Skylights

Newsletter of the Astronomical Society of Northern New England

MAY2022

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 May

By Bernie Reim

The month of May is named for the Greek goddess Maia, who is the goddess of the earth and plants. May Day on the first marks the middle of spring already as it is one of our four cross-quarter days to mark the midpoints of our four seasons.

The official Earth Day may have been on April 22, but every day should really be Earth Day because we live on the Earth every day and we are privileged to share in its bounty as long as we act like good stewards and appreciate what we all have. Spaceship Earth also provides the most perfect moving platform from which to view the heavens above and all of the unfolding drama always happening along our path through space.

This month will be more packed with such drama than most months that we encounter in our travels on our spinning spaceship. The northern hemisphere of our planet really begins to awaken this month as the most subtle and beautiful shades of green start spreading across our landscape transforming our trees along with our attitudes towards the joy of life.

Be sure to get outside under the warming night skies as much as possible this month. The great morning planetary parade continues to unfold, offering us a slightly different view each morning. Only Mercury remains in the evening sky, and even our first planet will join all of the others in the morning sky later next month in perfect order from Mercury through Saturn, which is a very rare occurrence, about once in a hundred years.

Then we get to see tiny pieces of the most famous of all comets, Halley's, burn up high in our atmosphere upon re entry as the Eta Aquarid meteor shower peaking on the 6th. We may also get lucky and have a chance to witness a comet become very bright early this month in Taurus. The last bonus for this prolific month will be one of the longest total lunar eclipses physically possible as the full Flower moon passes deep into our conical 870,000 mile-long shadow always stretching into space away from the sun it trails us on our endless journeys.

Our two brightest planets, Venus and Jupiter, begin this month just half a degree apart in the morning sky one hour before sunrise. Venus is 6 times brighter than the King of the Planets, which is about half a billion miles away, compared to just a hundred million miles for Venus, one of our next-door neighbors in space. Then keep watching as Jupiter climbs higher looking for its next encounter even as Venus sinks lower.

Orange Mars will catch up with Jupiter by the end of the month. They will be just half a degree apart again, but this time Jupiter is 15 times brighter than our other next-door neighbor. Watch closely as a waning crescent moon nicely spotlights each of the four bright planets in this fairly rare unfolding morning parade from Mars through Venus from the 25th to the 27th.

Saturn rises around 3 am at the beginning of this month in Capricorn the Sea Goat and it will rise by 1 am by the end of the month, still in the same constellation since it spends just over 2 years in each of the 12 zodiac constellations since it is twice as far away as Jupiter and it moves slower in our sky and has a longer distance to travel than Jupiter. Keep watching each clear morning about one hour before sunrise as this celestial planetary dance continues to grace our skies all month long and as it gets even more dramatic next month as Mercury joins the quartet.

Mercury can now be seen low in our western evening sky in Taurus just above the Pleiades open star cluster and just below the slender waxing crescent moon on the evening of May second 45 minutes after sunset. Keep watching as the moon recedes 12 degrees farther east each evening,

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leaving Mercury and the Pleiades further and further behind. Then Mercury drops below our western horizon about a week later, only to show up again in the morning sky. Mercury does this about 6 times a year and Venus will switch from morning to evening planet about every 9 months.

The third good meteor shower of each year will peak on Friday morning May 6, but it will last for about a week. The other two were the Quadrantids on January 4 and the Lyrids on April 22, which is also Earth Day. The Eta Aquarids will all appear to be coming out of the water jug in Aquarius, which is a perfect location for its radiant. That is just west of the circlet in Pisces and the Great Square in Pegasus. The moon will only be 6 days old, so it will set around midnight, well before the earth will pass through most of these meteors.

You can expect up to 30 meteors per hour as you will be watching tiny sand grain-sized pieces of Halley's Comet bombard us at 40 miles per second as they disintegrate about 70 miles high in our atmosphere, just about at the official edge of space where our thin blue inviting and life-sustaining atmosphere turns black and deadly. The comet itself is about as far away as it can get during its 76-year interval between returns. It last visited us in 1985 and 1986 and is due back in 2062. It is 3.2 billion miles away now, over 5 hours at the speed of light, out past Neptune and not far from Pluto. Halley's Comet is part of the 20 or so comets that Neptune has captured, changing their orbit from where they were in the Oort's cloud, the source of all of our comets. By comparison, Jupiter with its much stronger gravitational fields has captured over 400 comets in its family.

