



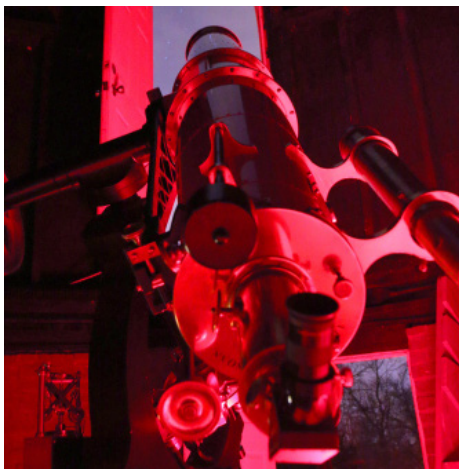
# the Skyscraper

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January 2024

AMATEUR ASTRONOMICAL SOCIETY OF RHODE ISLAND \* 47 PEEPTOAD ROAD \* NORTH SCITUATE, RHODE ISLAND 02857 \* WWW.THESKYSCRAPERS.ORG

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**Seagrave Memorial  
Observatory  
Open Nights**  
January 13, 20, 27 & 30  
@ 7pm

## January Meeting: October 2023 Solar Eclipse from New Mexico

Saturday, January 6 @ 6:00pm EST  
at North Scituate Community House,  
546 W Greenville Rd (Rt. 116)

In-person and on Zoom (Contact Linda Bergemann ([lbergemann@aol.com](mailto:lbergemann@aol.com))  
for the Zoom link.

### Topic: October 14, 2023 Solar Eclipse from New Mexico

Speaker: Jim Hendrickson, Francine Jackson, Rick Lynch, Denise Turco & Mercedes Rivero-Hudec  
Five members of Skyscrapers traveled to New Mexico for the first of two solar eclipses occurring within a year: a beautiful annular eclipse. Led by Rick Lynch, Denise Turco, Jim Hendrickson, Francine Jackson and Mercedes Rivero-Hudec set up, with hundreds of others, including former Skyscrapers Jack Szelka and his wife Ileen from Arizona, at the Petroglyph National Monument in Albuquerque for the event. The balcony of the Monument had a perfect sightline, and telescopes and cameras were easily set up.

For those who didn't have any, NASA members handed out eclipse glasses, and streamed the event. The National Park Service had two kiosks, one of which had a volunteer man a Sunspotter, and another giving out information for visitors looking for other places to visit. Plus, Carle Pieters,

formerly at Brown, brought out samples of both Moon and Mars rocks for all to touch.

The sky couldn't have been better: a perfect sky, with no clouds in the area. The only objects that shared the sky with the Sun and the Moon were hot air balloons, as the annual festival was happening at the same time. Fortunately, none of them eclipsed the Sun as the real event was taking place.

And, it did! Rick had chosen Albuquerque as it had the longest time for annularity: 4 minutes, 40 seconds. No clouds snuck in during the time; it was a perfect eclipse.

The Skyscrapers who made the trip will be showing the results of their travels. In addition to the eclipse, they visited John Briggs and his "telescope museum" and the VLA.

There is another eclipse coming up, in April, the last total solar eclipse in the continental U.S. for over 20 years. Hopefully, by watching the beauty of the annular solar eclipse, it might just be the impetus to think about traveling for the next event.

— Francine Jackson



# President's Message

by Linda Bergemann

Happy New Year!

As we flip the page of the calendar to 2024, my thoughts turn to major events in the life of Skyscrapers in the coming year. The first being the end of the fiscal year on March 31st. That brings with it an election and budgets. The second event is Astro-Assembly, our annual day-long astronomy "conference" and fundraiser in the fall.

Both of these events need members to step forward to assist with making this organization run smoothly and effectively. Within the month, I will be appointing a nominating committee to find candidates willing to contribute a few hours each month. All positions are open: President, Vice President, Secretary, Treasurer, Junior Trustee, and two members at large. We will be looking for members with appropriate skills and experience, but also with new ideas. Please contact me if you think you may be interested in running for any position. Skyscrapers needs you!

