

# Skylights

Newsletter of the Astronomical Society of Northern New England



NOV2021



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 November

By Bernie Reim

This is the last full month of autumn and the days will be getting colder even as the nights are getting longer. The terrestrial landscape can get a quite bleak this time of year as our colorful foliage fades, but the celestial skyscape above us will more than compensate for that with many exciting highlights this month.

The main highlight this month will be a near total lunar eclipse on Friday morning the 19<sup>th</sup> at 4 am. We are in another eclipse season now and this one will be followed by a total solar eclipse on December 4, which will only be visible over part of Antarctica.

All five of the brightest planets will be visible at some point this month, with the long-awaited return of Mars happening in the morning sky late this month. There will be a daytime occultation of Mercury by a very thin waning crescent moon on the third starting around 3:30 pm, but you would need a telescope and a good solar filter to see it. Uranus reaches opposition on the fourth, as it becomes visible all night long in Aries the Ram near Taurus. At a magnitude of 5.7, you could technically see this planet without any optical aid, but practically speaking you will need at least a pair of binoculars to see it well. In a small telescope its disk resolves into a beautiful and enigmatic greenish-blue color which is quite a sight to behold at 1.75 billion miles away, or two and a half hours at the speed of light.

All three of the remaining brightest planets continue to grace our evening sky at the same time. The brightest one, Venus sets a little after 8pm, and then Saturn will set just before midnight with Jupiter being the last one to set about two hours after Saturn.

The annual Leonid Meteor shower will peak on the 17<sup>th</sup>, but the moon will be just two days before full to wash out many of the meteors. Then we have a comet passing through Gemini and Cancer this month to be followed by a much brighter one, Comet Leonard, next month. The largest asteroid, Ceres, now upgraded to a dwarf planet even as Pluto was downgraded to the same status 15 years ago, is at opposition on the 26<sup>th</sup> and will cross right through the Hyades star

cluster in Taurus and its brightest star, Aldebaran on the first of this month. You will need binoculars to see this 600 mile-wide dwarf planet that shines at magnitude 7.7.

Our last eclipse season was in June of this year. We had an annular solar eclipse on the 10<sup>th</sup>, but we were only able to see a 73% partial eclipse right at sunrise here in Maine. That was an inspiring event, reminiscent of the early phases of the total solar eclipse I saw over Idaho back on August 21 of 2017, but without all the drama and revelations of a total solar eclipse when the sky goes nearly black and the pearly, iridescent corona of the sun reaches 4 million miles towards Earth. All the visible planets and some stars instantly appeared as we were engulfed in the moon's shadow that swept over us at nearly 2,000 mph as it carved a very narrow path all across this country from coast to coast in just 90 minutes. We will only have to wait until April 8 of 2024 to see a similar event right here over Maine.

Even though this lunar eclipse on Friday the 19<sup>th</sup> will be only 97% total, it will look almost identical with a 100% total lunar eclipse. That would not be the case with a solar eclipse. Even a 99% solar eclipse does not

*"Continued on page 2"*

## Inside This Issue

Club Contact List	pg. 2
Moon Data	pg. 3,4,5
Observer's Challenge	
Meteor Showers in 2021	pg. 6
<b>Membership Dues are Due</b>	
Club Merchandise for Sale	
Measure the Night Sky	pg. 7,8
Astroimaging with a Point & Shoot	pg. 9,10
Club meeting minutes for October	pg. 11,12
Mystery UFO — Captured	pg. 13
Star Party Wells Library	pg. 14
Club Info & Directions to ASNNE	pg. 15
ASNNE Club & Library Resources	pg. 16
Become a Member	pg. 17

**Club Contacts****Officers:****President:**

Ian Durham  
idurham@anselm.edu

**Vice President:**

Bernie Reim  
berniereim@kw.com

**Secretary:**

Carl Gurtman  
carlgurt@msn.com

**Treasurer:**

Ian Durham  
idurham@anselm.edu

**Board of Directors:**

Gary Asperschlager  
gasperschlager@gmail.com

Larry Burkett  
larrybu32@yahoo.com

Keith Brown  
silverado93@twc.com

**Star Party  
Co-ordinator:**

Carl Gurtman  
cgurtman@maine.rr.com

**Skylights Editor:**

Paul Kursewicz  
pkursewicz@myfairpoint.net

**Website Manager:**

Paul Kursewicz  
pkursewicz@myfairpoint.net

**NASA Night Sky  
Network****Co-ordinator:**

Joan Chamberlin  
starladyjoan@yahoo.com

**JPL Solar System  
Ambassador:**

Joan Chamberlin  
starladyjoan@yahoo.com

**E-mail coordinator**

David Bianchi  
dadsnorlax@yahoo.com

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

reveal the ethereal corona and the sky does not go dark. This lunar eclipse will start at 1 am as the moon will enter the penumbral part of the earth's shadow. Nothing will really be noticeable until 2:18 am as the partial phases begin as the moon enters the umbra, or deeper part of our shadow. Mid-eclipse occurs just after 4 am and the partial phases end at 5:47 am, with the entire eclipse not ending until 7 am at sunrise.