If Comet PanSTARRS (C/202103 03) survived its close encounter with the sun on Earth Day without losing too much of itself, it could become visible without binoculars in early May in the evening sky close to the Pleiades and Mercury for a week or so and then climbing higher towards Polaris. It could be standing up as a mythical glowing sword, a testament to surviving the sun for this first time visitor from the Oort's cloud in deep space, about half a light year away. This reservoir for billions or even trillions of comets, the Oort's cloud begins at 5,000 A.U. or just 100 times the distance to Pluto, but it stretches all the way to 100,000 A.U.

Most of the comets that dare to come this close to the sun don't survive or are greatly diminished if not destroyed completely. Comet ISON in 2013 was a good example. It could have become the comet of the century around Christmas, but that never happened.

The major highlight for this month will be a very long total lunar eclipse of the full Flower Moon. It will be entirely visible for the eastern half of this country and all of Central and South America. Unlike the one in November of last year, this one will begin at a reasonable time with the moon entering the penumbra, or thinner part of Earth's shadow at 9:32 pm, and the umbra at 10:27 pm. It will be completely immersed in our shadow from 11:29 pm to 12:53 am and not completely exit the penumbra until 2:50 am, just 10 minutes before Saturn rises with the rest of the parade of morning planets breaking over the eastern horizon an hour or so later, as if to join the celebration to see what just happened in the sky.

Every total lunar eclipse is always unique and distinct. The exact colors range from a light orange to deeper coppery oranges to all shades of red to dark gray to almost black and disappearing from our sight. This depends on the exact clarity of our atmosphere. I remember the totally eclipsed moon becoming almost invisible in late 1991 after a series of eruptions of Mt. Pinatubo in the Philippines earlier that year left a lot of volcanic ash in our atmosphere.

A good way to think of how the dramatic and ever-changing subtle hues of orange and red are created on the moon as our atmosphere bends or refracts the sunlight back onto our only natural satellite is to notice that what you are really seeing during that memorable hour of immersion is the combined effect of all of the sunrises and sunsets on Earth projected onto the moon simultaneously. The opposite of that was visible when I saw the 360 degree circle of the orange light of twilight all around me on the high plateau in Idaho just east of the Grand Tetons while completely immersed at the bottom of the lunar shadow cone which just managed to reach the earth at all.

So enjoy this unusually long lunar eclipse along with everything it can teach you about intersecting shadows and the tremendous motions always happening on our solar system. The moon will look much more real and 3-dimensional as it progresses through our shadow, as if you could just reach out and touch it. At 230,000 miles away, it is just over one second away at the speed of light, so it really is quite close. Try to get some good pictures of this event as you are outside observing the entire sky. The next one visible for us will only be one eclipse season away, November 8 of this year, which is also Edmund Halley's birthday.

May 1. Venus and Jupiter are just half a degree apart, which is the width of the full moon, in the morning sky an hour before sunrise.

May 2. The waxing crescent moon, orange Aldebaran, Mercury and the Pleiades form a graceful arc in our western evening sky one hour after sunset. Comet Pan-STARRS may also be visible there.

May 4. The moon passes near the dwarf planet Ceres, our largest asteroid, this evening.

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

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

May 8. First quarter moon is at 8:21 p.m. EDT.

May 10. Cecilia Payne Gaposchkin was born on this day in 1900. She was one of the famous "Harvard Computers" who developed the spectral classification system of stars along with many other ground breaking discoveries in astronomy including the nature of the sun and variable stars.

May 14. Our first space station, Skylab, is launched on this day in 1973.

May 16. Full moon is at 12:14 a.m. This is also called the Flower, Milk, or Planting Moon. A total lunar eclipse will happen tonight as the moon passes right through our shadow.

May 22. The moon passes 4 degrees south of Saturn this morning. Last quarter moon is at 2:43 p.m.

May 24. Jupiter and Mars rise together in the east.

May 25. Jupiter, Mars, and the moon form a nice trio with Venus nearby.

May 26. The moon passes half a degree south of Venus this morning.

May 28. Mars is just half a degree from Jupiter this morning.

May 29. On this day in 1919 Sir Arthur Eddington proved Einstein's General Theory of Relativity correct during a total solar eclipse off the west coast of Africa by showing that the light of a star hidden by the sun was bent by the sun's gravitational field by the exact amount that Einstein had calculated.

