our president played an astronomy related video clip. Astro shorts were shared.**	
May 23	**Club/Public Star Party: Weather permitting. Rain date May 24.**	**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.

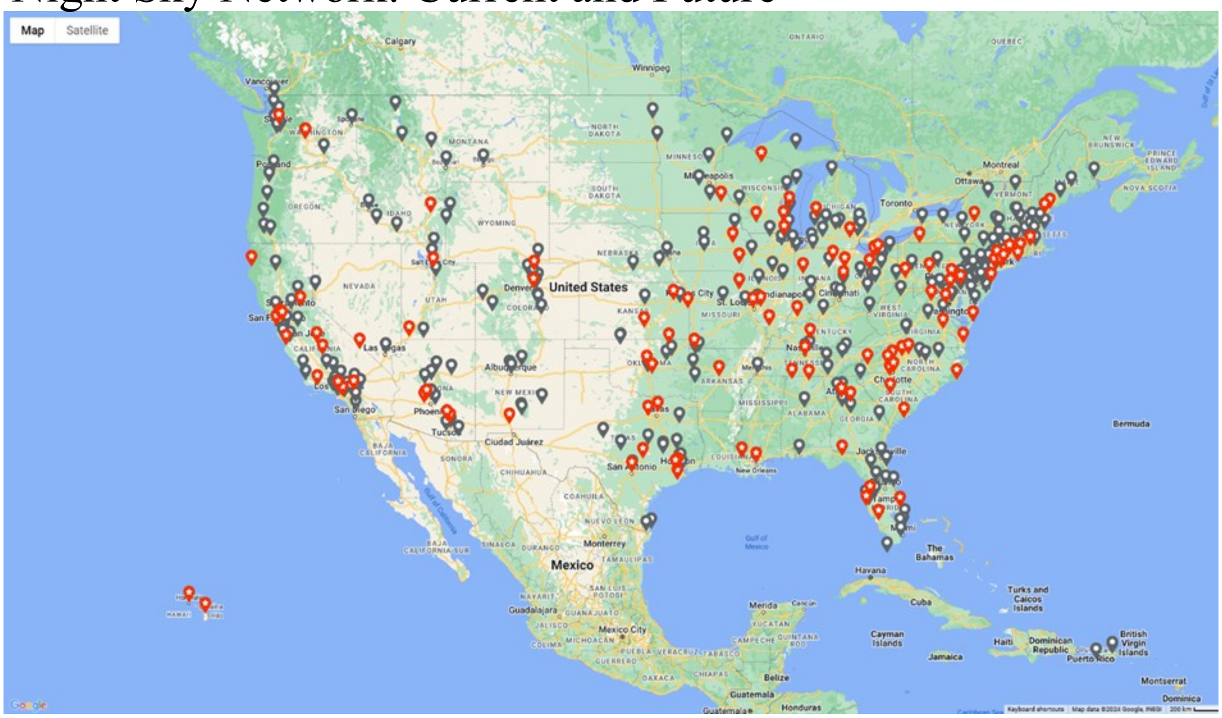
From South:
Get off the turnpike at exit 25 in Kennebunk. After toll both turn right on Rt 35. Go up over the turnpike and immediately turn right on Rt 35. About 4 miles along you will crest a hill and see a large field on your right. Continue until you reach the end of the field. Turn right into the 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.

NSN also hosts archived video trainings on these toolkits and other topics via its YouTube channel and a monthly webinar series with scientists from various institutions worldwide. Lastly, a monthly segment called *Night Sky Notes* is produced for clubs to share with their audiences via newsletters and mailing lists.

Sharing the Universe

In 2007, a National Science Foundation grant funded further research into astronomy club needs. From that came three club resources: the Growing Your Astronomy Club and Getting Started with Outreach video series, an updated website with a national calendar, and club and event coordination. Now, you can find hundreds of monthly events nationwide, including virtual events you can join from anywhere.