Try to get some good photographs of this fairly rare event. If you put several images of the eclipsed moon together, you would clearly see the outline of our shadow on the moon and the fact that the earth is round and 4 times larger than the moon. Every lunar and solar eclipse is always different, even though they share similar characteristics. The moon's color when it is most deeply immersed in our shadow can range from very dark and nearly invisible, through deep shades of red, to light shades of copper and orange. The exact color depends on how much particulate matter is in our atmosphere at the time. I remember a lunar eclipse in the fall of 1991 when the moon almost disappeared because of all the ash in our atmosphere from the recent eruptions of Mt. Pinatubo in the Philippines that summer.

When you see the beautiful shades of red and orange this month, remember that you are really seeing the combined effect of all the sunrises and sunsets on Earth simultaneously projected onto the moon. Our atmosphere acts like a giant refracting lens as it bends the sunlight around it and onto the moon as it passes through the deepest part of shadow. Without that fact, the moon would always go black at this point. Also remember that our shadow is always there, stretching nearly 1 million miles into space, we just don't usually notice it unless the moon passes through it about 240,000 miles away, or a quarter of the way into our permanent shadow. You could even say that the earth is always wearing a cone-shaped wizard's cap as it constantly flies around the sun at 18.6 miles per second, or 67,000 mph.

Actually, there is a way to spot this shadow if you know when and where to look. You can see some of it twice every clear day, just before sunrise in the west and just after sunset in the east. That dark grayish-purplish band tinged with subtle shades of pink on top, also called the belt of Venus, is really the projection of the earth's shadow back to us as it bounces off our atmosphere. It only lasts for 10 minutes or so and it is much more discernible from an airplane. I got some great pictures of it flying back from the Johnson Space Center in Houston in February of 2020. I had the sun setting behind me across the snow-capped Rocky Mountains, the full Wolf February super moon rising in front of me in the east, the checkerboard plains of Kansas unfolding 7 miles below me, and nothing but blue sky and deep space above me. With all of that beauty all around me, I was still flying 35 times lower and slower than the ISS.

Saturn and Jupiter continue to occupy opposite ends of Capricorn and they are both back to their normal eastward or prograde motion now with respect to the fixed background of stars. They are

about 20 degrees, or two fists at arm's length apart now and getting slightly fainter as we pull farther ahead of them in our orbit. Notice that Jupiter is about 15 times brighter than Saturn. By the end of the month, Saturn will already set by 9pm to be followed by Jupiter at 11 pm.

Venus is now only 40% lit by the sun and it is getting less illuminated each day even as it is getting closer to Earth and brighter in our sky. Venus is about 10 times brighter than Jupiter and just over 100 times brighter than Saturn.

Nov.3. On this day in 1957 the Russians launched the second spacecraft ever into Earth orbit and the first to carry a living creature, a dog named Laika.

Nov.4. New moon is at 5:15 p.m. EDT. Uranus is at opposition at 8 pm.

Nov.5. The moon is at perigee or closest to Earth today at 222,975 miles.

Nov.6. On this day in 1572 Tycho Brahe saw a supernova in Cassiopeia. The only other recent supernova visible with the naked eye in our own galaxy was Kepler's supernova on October 8, 1604. Those were both before the invention of the telescope in 1609. We should average about one visible supernova every 100 years, so we are way overdue for another one.

Nov.7. The moon passes near Venus tonight. Daylight saving time ends at 2 a.m.

Nov.8. Edmund Halley was born on this day in 1656. I first saw his comet on this day in 1985.

Nov.9. Carl Sagan was born on this day in 1934. There is another recent remake of his original COSMOS from 1980 now called COSMOS, Possible Worlds.

Nov.10. The waxing crescent moon passes near Saturn tonight.

Nov.11. First quarter moon is at 7:46 a.m. EST. The moon passes near Jupiter tonight.

Nov. 17. The Leonid meteor shower peaks this morning. Normally we could expect about 20 meteors per hour, tiny sand grain-sized pieces of Comet Temple-Tuttle, but the nearly full moon will spoil the show. You can still look for some early fireballs as soon as it gets dark enough.

Nov. 19. Full moon is at 3:57 a.m. EST. A near total lunar eclipse occurs this morning. This is also called the Beaver or Frosty Moon.

Nov. 20. The moon is at apogee or farthest from Earth today at 252,450 miles. Edwin Hubble was born on this day in 1889. His namesake Space telescope is still working over 31 years after its launch on April 24 of 1990.

Nov. 26. Dwarf planet Ceres is at opposition today.

Nov.27. Last quarter moon is at 7:28 a.m. EST.

Nov.28. Mercury is in superior conjunction with the sun today at midnight.

Moon Phases

**Nov 4**  
New

**Nov 11**  
First Quarter

**Nov 19**  
Full

**Nov 27**  
Last Quarter

Moon Data

**Nov 5**  
Moon at perigee

**Nov 7**  
Venus 1.1° south  
of Moon

**Nov 10**  
Saturn 4° north  
of Moon

**Nov 11**  
Jupiter 4° north  
of Moon

**Nov 13**  
Neptune 4° north  
of Moon

**Nov 17**  
Uranus 1.5° north  
of Moon

**Nov 20**  
Moon at apogee

**OBSERVER'S CHALLENGE\* – November, 2021**

by Glenn Chapple

**NGC 7662 – Planetary Nebula in Andromeda (Magnitude 8.3, Size 37")**

Last month's Observer's Challenge focused on NGC 6857, an emission nebula that astronomers once mistook for a planetary nebula. Our November Observer's Challenge, NGC 7662 in Andromeda, is a **bona fide** planetary nebula. It was discovered by William Herschel on October 6, 1784, one month after he found NGC 6857. At a magnitude of 8.3, NGC 7662 is a full 3 magnitudes brighter than NGC 6857. It's one of the brightest of all deep sky objects in its class, easily seen in a small scope. So what is its challenge?