★

Moon Phases

May 8
First Quarter

May 16
Full

May 22
Last Quarter

May 30
New

Moon Data

May 5
Moon at apogee

May 17
Moon at perigee

May 22
Saturn 4° north of Moon

May 24
Mars 3° north of Moon

Neptune 4° north of Moon

Jupiter 3° north of Moon

May 26
Venus 0.2° north of Moon

May 28
Uranus 0.3° north of Moon

OBSERVER'S CHALLENGE* – May, 2022

by Glenn Chaple

Messier 106 Spiral Galaxy in Canes Venatici (Magnitude 8.4; Size 18.6' x 7.2')

M106 was a late entry in the Messier Catalog, having been added by the American-Canadian astronomer Helen Sawyer Hogg in 1947, 130 years after Messier's death. It was originally discovered by Messier's contemporary Pierre Méchain in 1781. who quite likely would have added it to a future edition of Messier's Catalog.

The 2000.0 celestial coordinates for M106 are: RA 12h18m57.5s, Dec +47°18'14". I found it by star-hopping 5 degrees ESE from the second magnitude star Phecda (gamma [γ] Ursae Majoris) to 5th magnitude 5 Uma. A hop 3 degrees south and slightly west brought me to 5th magnitude 3 Uma. M106 was spotted just 2 degrees further south.

At magnitude 8.3, M106 was easily seen as an oval-shaped patch of light in my 3-inch f/10 reflector at 30X. A bright, irregularly-shaped nucleus was visible in my 10-inch f/5 reflector and a magnification of 141X.

M106 is classified as a SABbc type galaxy- a form intermediate between spiral and barred spiral galaxies. Due to its energetic nucleus, likely a result of activity generated by a massive central black hole, it is also classified as a Seyfert galaxy. It lies approximately 24 million light years away. With a diameter of 133,000 light years, M106 is similar in size to the Andromeda Galaxy.

**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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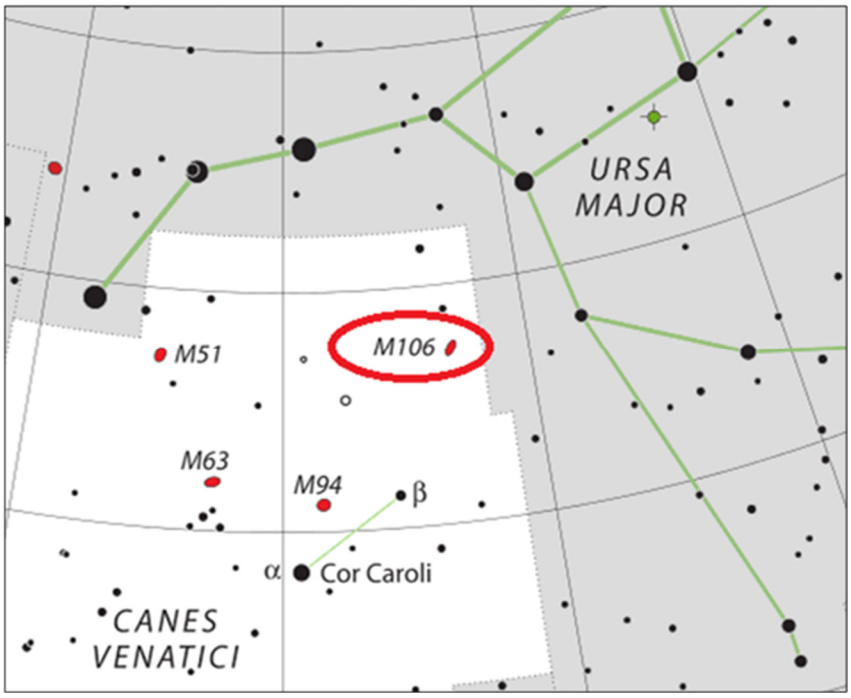
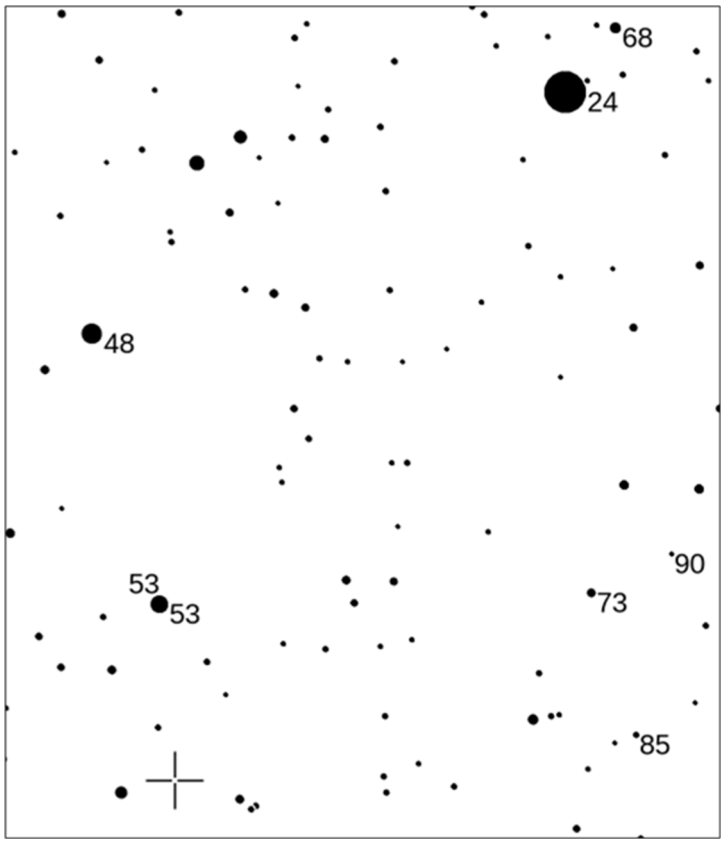
Messier 106 Finder Charts