I also envision a standing committee for AstroAssembly. This committee and its

sub-committees would ensure that all of the details of this event are addressed and executed in a timely manner. We need more than just a few key people able to run the various aspects. It would be wonderful if we could have several people involved in each of the major areas such as speakers, registration, promotion, food, raffle, etc. Again, I will be soliciting members soon to get started.; contact me if you are interested.

Lastly, I want to thank all of the members who contributed to make 2023 our best year yet. I will not attempt to list names. I am especially grateful to the Trustees and their many helpers for maintaining the grounds and buildings of Seagrave Memorial Observatory, and the variety of astronomical equipment available for our use. My gratitude also goes to numerous individuals who brought astronomy to the public at our observatory open nights, at off-site star parties, and through special events at libraries across the state. Let's hope for more clear nights in 2024.

Warmest wishes, Linda

**New Member**  
Welcome to Skyscrapers

Kevin Carlson  
of North Smithfield



## Skyscrapers Presentations on YouTube

Many of our recent monthly presentations on Zoom have been recorded and published, with permission, on the Skyscrapers YouTube channel. Go to the URL below to view recent presentations.

<https://www.youtube.com/c/SeagraveObservatorySkyscrapersInc>



*The Skyscraper* is published monthly by Skyscrapers, Inc. Meetings are held monthly, usually on the first or second Friday or Saturday of the month. Seagrave Memorial Observatory is open every Saturday night, weather permitting.

### Directions

Directions to Seagrave Memorial Observatory are located on the back page of this newsletter.

### Submissions

Submissions to *The Skyscraper* are always welcome. Please submit items for the newsletter no later than **January 15** to Jim Hendrickson at [hendrickson.jim@gmail.com](mailto:hendrickson.jim@gmail.com).

### E-mail subscriptions

To receive *The Skyscraper* by e-mail, send e-mail with your name and address to [jim@distantgalaxy.com](mailto:jim@distantgalaxy.com). Note that you will no longer receive the newsletter by postal mail.

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## Planning a Weekend Trip to the Museum of Science

Many of you who were at AstroAssembly may recall the talk by Darryl Davis and Caity Sullivan on the history of the Boston Hayden Planetarium. At the end, Darryl invited members to come to the Museum of Science. He's suggested going there on a weekend, either a Saturday or Sunday, and would really like a group of Skyscrapers to see the planetarium. Perhaps several who would like to go could find a weekend that might be a good date. Please talk to Francine if you'd like to travel north to Boston for a day at the Museum of Science.

## Francine Jackson Wins Writing Award

Congratulations go to Francine Jackson for for winning an Honorable Mention in the 2023 Joan and Arnold Seidel Griffith Observer Science Writing Contest. Her article "Looking Up...Just a Little Bit" was published in the January 2024 issue of *Griffith Observer*, her 24th article to be chosen for publication in the magazine. Additionally, some of Jim Hendrickson's photos accompany the article.



## Book Review

# Total Solar Eclipse: A Stellar Friendship Story

by Jayme Sandberg, Illustrated by Kathleen Gadeken. Lincoln, NE: It's All

Stories, LLC, 2023, ISBN [979-8988284116](https://www.isbn.org/9781603428416), paperback, \$11.99, US

Reviewed by Francine Jackson

Have you ever wondered how the Sun feels when his best friend, Moon, decides to pass right in front of him? Sun is very proud of the job he has, taking care of us Earthlings, but will they think less of him?

He also worries that suddenly Earthlings are looking directly at him; he knows that's not right, but, wait! They seem to be wearing strange glasses.

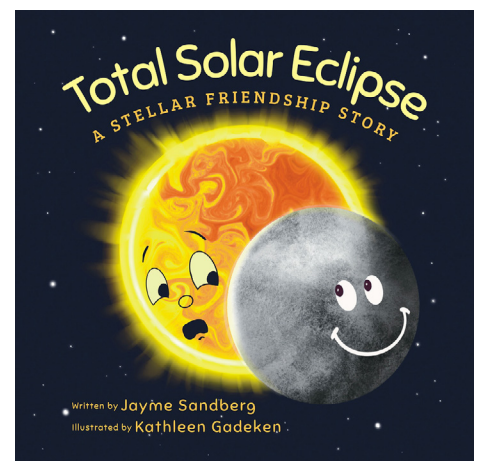
But, then, they take them off, and "love" seeing the Sun in the dark, showing his solar corona. He's so surprised, he wants to see for himself how he looks, so he tries a diamond ring! But, then, everyone's glasses come back on.