If you're a novice backyard astronomer, even the brightest and easiest planetary nebula can test your developing observing skills. These objects are small and will appear stellar at low magnifications. Begin your NGC 7662 quest at "Frederick's Glory," a Y-shaped asterism in the northwest part of Andromeda (refer to Finder Chart A). Using a low-power eyepiece and Finder Chart B, start at iota (ι) Andromeda, the 4.3-magnitude star on the chart. From there, move 2 degrees westward until the 6<sup>th</sup> magnitude star 13 Andromedae (the unlabeled star one-half degree northeast of NGC 7662) enters the field. Switch to a medium-power eyepiece (60X works fine) and sweep the area around 13 Andromeda until NGC 7662 comes into view as a small out-of-focus star. Center it in the field of view and switch to the highest magnification your telescope aperture and seeing conditions allow. Owners of GoTo scopes can "cheat" by punching in the celestial coordinates Right ascension 23h 25m 54s, Declination 42° 32' 6" and slewing straight to the target.

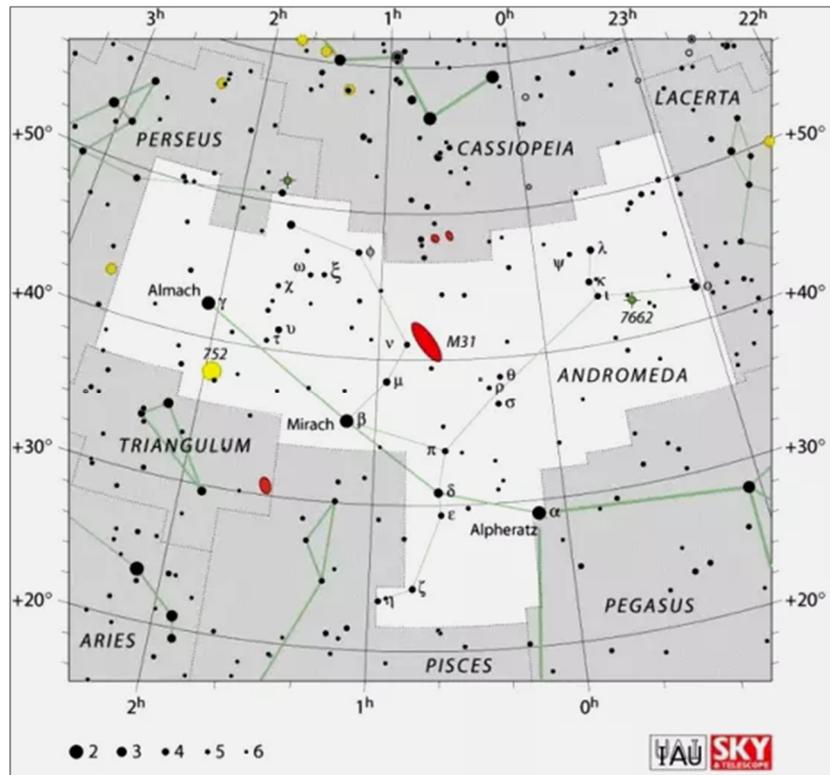
Here's a fact about NGC 7662 that I haven't mentioned. It's noted for its blue color, hence the popular nick-name, the "Blue Snowball." I was unable to detect any color at all when viewing NGC 7662 with a 60mm (2.4-inch) refractor, but the color was vivid when I viewed it with an 18-inch Dob. What is the smallest aperture that will bring the "Blue Snowball" to light? For that matter, what is the smallest aperture that reveals its 13<sup>th</sup> magnitude central star?

Challenge yourself by looking for NGC 7662 with binoculars. Using Finder Chart B as a guide, you should come across an 8<sup>th</sup> magnitude "star" in the position indicated on the chart. Reasonably dark skies will be a must if you're working with standard 7X30s or (better yet) 7X50s.

As is the case with many planetary nebulae, the distance to NGC 7662 is uncertain at best. Calculations fall between 1800 and 5600 light light years. I'll settle on a figure of 2500 light years, given by NASA and the Universe Guide website (universeguide.com). The latter source includes an interesting table that shows the time needed to arrive at NGC 7662 by various means of travel. Light speed gets you there in 2500 years. The New Horizons Probe, which took 15 years to reach Pluto would require 51 million years. A Mach 2 jet airliner would reach its destination in a little over 1 billion years, while a speeding (120 mph) car would require nearly 14 billion years, not counting a lot of stops for gas! Want to take a stroll to the Blue Snowball? If you leg it out at a 15-minute-per-mile pace, plan on around 420 billion years! I don't know about you, but I'm sticking to my backyard and a telescope.