(top) From messier-objects.com – adapted from IAU/Sky&Telescope chart. (bottom) Created using AAVSO's Variable Star Plotter. Numbers indicate stellar magnitudes, decimals omitted. Magnitude 2.4 star is Phecda (gamma [γ] Ursae Majoris). Stars plotted to 9th magnitude. North is up in this 9 by 7 degree field.





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Messier 106 image

Image by Mario Motta, MD (ATMoB) 32 inch telescope, with ZWO ASI 6200 camera. 1.5 hours imaging time.

Principal Meteor Showers in 2022

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

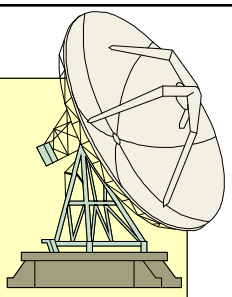
November 18
Leonids

November 26
Andromedids

December 14
Geminids

December 22
Ursids

Note: Dates are for maximum



Got any News?

Skylights Welcomes Your Input.

Here are some suggestions:

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

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 news-letter, *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!

Night Lights: Aurora, Noctilucent Clouds, and the Zodiacal Light

By David Prosper

Have you spotted any "night lights"? These phenomena brighten dark skies with celestial light ranging from mild to dazzling: the subtle light pyramid of the zodiacal light, the eerie twilight glow of noctilucent clouds, and most famous of all, the wildly unpredictable and mesmerizing aurora.

Aurora, often referred to as the northern lights (aurora borealis) or southern lights (aurora australis), can indeed be a wonderful sight, but the beautiful photos and videos shared online are often misleading. For most observers not near polar latitudes, auroral displays are relatively rare and faint, and without much structure, more gray than colorful, and show up much better in photos. However, geomagnetic storms can create auroras that dance and shift rapidly across the skies with several distinct colors and appear to observers much further away from the poles - on very rare occasions even down to the mid-latitudes of North America! Geomagnetic storms are caused when a magnetic storm on our Sun creates a massive explosion that flings a mass of particles away from its surface, known as a Coronal Mass Ejection (CME). If Earth is in the path of this CME, its particles interact with our planet's magnetic field and result in auroral displays high up in our ionosphere. As we enter our Sun's active period of its 11-year solar cycle, CMEs become more common and increase the chance for dazzling displays! If you have seen any aurora, you can report your sighting to the Aurorasaurus citizen science program at aurorasaurus.org

Have you ever seen wispy clouds glowing an eclectic blue after sunset, possibly towards your west or northwest? That wasn't your imagination; those luminescent clouds are noctilucent clouds (also called Polar Mesospheric Clouds (PMC)). They are thought to form when water vapor condenses around 'seeds' of dust from vaporized meteorites - along with other sources that include rocket launches and volcanic eruptions - around 50 miles high in the mesosphere. Their glow is caused by the Sun, whose light still shines at that altitude after sunset from the perspective of ground-based observers. Noctilucent clouds are increasing both in frequency and in how far south they are observed, a development that may be related to climate change. Keeping in mind that observers closer in latitude to the poles have a better chance of spotting them, your best opportunity to spot noctilucent clouds occurs from about half an hour to two hours after sunset during the summer months. NASA's AIM mission studies these clouds from its orbit high above the North Pole: go.nasa.gov/3uV3Yj1

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You may have seen the zodiacal light without even realizing it; there is a reason it's nicknamed the "false dawn"! Viewers under dark skies have their best chance of spotting this pyramid of ghostly light a couple of hours after sunset around the spring equinox, or a couple of hours before dawn around the autumnal equinox. Unlike our previous two examples of night lights, observers closer to the equator are best positioned to view the zodiacal light! Long known to be reflected sunlight from interplanetary dust orbiting in the plane of our solar system, these fine particles were thought to originate from comets and asteroids. However, scientists from NASA's Juno mission recently published a fascinating study indicating a possible alternative origin: dust from Mars! Read more about their serendipitous discovery at: go.nasa.gov/3Onf3kN

Curious about the latest research into these night lights? Find news of NASA's latest discoveries at nasa.gov .