Sun is so happy how everyone liked him – plus no one was hurt – that he sends a

note to Moon on how special they both are.

When it comes to introducing solar eclipses to young children, this little book is really special. A total solar eclipse, as told by the Sun, is a great way to show both how important our Sun is, and how it realizes how important it is not to observe it without special eye protection. The Sun is worried we will think less of him by being blocked by the Moon, but he learns the reverse is true, that we are grateful for him, despite leaving us for a short time.

As an introduction to the beauty of a total solar eclipse, this book will inspire children to want to see one, especially as this will be the last one in the U.S. until they reach adulthood. Families should read this



as soon as possible, as our country's last total eclipse for over 20 years is fast approaching. Don't let this opportunity be lost.

# Skylights: January 2024

by Jim Hendrickson

The new year begins with Earth passing perihelion, the closest point in its orbit around the **Sun**, at 7:39pm on the 2nd, at a distance of 0.98331 au (147.101 million kilometers, 91.404 million miles, 8.178 light minutes). This is 96.713% of the aphelion distance, which occurs on July 5. The angular diameter of the Sun's photosphere, measured on January 2, will be about 1952 arcseconds, which is 64 arcseconds larger than it appears at aphelion, a difference that is slightly larger than the apparent diameter of Venus at inferior conjunction.

Latest sunrise occurs at 7:14 am EST on the 4th.

After spending the past 23 days in Sagittarius, the Sun enters Capricornus at about 9:00am EST on the 20th.

January begins with the **Moon** in its waning gibbous phase, on its way to last quarter, which occurs at 10:30pm on the 3rd, in Virgo. It rises the following night as a wide crescent just 3.7° east of Spica, the brightest star in that constellation.

On the 8th, just before sunrise, the 26.7-day crescent Moon will be just 1.5° east of Antares, in Scorpius, and the globular cluster M4 will be just 0.4° below the southern cusp of the slender Moon. The three objects will present a fine view in binoculars or a wide-field telescope, with the Earthshine illuminating the dark globe of the Moon.

New Moon occurs at 6:57am on the 11th, beginning Lunation number 1250. During its waxing crescent phase, it passes 6.5° east of Saturn on the 14th, then appears just 1.0° southeast of Neptune the following night.

First quarter Moon is at 10:53pm on the 17th, in Pisces. The Moon then passes 2.8° north-northeast of Jupiter on the 18th, and 4.2° northeast of the Pleiades on the 20th.

Early on the 22nd, the waxing gibbous Moon is 1.3° south of Elnath, in Taurus, and two evenings later, it is 3.2° southeast of Pollux.

The Full Wolf Moon occurs at midday on the 25th, in Cancer. The Moon rises at 4:41pm EST, about ten minutes before sunset, making for a photogenic moonrise. Just after twilight fades, look for the open cluster M44 2.7° southwest of the Moon.

On the waning side, the Moon passes 5.2° northwest of Regulus on the morning of the 27th, and on the 29th, the 18.1-day gibbous Moon occults the 4th magnitude star Sigma Leonis. Lunar occultations of

moderately bright stars are some of the most dramatic events that can be observed with simple equipment, such as binoculars or any sized telescope. Ingress behind the bright limb of the Moon occurs at 4:31am EST, and egress from the dark limb occurs at 5:43am.

**Mercury** undergoes a favorable morning apparition during January, reaching a maximum elongation of 23.5° west of the Sun on the 12th, in Sagittarius. Throughout the second week of January, Mercury rises over 90 minutes before the Sun, with earliest Mercuryrise occurring at 5:30am on the 8th.