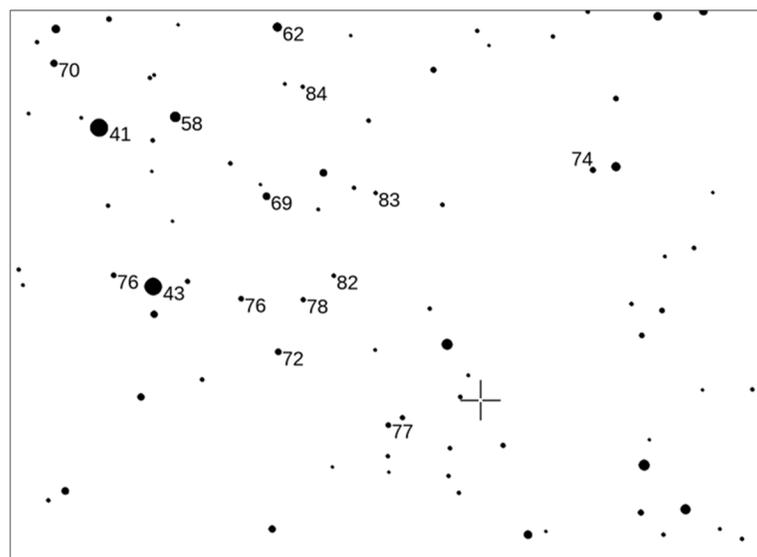
*"Continued on page 4"*

### NGC 7662 Finder Chart A



### NGC 7662 Finder Chart B

Chart made using the AAVSO's Variable Star Plotter. Numbers refer to a star's magnitude, decimals omitted. Magnitude 4.1 and 4.3 stars are kappa (κ) and iota (ι) Andromedae, respectively. North is up in this 4 by 5 degree field. Stars shown to 10<sup>th</sup> magnitude.



*“Continued on page 5”*

## NGC 7662 Image

Image taken by Mario Motta, MD, with NB filters through 32 inch scope using SBIG STL 1001E camera, cropped and enlarged x2. 1 hour each of H alpha, S3, and O2 filters.



**EDITOR:** It just so happens that my Astro-photo on page 9 is of the “Blue Snowball.” While Mario’s picture of it was taken with his 32-inch scope and a total of 3 hours of exposure time (and enlarged 2 times), mine was simply taken with a point-and-shoot camera (minus a telescope) with no enlargement and a total exposure time of 2 minutes. For me, the Blue Snowball was difficult find and it took several nights out to find it.

*\*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](http://rogerivester.com/category/observers-challenge-reports-complete).*

## Principal Meteor Showers in 2021

**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

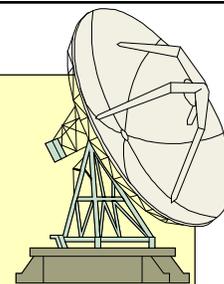
**December 14**  
Geminids

**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.*

## 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.

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.

**Our Club has Merchandise for Sale at: [www.cafepress.com/asnne](http://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](mailto: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](https://nightsky.jpl.nasa.org) to find local clubs, events, and more!

## Measure the Night Sky

By David Prosper

Fall and winter months bring longer nights, and with these earlier evenings, even the youngest astronomers can get stargazing. One of the handiest things you can teach a new astronomer is how to measure the sky – and if you haven't yet learned yourself, it's easier than you think!

Astronomers measure the sky using degrees, minutes, and seconds as units. These may sound more like terms for measuring time - and that's a good catch! – but today we are focused on measuring **angular distance**. **Degrees** are largest, and are each made up of 60 **minutes**, and each minute is made up of 60 **seconds**. To start, go outside and imagine yourself in the center of a massive sphere, with yourself at the center, extending out to the stars: appropriately enough, this is called the **celestial sphere**. A circle contains 360 degrees, so if you have a good view of the horizon all around you, you can slowly spin around exactly once to see what 360 degrees looks like, since you are in effect drawing a circle from inside out, with yourself at the center! Now break up that circle into quarters, starting from due North; each quarter measures 90 degrees, equal to the distance between each cardinal direction! It measures 90 degrees between due North and due East, and a full 180 degrees along the horizon between due North and due South. Now, switch from a horizontal circle to a vertical one, extending above and below your head. Look straight above your head: this point is called the *zenith*, the highest point in the sky. Now look down toward the horizon; it measures 90 degrees from the zenith to the horizon. You now have some basic measurements for your sky.

Use a combination of your fingers held at arm's length, along with notable objects in the night sky, to make smaller measurements. A full Moon measures about half a degree in width - or 1/2 of your pinky finger, since each pinky measures 1 degree. The three stars of Orion's Belt create a line about 3 degrees long. The famed "Big Dipper" asterism is a great reference for Northern Hemisphere observers, since it's circumpolar and visible all night for many. The Dipper's "Pointer Stars," Dubhe and Merak, have 5.5 degrees between them - roughly three middle fingers wide. The entire asterism stretches 25 degrees from Dubhe to Alkaid - roughly the space between your outstretched thumb and pinky. On the other end of the scale, can you split Mizar and Alcor? They are separated by 12 *arc minutes* - about 1/5 the width of your pinky.

Keep practicing to build advanced star-hopping skills. How far away is Polaris from the pointer stars of the Big Dipper? Between Spica and Arcturus? Missions like Gaia and Hipparcos measure tiny differences in the angular distance between stars, at an extremely fine level. Precise measurement of the heavens is known as **astrometry**. Discover more about how we measure the universe, and the missions that do so, at [nasa.gov](https://nasa.gov).