Comet NEOWISE flies high above a batch of noctilucent clouds in this photo from Wikimedia contributor Brwynog.

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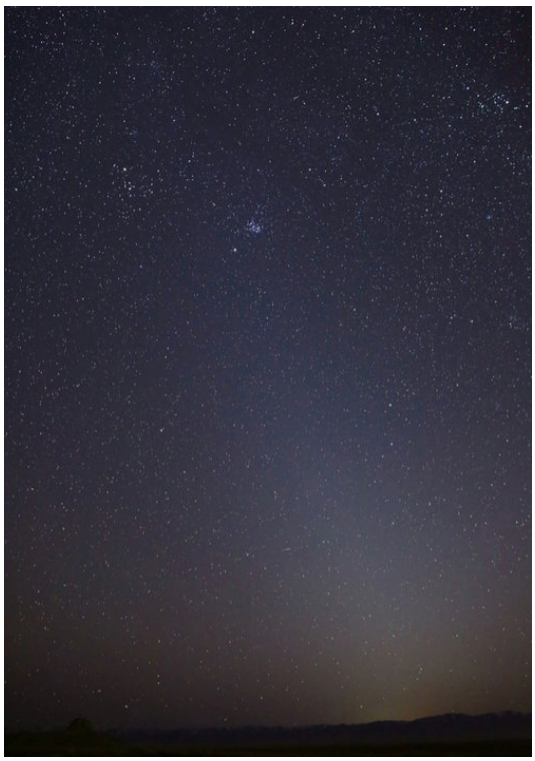

The zodiacal light extends into the Pleiades, as seen in the evening of March 1, 2021 above Skull Valley, Utah. The Pleiades star cluster (M45) is visible near the top.

Credit and source:: NASA/Bill Dunford https://www.flickr.com/photos/gsfc/51030289967

A sampling of some of the various patterns created by aurora, as seen from Iceland in 2014. The top row photos were barely visible to the unaided eye and were exposed for 20-30 seconds; in contrast, the bottom row photos were exposed for just 4 seconds- and were clearly visible to the photographer, Wikimedia contributor Shnuffel2022.

License and source: CC BY-SA 4.0 https://commons.wikimedia.org/wiki/File:Aurora_shapes.jpg

Point and Shoot Camera Astroimaging (no telescope)

Canon Powershot SX50 HS

Image & write-up submitted by Paul Kursewicz

Spider & Fly Nebula

Specs: RAW mode, FL 1144mm, f/4, ISO 3000, 36 x 1 min 30 sec, 1-4-22

Baader Moon & Skyglow Filter

Will the **Spider** with its two bright beady-eyes ever catch the **Fly**? The **Spider-shaped** nebulous gas cloud (top center) is actually an emission nebula labelled IC 417, while the smaller **Fly-shaped** nebulous cloud (bottom right of center) is dubbed NGC 1931. Both nebulae are relatively small and are located in the constellation Auriga. My point-and-shoot camera with its limited amount of exposure time, and lacking the use of a Ha/OIII filter, could only capture the brightest parts of each nebula. These gas and dust clouds are about 10,000 light years distant and both harbor young open star clusters. For scale, the more compact NGC 1931 (Fly) is about 10 light-years across. Many Astro-imagers overlook these two small nebulae in favor of much larger ones that are close by.

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Spider & Fly Nebula

Spider & Fly approximate location

Bright clusters and nebulae abound in the ancient northern constellation of Auriga. In between two star clusters (M36 & M38) are IC 417 (the Spider) and NGC 1931 (the Fly). These faint and small nebulae lie near the much more observed nebulae IC 410 (the Tadpoles) and IC 405 (the Flaming Star). I have not come across and information as to whether the Spider & Fly can be seen through a telescope. And this is just one reason why I love to do Astro-imaging, it allows me to see more things in our universe than what can be seen looking through a telescope.