On the 27th, Mercury is just 0.3° north-northwest of Mars, with the pair rising about an hour before sunrise. With the two smallest planets appearing this close in our sky, it is interesting to note that Mercury, at a distance of 1.242 au, is 1.1 au closer than Mars.

**Venus**, which has been present in our morning sky for the past five months, is now moving lower and closer to the Sun in January as its orbit takes it around the back side of the Sun from our view. Its gibbous globe diminishes from 14.1 arcseconds in early January to 12.3 arcseconds by the end of the month.

Venus appears relatively close to Antares during the beginning of January. On the 8th, look for both Antares and the waning crescent Moon 6.5° to Venus' southwest.

Venus is just 0.2° south-southeast of dwarf planet Ceres on the 16th.

**Mars** is in Sagittarius, and rises less than an hour before the Sun. Its position low in the southeast during twilight makes it difficult to observe, but on the 27th, Mercury will be just 0.3° north-northwest of Mars, providing an opportunity to open your 2024 observations of the Red Planet.

You may notice **Jupiter** positioned high in the sky at the meridian (due south) just as twilight ends. The giant planet reaches quadrature (90° east of the Sun on the heliocentric grid) on the 24th.

Due to its high elevation in the evening sky, Jupiter has been providing some exceptional telescopic views during nights of steady seeing. Be sure to take advantage of this before the planet gets lower in the southwestern sky over the next few weeks.

On the 18th, the 6-day gibbous Moon visits Jupiter 2.8° to its north-northeast.

## Events in January

1	22:51	Mercury Stationary
1	05:00	Pallas (9.6) 1.0° S of M5
2	19:39	Earth Perihelion (0.98330694871998)
3	22:30	<b>Last Quarter Moon</b>
4	04:00	Quadrantid Meteor Shower
4	07:14	Latest Sunrise
5	02:00	Moon 3.7° E of Spica
7	06:00	Venus 6.3° N of Antares
8	05:30	Earliest Mercuryrise
8	06:00	Moon 1.5° W of Antares
11	06:57	<b>New Moon (Lunation 1250)</b>
12	09:00	Mercury Greatest Elongation (23.5°W)
14	18:00	Moon 6.5° E of Saturn
15	18:00	Moon 1.0° SE of Neptune
16	06:00	Venus 0.2° SSE of Ceres
17	22:53	<b>First Quarter Moon</b>
18	18:00	Moon 2.8° NNE of Jupiter
20	09:00	Sun in Capricornus
20	18:00	Moon 4.2° E of M45
22	05:00	Moon 1.3° S of Alnath
24	02:18	Jupiter Quadrature (90°E)
24	18:00	Moon 3.2° SE of Pollux
25	12:54	<b>Full Wolf Moon</b>
25	18:00	Moon 2.7° NE of M44
27	05:00	Moon 5.2° NW of Regulus
27	06:15	Mercury 0.3° NNW of Mars
27	05:50	Uranus Stationary
29	04:31	Moon occults Sigma Leonis (4.0, in 04:31, out 05:43)
30	05:00	Venus 1.4° N of M22

Ephemeris times are EST (UTC-5) for Seagrave Observatory (41.845N, 71.590W)

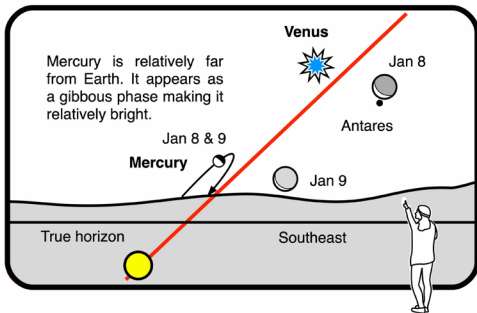
Some notable arrangements of Jupiter's four **Galilean satellites** include a parallelogram of opposed moon pairs at 6:00pm on the 2nd. Then on the 6th, at an instant between 5:48 and 5:49pm, Jupiter briefly appears to have only one moon, as Io ducks behind the planet, and both Europa and Ganymede are transiting Jupiter, leaving only Callisto to Jupiter's west. Ganymede emerges from transit just as Io is occulted.