*“Continued on page 8”*

# Handy Sky Measurements

Hold your hand out in front of your face as far as you comfortably can, and measure:

1°

5°

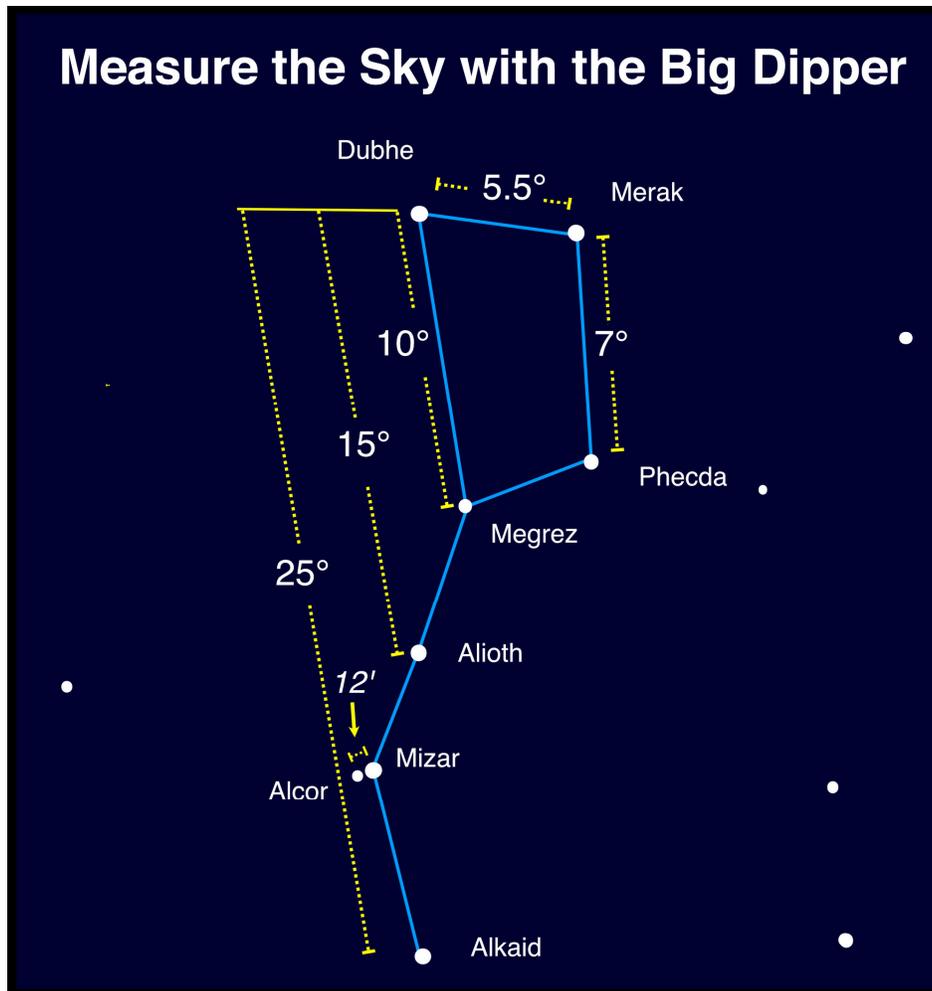
10°

15°

25°



# Measure the Sky with the Big Dipper



*Image created with assistance from Stellarium*

## Point and Shoot Camera Astroimaging (no telescope)

Canon Powershot SX50 HS

*Image & write-up submitted by Paul Kursewicz*

Blue Snowball Nebula

Specs: JPEG mode, FL 2400mm, f/4, ISO 1600, 2 x 1 min, 10-6-21

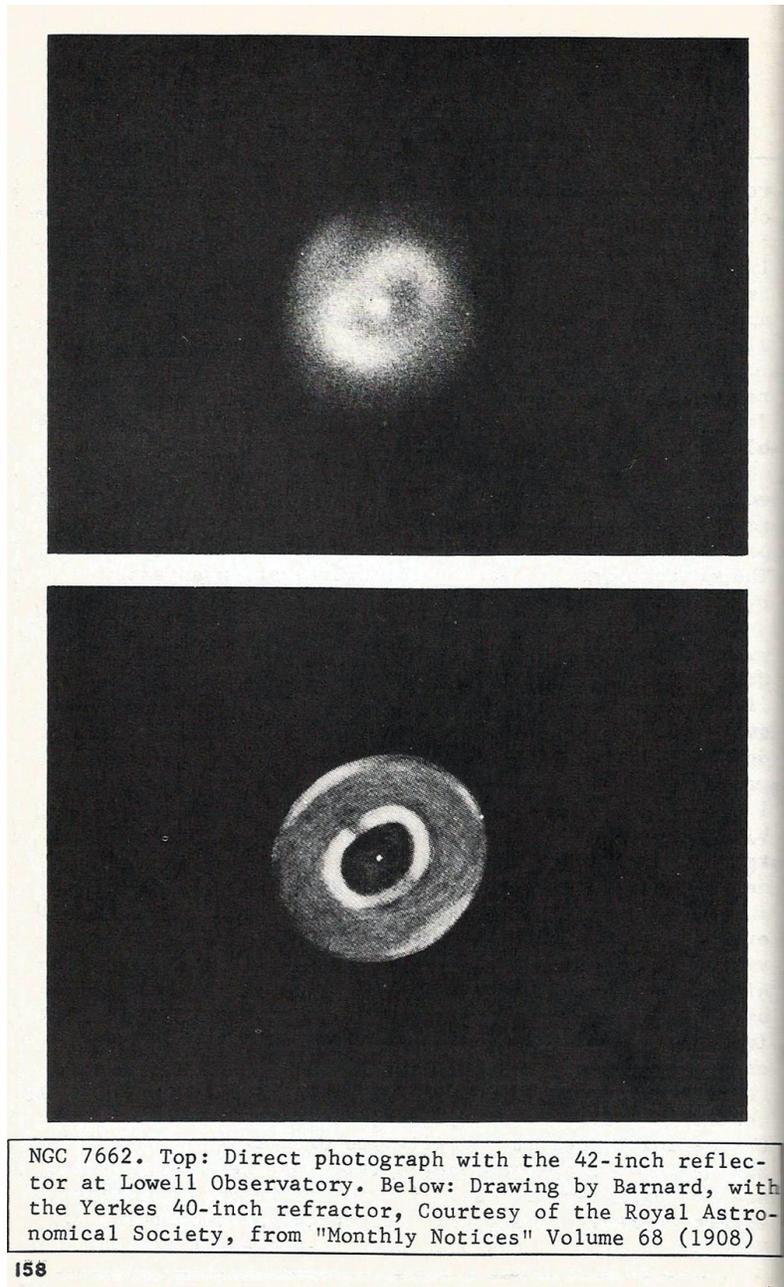


The **Blue Snowball** (NGC 7662) is a planetary nebula that is located in the constellation Andromeda. In my picture it is seen just to the right and up of center. A small telescope will reveal a star-like object with slight nebulosity. A 6" telescope with a magnification around 100x will reveal a slightly bluish disk, while telescopes with a primary mirror of at least 12 inch diameter will reveal slight color and brightness variations in the interior. The inset in the upper left of my picture is a cropped image. This is how it looked through my 12.5-inch Dob at 140x and how it looked through our club's 16-inch Meade. At high magnification it takes on a greenish/white hue. For me the Snowball was difficult to find even though it is a fairly bright planetary (an apparent magnitude of +8.6). It is tiny, only 32 arcseconds so when using lower magnifications it looks like an out of focus star. After my 4th attempt of trying to find this object I am now familiar with its location and with its surrounding star patterns. The Snowball is estimated to be between 2,000 and 4,000 ly away.

*“Continued on page 10 ”*

## From the pages of “Burnham’s Celestial Handbook” copyright 1978

A photo of the Blue Snowball is seen in the top image. It was taken with the 42-inch reflector at Lowell Observatory. In the bottom image E. Barnard made a sketch of the Blue Snowball as he saw it looking through the Yerkes 40-inch refractor. Notice in the caption below, the images first appeared in the “Monthly Notices” of the Royal Astronomical Society in 1908. Back then the bluish-green glow of planetaries was attributed to a hypothetical new element called “nebulium.” Today we know that the color is chiefly due to doubly ionized oxygen at 5007 and 4959 angstroms.