Astronomical Society of Northern New England (ASNNE) Membership Meeting Minutes of 1 April 2022

Business Meeting Bernie Reim, Vice President

Members Present: Carl Gurtman, Secretary

Gary Asperschlager, Director

Bern Valliere, Director

David Bianchi, ASNNE E-Mail Manager

Bob Conley

Special Business Meeting:

This was a Special Business Meeting, on Zoom, to discuss Star Parties held at for-profit campgrounds. Specifically, the campground at Point Sebago, and to include policies for Huttopia. The Point Sebago Campground was represented on Zoom by Ashley **BBBB** (currently in Florida).

This Special Business Meeting was called to order at 6:32 pm. David & Gary took the lead for ASNNE, and Ashley spoke for Point Sebago.

Points discussed and mutually agreed upon;

1.) ASNNE will provide Star Parties, with associated programs, from mid- June through the first week in September.

2.) The tentative agreed-upon day of the week is Thursday.

3.) ASNNE will provide a minimum of one telescope, several pairs of binoculars, star charts, and laser pointers.

4.) To the maximum extent possible, the program will be tailored to the campground audience.

5.) Since the sky is light late in the summer, ASNNE will provide some outdoor children's activities.

6.) Early in the evening, ASNNE (Carl) will provide a talk on ancient astronomers, and early visual astronomy.

7.) Point Sebago will provide an indoor space, and a screen, and appropriate projector, for this presentation.

8.) In keeping with Point Sebago's environmental focus, ASNNE will emphasize the Dark Sky initiative.

9.) The planned focus for each evening, weather permitting, will be visual & telescopic observations of the moon, planets, stars, and constellations.

10.) For each event, rain or clear, Point Sebago will make a $300 donation to ASNNE, payable within two weeks of the close of each individual event.

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11.) Either the beach or the golf course seem to provide the best location for outdoor observing. Point Sebago will choose the specific venue. If on the golf course, ASNNE will respect all golf-course rules to protect the property. Regardless of the venue, ASNNE will remove any items it brings in.

12.) Point Sebago will attempt to shut off all lights, consistent with safety.

13.) For dealings with Point Sebago, the point of contact, with Executive Authority, is ASNNE Director Mr. Gary Asperschlager.

14.) Although some people spend the entire summer at Point Sebago, there are enough new people such that (essentially) the same program can be repeated throughout the summer.

Regular Meeting:

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

Bernie Reim, Vice President

Carl Gurtman, Secretary

Gary Asperschlager, Director

Ron Burk, Director

Bern Valliere, Director

Others Present: There were 19 people, (total), present in person, and 7 people pre sent on Zoom.

Regular Meeting:

President *Pro Tem* Ian Durham called the Regular Meeting to order at 7:40.

Introduction

Ian had us go around the room, introducing ourselves, with a few words about our backgrounds and interests. Ian included the Zoom participants.

Report of Special Business Meeting:

Carl summarized what had been decided at the Special Business Meeting. See above for the particulars. For the other campground, Huttopia, we will be conducting Star Parties for, the details are similar, with these exceptions:

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a.) The agreed upon donation per event is slightly different.

b.) The day of the week will be Sunday. (Except for Friday, 1 July.)

c.) We will start at 7:30 pm; we will not follow any other program.

d.) Huttopia's first event will be 26 June.

e.) Our ASNNE team will arrive prior to the first event to check out all the logistics and equipment for presentations inside the community room. There is Wifi in that building, but not around the camp.

f.) For dealings with Huttopia, the point of contact, with Executive Authority, is David Bianchi, ASNNE E-Mail Manager

Other input re these Star Parties:

1.) Carl provided sign-up sheets, for Gary & David to use, to help organize ASNNE support. It seems, from a show of hands, that we will be able to provide a minimum of four ASNNE Members per event.

2.) Carl asked for additional support, noting that one does not need to be an expert to provide assistance.

3.) Carl suggested that prior to each event, the ASNNE folk review what will be up and what we'll be observing, to help make a smooth presentation.

4.) Sara made the excellent suggestion that we be aware of what COVID precautions are, or should be, in force at each venue.

Fundraising:

Alyson Durham had provided both CLYNK stickers, and green bags with CLYNK stickers attached. Thank you, Alyson! Ian distributed them. CLYNK is a Maine-based bottle redemption program, run out of Hannaford supermarkets. Using these bags & stickers ensures that the redemption deposit is credited to ASNNE.

Other Items:

Ian reported that we have 34 paid-up Members.

Ian reported on the need for a new mower. It was suggested that this was not the time for that discussion. Ian will look into the cost of a new mower.