On the 12th, at about 9:24pm, the three outermost moons form an equilateral triangle, pointing back towards Io and Jupiter.

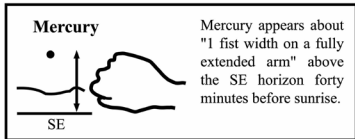
Another single moon (Callisto) arrangement occurs from 8:07pm to 9:39pm on the 13th, with Europa and Ganymede transiting simultaneously, and Io being occulted, then eclipsed. Watch Io re-emerge from eclipse to the east at 11:07pm. This event gives demonstration to the near-maximum shadow angle of the Jovian system from our view at this time.

At about 9:00pm on the 20th, a close

**If you can observe only one celestial event this month, see this one:**

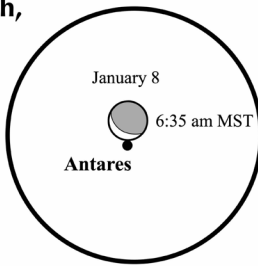


**January 8 and 9, 2024:  
Mercury, Venus, and the moon  
forty minutes before sunrise  
in the southeast**



Mercury appears about "1 fist width on a fully extended arm" above the SE horizon forty minutes before sunrise.

**View through 10x50 binoculars on January 8**



**The Scene:**

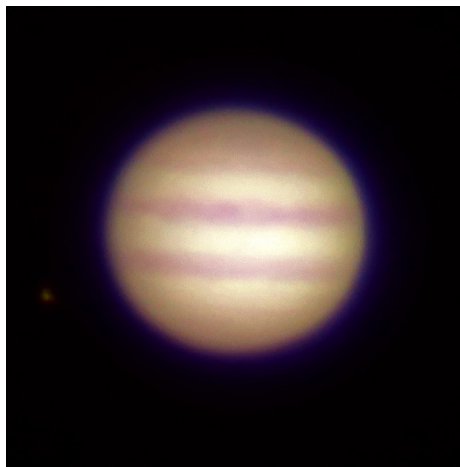
**The crescent moon, Antares, Venus, and Mercury in the morning twilight**

On January 8, the crescent moon approaches Antares low in the southeast 90 minutes before sunrise.

- The moon occults Antares for viewers living in the southwestern portion of the US. (NM, UT, AZ, and So CA.)
- The event begins at 6:39AM MST, location dependent.
- Use common household binoculars to watch the occultation and begin viewing at 6:35 MST.
- \* The very bright object to the moon's left is Venus.
- 40 minutes before sunrise, look for Mercury low in the southeast to the far lower left of Venus.

On January 9, an even thinner crescent moon lies right of Mercury and below brilliant Venus.

grouping of Europa and Ganymede to Jupiter's east, and Io close to the west is worth watching. Then at 12:00am, the system returns to the one-moon arrangement, with Io eclipsed and Europa and Ganymede in transit, leaving only Callisto to the west. The arrangement persists until Europa re-emerges from transit 28 minutes later.



Finally, at about 11:00pm on the 27th, all four moons are visible in a close-in arrangement: Ganymede and Europa to the east, Io and Callisto to the west, all within two Jupiter diameters from the planet.

**Saturn**, which has been in our evening sky since June, is now low in the southwest after twilight. At the beginning of the month, Saturn sets just after 8:30pm, and by the end of the month, it is out of view by 7:00pm, making January our last time to get a good view of the ringed planet.

As such, be sure to take note of the angle of its ring tilt, take a photo if you can,

and compare it to the view when Saturn emerges from morning twilight in May. In mid-January, the ring plane tilt is 10.5°, and in mid-May, it will narrow to just 3.2°. Our next ring plane crossing, when the angle will be 0°, occurs on March 24, 2025, when Saturn will unfortunately not be visible during the dark hours. Our best view will be in late November 2025, when the tilt will be less than -0.5°.

**Uranus** continues to be in a favorable position for viewing throughout the evening. High in the south, in Aries, it is located about halfway between Jupiter and the Pleiades, and just 3° south-southwest of magnitude 4.4 Botein (delta Arietis). You may not notice Uranus' movement with respect to the stars, as it reaches its stationary point on the 27th, ending its retrograde motion and resuming prograde (eastward) motion thereafter.