[Astronomical Society of Northern New England \(ASNNE\) Meeting Minutes of  
1 October 2021](#)

**Business Meeting**

**Directors Present:**

Ian Durham, President *Pro Tem* and Treasurer

Bernie Reim, Vice President

Carl Gurtman, Secretary

**Others Present:**

Bob Conley

Paul Kursewicz

Bern Valliere

President *Pro Tem* Ian Durham called the Business Meeting to order at 7:15 pm.

**Secretary's Report:** Notes from Starfest had been distributed electronically. No corrections, additions, or comments, were received. The Secretary wondered why, as of late, he has been receiving no responses when he distributes Notes & Minutes.

**Treasurer's Report:** The Treasurer reported that he expects a bill for cleaning out the port-a-potty, which he will pay.

**Old Business & New Business:** There was no Old or New Business.

**"Astronomy 101":** As a matter of record, there have been no "Astronomy 101" presentations in quite a while, and unless some positive action is taken, this will remain a dead letter.

**Regular Meeting**

President *Pro Tem* Ian Durham Ron Burk called the Regular Meeting to order at 7:30 pm. There were 14 people present. The turnout has not yet recovered its pre-COVID numbers.

There were two new people at the Meeting. Ian had the new people introduce themselves. There was Dan Sovetsky of Biddeford, and his daughter Annika. The Members present then introduced themselves. Dan teaches music at the York High School; has been interested in astronomy for twenty years, and owns a Dobsonian telescope.

Ian put this Meeting on Zoom, and sent out instructions on how to access Zoom for the Meeting.

*“Continued on page 12”*

**"What's Up?":** Bernie preceded his "What's Up?", by showing several examples of artwork his students had done of the planets. Several were quite impressive!

Bernie then gave his usual thorough, comprehensive, and complete discussion of what's in store for us in the skies of October. Jupiter, Saturn, and Venus are visible in the evening sky, Mercury in the morning. Only Mars, in opposition, is missing.