Carl reported on three items. First; that he watched the video that Paul K. suggested, about how the Earth's history might have been very different, had the Moon not formed. Very interesting, and highly recommended! EDITOR'S NOTE: I too (Paul K.) enjoyed the science part of the presentation. But did not agree with Dr Neil Comins personal and or religious beliefs as to our origins.

Second; that local papers are doing a good job and giving space to ASNNE's Press Releases, and Third, that he's been asked again, a great honor, to judge the Physics and Astronomy **Undergraduate Research Conference (URC) poster competition at UNH.**

Presentation:

Our Presentation tonight was by our Member Dana Hutchins. It is titled; Feeling Warped Space Time.

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Dana is an artist and an entrepreneur. His company provides, amongst various products, very highly detailed, and carefully crafted interactive scientific displays. These displays have ranged from interactive kiosks at aquaria, through introductory presentations to new staff at the Laser Interferometer Gravitational-Wave Observatory (LIGO). Dana showed presentations of what the space-time ripples caused by, for example, black hole mergers, looked like.

Dana's presentation was profusely illustrated, and many of the illustrations were remarkable.

Although not a scientist, Dana had a very thorough grasp of the material he was presenting, and could speak about it at length.

Dana's Presentation was very well received.

"What's Up?":

Bernie then gave his usual thorough, comprehensive, and complete discussion of what's in store for us in the skies of April, its name based upon the Latin word for "opening". We will see a very close conjunction of Venus and Jupiter, They will be less than half a degree apart, which is the width of the full moon. All the planets will be visible, and bunched fairly close together in the morning sky, except Mercury, which makes its best appearance for the year later this month in the evening sky.

Jupiter is also known for generating strong radio signals. Saturn and Mars will also form a very close conjunction in the morning sky on April 4th. They will both rise around 5 a.m., closely followed by Jupiter. Keep watching as Venus and Mars continue to trek eastward through Capricorn, while distant Saturn barely moves. Then the waning crescent moon will pass near all of these planets low in the morning sky.

As for meteor showers, you can expect the Lyrids, on Friday, 22 April. You can expect about 18 meteors per hour from them on a good dark sky.

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

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

AstroShorts:

Several Members presented Astroshorts.

The next ASNNE Meeting, will be at 7:30 pm, Friday, 6 May, 2022, at the New School in Kennebunk, Maine. The Regular Meeting will be preceded by a Business Meeting at 7:00 pm. All Members may attend the Business Meeting as they choose.

Respectfully submitted,

Carl Gurtman

Club Meeting & Star Party Dates

Date	Subject	Location
May 6	**ASNNE Club Meeting:** **Business Meeting** starts at 7:00 PM **Club Meeting 7:30 to 10:00PM** **Guest Speaker:** Our keynote speaker for our May meeting will be **Jon Wallace**. He will give a presentation on Solar Imaging. **Bernie Reim** - What's UP **Astro Shorts:** (news, stories, jokes, reports, questions, photos, observations etc.)	The New School, Kennebunk, Me.
Last Month	We had our club meeting at The New School. Our keynote speaker was club member **Dana Hutchins**. His presentation was titled: "Feeling Warped Space Time." Bernie did his "What's-Up" presentation and certain club members contributed to Astroshorts.	
	Club/Public Star Party: TBD	Talmage Observatory at Starfield West Kennebunk, Me.

Directions to ASNNE event locations

Directions to The New School in Kennebunck [38 York Street (Rt1) Kennebunk, ME]

For directions to The New School you can use this link to the ASNNE NSN page and then click on "get directions" from the meeting location. Enter your starting location to generate a road map with complete directions. It works great. http://nightsky.jpl.nasa.gov/club-view.cfm?Club_ID=137