Night Sky Network: Current and Future

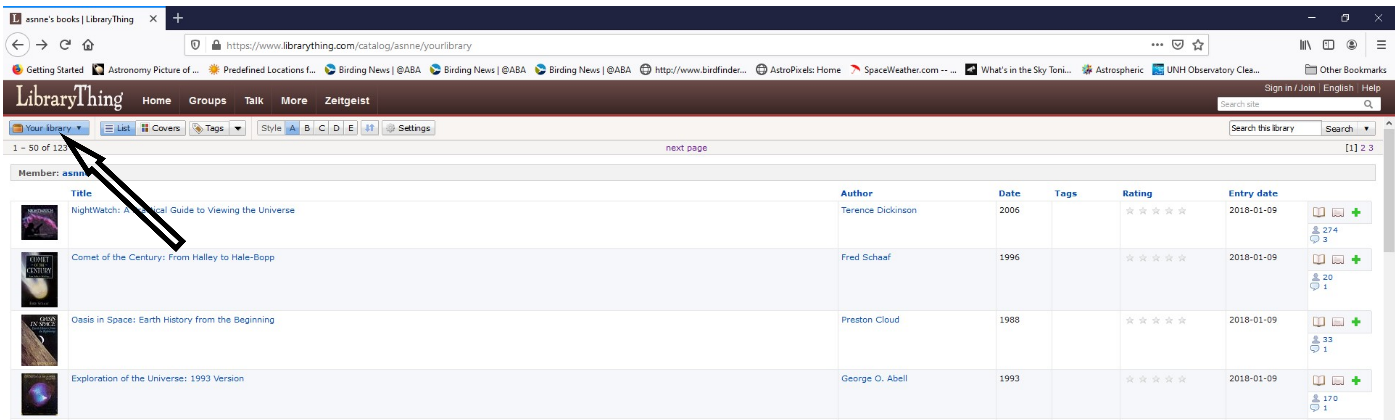


Map of Night Sky Network clubs within the United States as of November 2024

As of November 2024, NSN has over 400 clubs as far north as Washington State, west as Hawaii, and south as far as Puerto Rico. Astronomy clubs worldwide share the wonder of the day and night sky with their communities, and the Night Sky Network is happy to support US clubs with public engagement tools. Through their outreach efforts, member clubs have reached more than 7 million people to date, and the community is still going strong. Find an upcoming star party near you on our new public website.

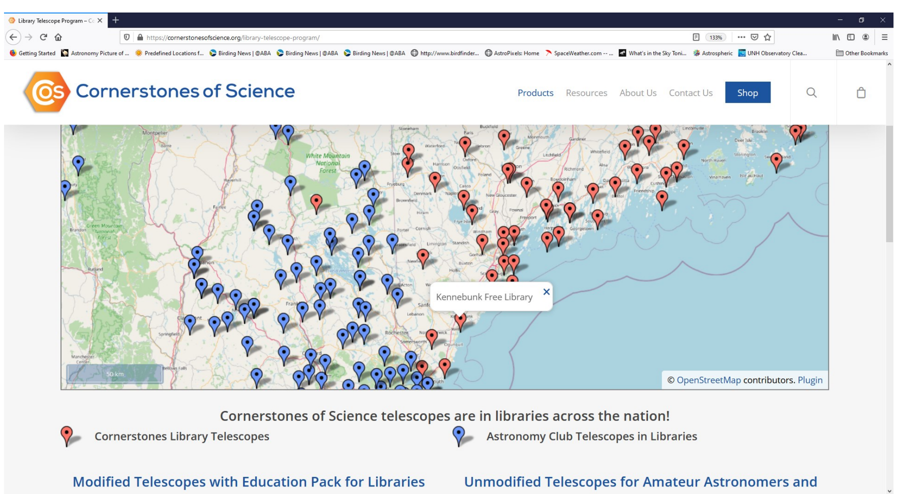
Astronomy Club & Library Resources

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

2025 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?

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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_____