The Winter stars are starting to appear later in the evening. The full moon, the Hunter's Moon, occurs on 20 October, and the Orionid Meteor Shower peaks on 21 October; unfortunately, all but the brightest meteors will be washed out by moonlight.

Bernie then covered "What Happened on this Day. . ."

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

**Presentation:** There was no formal presentation by a guest speaker.

**Astrophotography:** Paul K. presented a series of astrophotographs he had taken of stars near Arcturus, which dominated the photographs. There were a series of five photographs, taken at (approximately) ten minute intervals. Of unusual interest was one stellar-appearing object, which, from photograph-to-photograph, exhibited erratic movements. These movements could not have been produced by any astronomical object, nor cosmic rays impinging on the camera's pixels, and appeared completely inexplicable. Members guessed they might have been UFO's or whatever.

Ian closely examined all the photographs, and noted that the object appeared immobile in the camera's frame; something not clear due to the rotation of the sky in the other photographs. So, the object was most probably some artifact of the camera.

#### **AstroShorts:**

Carl discussed LaGrange Points, which he had difficulty understanding. Ian explained that it wasn't only the balance of the gravity of the three bodies, but the 'centrifugal' forces involved as well. This is of importance as the James Webb Space Telescope will orbit the L2 Lagrange Point.

Carl reported on a very interesting article on the Antikythera Mechanism in the current issue of Archeology Magazine.

Paul reported on the very successful Star party held for the Wells Library, at the Talmage Observatory at Starfield, held on 29 September. About twenty guests attended. The host for ASNNE were Paul, Bob C., and David.

Also, the three of them cleaned up the Observatory before the guests arrived. Thank you, Paul, David, and Bob!

The next ASNNE Meeting will be at **7:30** pm, Friday, 5 November, 2021, at the New School in Kennebunk, Maine. The Regular Meeting will be preceded by a Business Meeting.

Respectfully submitted,

Carl Gurtman



On 6/6/21 I went to the Observatory and piggy-backed my camera onto the 16-inch Meade via an existing ball head mount. My target that night was the "Dark Snake Nebula" in Ophiuchus. It was still too early to take its picture so I decided to take some practice pictures of Arcturus (the big very bright star in the center of my image) using a recently purchased "Moon Skyglow Filter." I took five pictures varying ISO speed and exposure times (see below):

1. Time 9:28 pm; FL 1200mm; ISO 1600; 1 minute exposure (no filter).
2. Time 9:35 pm; FL 1200mm; ISO 1600; 1 minute exposure (filter).
3. Time 9:43 pm; FL 1200mm; ISO 800; 1min 30sec exposure (filter).
4. Time 9:52 pm; FL 1200mm; ISO 400; 2 minute exposure (filter).
5. Time 10:02 pm; FL 1200mm; ISO 400; 3 minute exposure (filter).

When I got home I looked at those pictures and noticed that I had captured a mystery object in each of the photos. And as I scrolled quickly from one picture to the next, the motion of the object was very odd. Nothing that I have ever seen before. I showed my pictures at the October club meeting and we deduced that the UFO could not be a satellite or comet/asteroid because its motion was too erratic. As I continued to scroll through my pictures Ian pointed out that the stars were moving from frame to frame and that the mystery object in question seemed to be stationary. Ian suggested that the object was probably some kind of artifact on my lens (or something internal).

So when I got home from the meeting I checked the lens. No artifacts on it. Was it something internal? No, because I went out and took more pictures and that mystery object did not appear. So why were the stars moving around from frame to frame? One thought I came up with was periodic error in the gears of the Meade's mount. Another thought might be that the ball mount that was holding the camera was probably loose and when I pressed down of the shutter button (with a 10 second timer set) it shifted the frame. To test this theory I opened up Photoshop and stacked the five photos. All of the stars exactly lined up on top of each other. But this was not the case for the UFO object! Nothing lined up. This meant that the mystery object was moving through the sky but in a very erratic way.

My picture above is the stack of five. All of the stars line up, but the UFO object does not. The five tiny blueish/green objects just below Arcturus is the mystery object. The inset in the top left hand corner of my picture is an enlargement. You can follow the movement of this object by starting with number 1 and then going to number 2, then 3, 4 and 5. The UFO actually back tracks on itself. The elapsed time from picture 1 to picture 5 is 34 minutes. My guess as to what this UFO might be? Not anything extraterrestrial, I believe I captured a high altitude balloon. I also captured a small asterism called "Napoleon's Hat." It's located in the lower right hand corner of my picture and consists of 7 stars.

## Star Party for the Wells Library Group on September 29th



Before the group arrived the Observatory got cleaned up. Dave and Bob were there before me and did much of the clean-up work.



Dave, Bob and myself did the star party.



It was all clouds for most of the night. Dave did Bernie's What's Up and a presentation on the Full Moon. As it got darker I showed the group some of my Astro-photos. Later Jupiter & Saturn poke out from the clouds and we were able to point both telescopes at them.