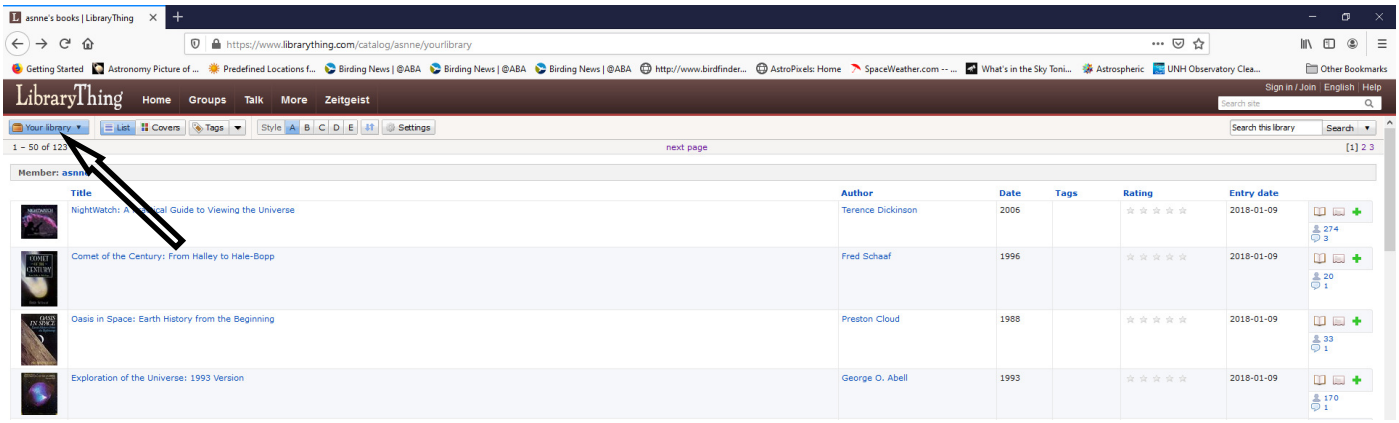
Directions to Talmage Observatory at Starfield [Alewive Road, Kennebunk, ME]

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

From South:
Get off the turnpike at exit 25 in Kennebunk. After toll both turn right on Rt 35. Go up over the turnpike and immediately turn right on Rt 35. About 4 miles along you will crest a hill and see a large field on your right. Continue until you reach the end of the field. Turn right into the Starfield Observatory site at the last telephone pole along the field. Look for the ASNNE sign on the pole. If you come to a very sharp 90 degree right turn you have just passed the field.

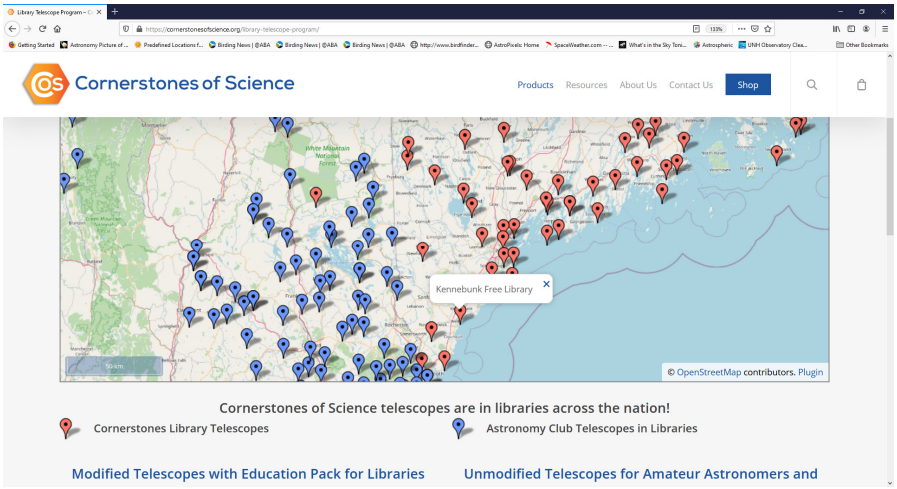
Astronomy Club & Library Resources

Our club has a library of astronomy books which are stored at The New School in Kennebunk, Maine (our monthly club meeting location). To request a book(s), contact one of the club officers. A listing of books is provided here: https://www.librarything.com/profile/asnne . After clicking on the link, a window will open. Click on “Your library” near the upper left corner (as shown by the arrow below). Then scroll down to the end of the page to go to the next page.



Would you like to borrow a telescope? While many astronomy clubs may have a scope to lend out, there are also many libraries which have telescopes for their guests to use. Here are a couple of links.

The following link will bring up an active map (see screen shot below) of the USA showing the libraries which have telescopes to lend out: https://cornerstonesofscience.org/library-telescope-program/



The below link will show a list of known participating library locations for the state of Maine.
https://www.librarytelescope.org/locations/usa/maine

To join **ASNNE**, please fill out the below membership form. *Checks should be made payable to: Astronomical Society of Northern New England (A.S.N.N.E).* For more details, please visit our website: **http://www.asnne.org**

Astronomical Society of Northern New England
P.O. Box 1338
Kennebunk, ME 04043-1338

2022 Membership Registration Form

(Print, fill out and mail to address above)

Name(s for family): _____

Address: _____
City/State: _____ Zip code: _____

Telephone # _____

E-mail: _____

Membership (check one):
Individual $35 _____ Family $ 40 _____ 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_____