While you're exploring the winter sky with your binoculars or telescope, be sure to make a stop at Uranus.

The 8.6-day gibbous Moon appears 3.5° to the northeast of Uranus on the 19th.

**Neptune**, following Saturn, is also in the southwest just after dark. As it's a bit higher in the sky, we still have a few more weeks to view it.

Drawing a line between iota and lambda Piscium, on the eastern side of the Circlet asterism, takes you directly to our most distant planet.

**Pluto** departs Sagittarius for the final time on the 3rd. It will now reside in Capricornus until 2038. It will not cross the bor-

der back into Sagittarius again until 2255.

Pluto is in conjunction on the 21st, and will not be visible again until April, when it is sufficiently high enough in the southeastern sky before morning twilight.

Our closest dwarf planet, **Ceres**, is visible low in the southeastern sky before sunrise, in Ophiuchus. Its dim light, shining at magnitude 9.0, will require a telescope to view, especially given how low it is in the sky. A great opportunity to locate it comes on the morning of the 16th, when it appears just 0.2° north-northwest of brilliant Venus. Ceres, at a distance of 3.354 au, is about 2.8 times farther away from us than Venus.

Of all the small solar system bodies visible in the sky this month, asteroid **4 Vesta** is by far the brightest and easiest to locate. It remains brighter than magnitude 7.0 through most of January, and it can be found within the same binocular field of view as Tianguan (zeta Tauri), and the Crab Nebula (M1). It passes just north of Tianguan, and on the 8th-9th, it is only 0.1° away.

Asteroid **3 Juno**, at magnitude 9.3, located in far southern Leo, is moving west-northwestward. It is in a fairly nondescript region of sky, but if you can locate magnitude phi Leonis, it is within 3° north-northeast of this star for much of the month.

Asteroid **2 Pallas**, at magnitude 9.6, is a little easier to locate. On the 2nd, it passes just 1.0° south of the large and bright globular M5, in Serpens. From there it moves eastward, roughly towards epsilon Serpentis, passing 1.7° south of the magnitude 3.7 star on the 22nd.

The **Quadrantids** meteor shower peaks on the morning of the 4th. This can be quite a productive shower, with the radiant located in northern Bootes, which is nearly circumpolar. The name Quadrantids derives from the obsolete constellation Quadrans Muralis, the wall quadrant. The waning crescent Moon, located near Spica during peak morning, rises around 1:00am, and will produce moderate sky brightening for the expected peak at 4:00am.

January's long, cold nights are gradually getting shorter, and offer, for the first time of the season, winter's sky treasures to early evening observers. Hovering in the southeast as twilight fades is the entirety of the **Winter Hexagon** and its component constellations Auriga, Taurus, Orion, Canis Major, Canis Minor, and Gemini, and includes adjacent constellations Eridanus, Lepus, Puppis, and Monoceros.

## ASTRONOMICAL LEAGUE Double Star Activity

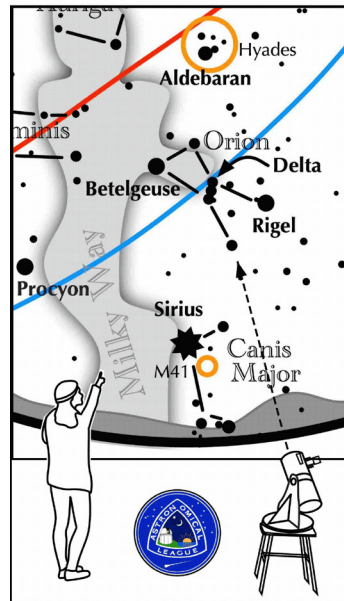
It is worth the effort to bundle up and venture out to a place with a reasonably dark sky on a moonless January night to gaze into the winter Milky Way. Its gossamer glow, much dimmer than its summer component, contains a plethora of nebulae, star clusters, double stars and asterisms that are readily accessible in binoculars and small telescopes.