## Club Meeting & Star Party Dates

Date	Subject	Location
<u>Nov 5</u>	<p><b><u>ASNNE Club Meeting:</u></b></p> <p>Business Meeting starts prior to Club meeting.</p> <p><b>7:30-9:30PM: Club Meeting</b></p> <p>Guest Speaker / Discussion Topic - open</p> <p><b>Bernie Reim - What's UP</b></p> <p><b>Astro Shorts:</b> (news, stories, jokes, reports, questions, photos, observations etc.)</p> <p><b>NOTE:</b> If skies are clear members might go to Talmage Observatory for an observing session.</p> <p>Last Month Last month we had our club meeting at the New School. There was no guest speaker. Bernie did his "What's Up." Members contributed to Astro-shorts. I showed some Astro-photos taken with my camera, and in particular, a mystery UFO object that I had captured.</p>	The New School, Kennebunk, Me.
<u>Nov 5</u>	<b>Club/Public Star Party:</b> If the weather is clear.	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](http://nightsky.jpl.nasa.gov/club-view.cfm?Club_ID=137)

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

**From North:**

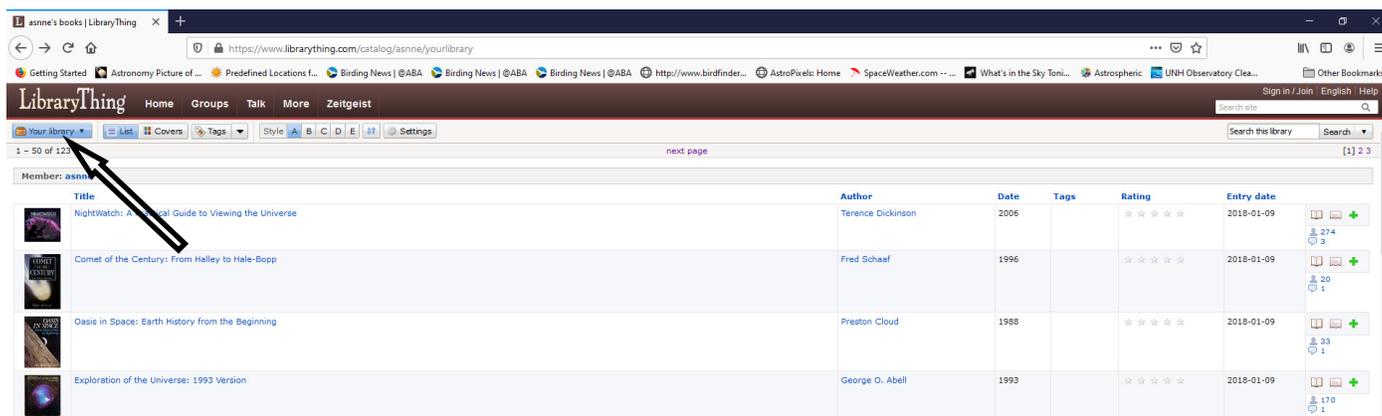
Get off turnpike at exit 32, (Biddeford) turn right on Rt 111. Go 5 miles and turn left on Rt 35. Go 2 miles on Rt 35 over Kennebunk River to very sharp 90 degree left turn. The entrance to the Starfield Observatory site is at the telephone pole at the beginning of the large field on the left. Look for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

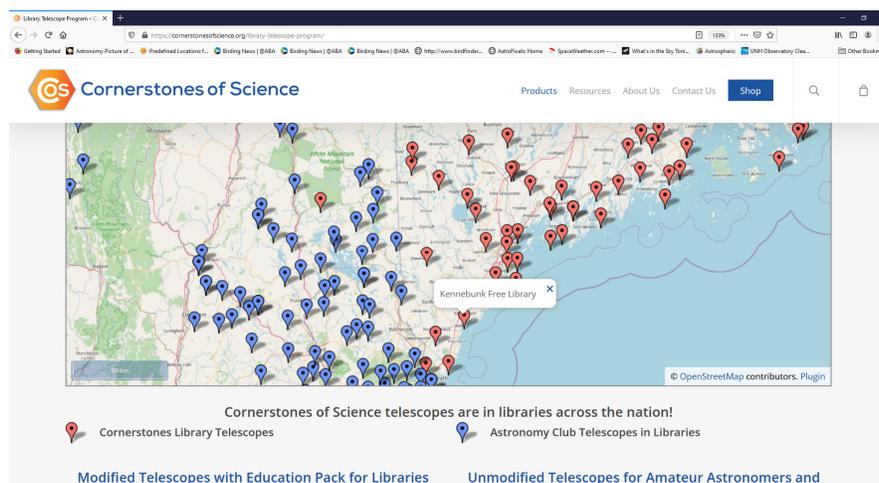


The screenshot shows the LibraryThing website interface. The user is logged in as 'asmne'. The page displays a list of books in the user's library. The first book is 'NightWatch: A Practical Guide to Viewing the Universe' by Terence Dickinson, published in 2006. Other books include 'Comet of the Century: From Halley to Hale-Bopp' by Fred Schaaf (1996), 'Oasis in Space: Earth History from the Beginning' by Preston Cloud (1988), and 'Exploration of the Universe: 1993 Version' by George O. Abell (1993). The 'Your library' link in the top navigation bar is highlighted with a black arrow.

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/>



The screenshot shows the Cornerstones of Science website. The main feature is a map of the United States with numerous pins indicating library locations. A pop-up window for 'Kennebunk Free Library' is visible. Below the map, there is a legend and text explaining the 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

**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 \_\_\_\_\_