There is quite a lot to explore with any sized telescope just in **Orion's sword**, home to the well-known Great Orion Nebula. The sword consists of four distinct and optically equidistant stellar clumps aligned in an almost perfect north-south orientation that is just under two degrees in length. The northern segment consists of the star cluster NGC 1981, a loose cluster with about a dozen stars between 6th and 8th magnitude that lies about 1,250 light years away.

Just to the south is a complex of nebulae comprising NGC 1973, NGC 1975, and NGC 1977. Often referred to as the Running Man Nebula, its namesake shape may take some imagination to bring out, but small telescopes under a moderately dark sky do reveal the nebulous glow embedded within the object's most distinct feature, a shallow arc of three comparatively bright stars that extends in a roughly east-west orientation and is about four arcminutes long. The nebula complex is about 1,500 light years distant, slightly more distant than the Great Orion Nebula, which lies immediately to its south.

Visible without optical aid even from moderately light polluted skies like those above Seagrave Observatory, the Great Orion Nebula is perhaps the most frequently observed object in the Messier catalog, but lesser known is that it is listed as two separate objects, M42 and M43. While the nebula is the same object, the dark band separating the comma-shaped M43 to the north from the much larger fan-shaped M42 to the south gave the appearance to Messier and his contemporary astronomers that they were two distinct nebulae.

The Orion Nebula is a massive star forming region about 1,300 light years from Earth, and is a fascinating target for exploration in anything from binoculars to the Webb Telescope. The core of the Orion Nebula, known as the Trapezium for its four brightest stars in a tight group, is visible in any backyard telescope. While there are many hundreds more stars being formed within the Orion Nebula, most of our small telescopes are unable to resolve many of them. However, one of the most



### Other Suns: Delta Orionis (Mintaka)

#### How to find Delta Orionis on a January evening

Face southeast. Look at Orion above Sirius. Orion's Belt is the three stars of equal brightness between bright Rigel and Betelgeuse. Delta Orionis is the western star of the Belt.

#### Delta Orionis

A-C separation: 53 sec

A magnitude: 2.4

C magnitude: 6.8

Position Angle: 0°

Colors:

yellow-white

blue-white

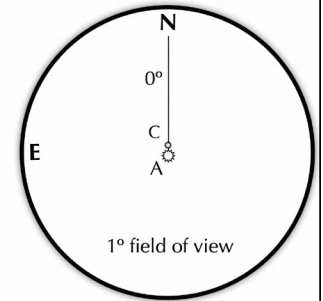
Component B is a 14th

magnitude star, not

visible in most small

telescopes.

Suggested magnification: >20x  
Suggested aperture: >3 inches



famous discoveries made with the Hubble telescope was the direct detection of protoplanetary disks embedded within the nebula. More recently, the Webb Telescope detected Jupiter-mass rogue planets (planets not associated with a host star) in binary pairs floating in the nebula.

Exploring a bit south of the Orion Nebula, we come across the fourth, and last, stop in Orion's sword. This one is more sparsely populated, but contains the only star in this region with an IAU-designated proper name—Hatysa (iota Orionis). This star may not draw as much attention as the beautiful nebula to the north, but at magnitude 2.8, it is the brightest star in Orion's sword, and at a distance of over 1,300 light years, it is a very massive and luminous star with about 15 solar masses and over 14,000 times the luminosity. It is part of the cluster with nebulosity cataloged as NGC 1980, containing a smattering of fainter stars spread across an area about half the width of M42.

After you've explored Orion's sword for a while, move to the north and spend a few minutes exploring the area around Orion's belt. While this area doesn't contain as many distinct clusters, and its nebulous regions are quite a bit dimmer, the rich starfields of central Orion against an inky black sky is one of the more underrated sights to see in the winter sky.

#### A Look Ahead: 2024 at a Glance

Of the many events we have to look forward to in 2024, the most notable is the total solar eclipse of April 8, of which Rhode Island will experience a deep, 92% partial from 2:15pm to 4:38pm, with maximum

eclipse occurring at 3:29pm.

We also have a partial lunar eclipse on September 17-18, but with only a small notch of the Moon's northern limb being under the umbral shadow.

There are several occultations by the Moon worth watching in 2024. Spica is occulted on July 19 and November 27. Neptune is occulted on September 18 and again on November 11, and the Pleiades on November 16. There is also a daytime occultation of Venus by the Moon on April 7, the day preceding the eclipse.

The Moon occults the Pleiades on November 16. Although this is one of several passages of our nearest celestial neighbor across one of the most prominent star clusters in the sky, the remaining ones take place either during daylight hours, or when the Moon is still below the horizon. This does not detract from the beauty of seeing our Moon close to the sparkling star cluster. Look for these on January 20 (71.9% gibbous), February 16 (first quarter), March 14 (28.5% crescent), April 11 (13.8% crescent), May 8 (1.0% crescent), July 2 (14.8% crescent), July 30 (27.0% crescent), August 25 (last quarter), September 22 (75.6%), October 19 (90.7% gibbous), and December 13 (97.3% gibbous).

In addition, the Moon makes some rather close pairings with planets. On August 5, the 0.0% crescent Moon is 2.3° from Venus. On the 20th of August, the gibbous Moon is 0.3° from Saturn. The Moon appears even closer to Saturn, 0.1°, on November 10. And on December 18, it is 0.1° from Mars.

For planet-watching in 2024, Mercury has favorable evening apparitions in March

and July, and good morning appearances in January and September.

Venus reaches its inferior conjunction on June 5, followed by a less than optimal evening apparition, during which it doesn't appear very high in the sky until the final weeks of the year.

2024 marks a relatively infrequent second consecutive calendar year without a Mars opposition, as the next one occurs in January 2025. The last two consecutive

years without one were 1991-2, and the next pair will be 2038-9. However, even though we don't get to see a Mars opposition this year, that it occurs early next year means that the final months of 2024 will offer favorable opportunities for observing Mars. The Red Planet reaches quadrature on October 14, after which we'll be able to observe it before midnight.

The outer planets all reach opposition during the final third of the year, with Sat-

urn and Neptune in September, Uranus in November, and Jupiter in December.

Lastly, among celestial events that can be highly unpredictable, comet 12P/Pons-Brooks is at perihelion in April. Although with comets, we never know what to expect, it is possible that this one may become naked-eye visible early in the month. Keep watching the skies.

## Star Party Reports

### Stargazing at Caratunk, Seekonk, MA Thursday, December 7, 2023 by Francine Jackson

After two postponements due to clouds, the annual Caratunk Star Party took place Thursday, December 7. Although located in Seekonk, Caratunk is a part of the Rhode Island Audubon.

Eight hardy souls came out to first hear a PowerPoint of December highlights by Francine, then trooped outside into the frigid and very windy night.

One family had brought a telescope that they were unsure of what to do with it, but Jim Hendrickson quickly showed them the problem: The finder was out of position. Once he showed them how to coordinate the finder with the telescope, they enjoyed seeing many of the night's objects, along with the portable telescope Jim had

brought.

Jupiter, Saturn, M42, M31, M5, M35 and more were available that night. One family braved the conditions for an hour, but left a bit early, as they had traveled from Newport. Both the couple from Fall River and the telescope family stayed till almost the program's two-hour time frame, cold but happy.

### Solstice Celebration, Providence, RI Thursday, December 21, 2023 by Francine Jackson

Biltmore Park was the scene for the City of Providence's Solstice Celebration December 21st, 2023. Francine Jackson and Jim Hendrickson spent two freezing, windy hours introducing the public to the Moon with Francine's Astroscan, and handing out NASA stickers.

In addition, Coordinator Sarah Summer had a xylophone duet, plus singers, who had the crowd join in songs for all the relevant holidays, sometimes flailing streamers in sync with the melodies. Also, two of the Big Nazo! Puppet troupe came as spacemen, with giant hands and flashing lights. As most of the young children knew who they were, and were not afraid of the large creatures, they both danced together. All in all, over 60 people came to the park for the fun celebration.

Just before packing up, Jim turned the telescope to Jupiter, which was just to the Moon's left in the sky. Again, several who looked at it were amazed that the planet was so easy to see.

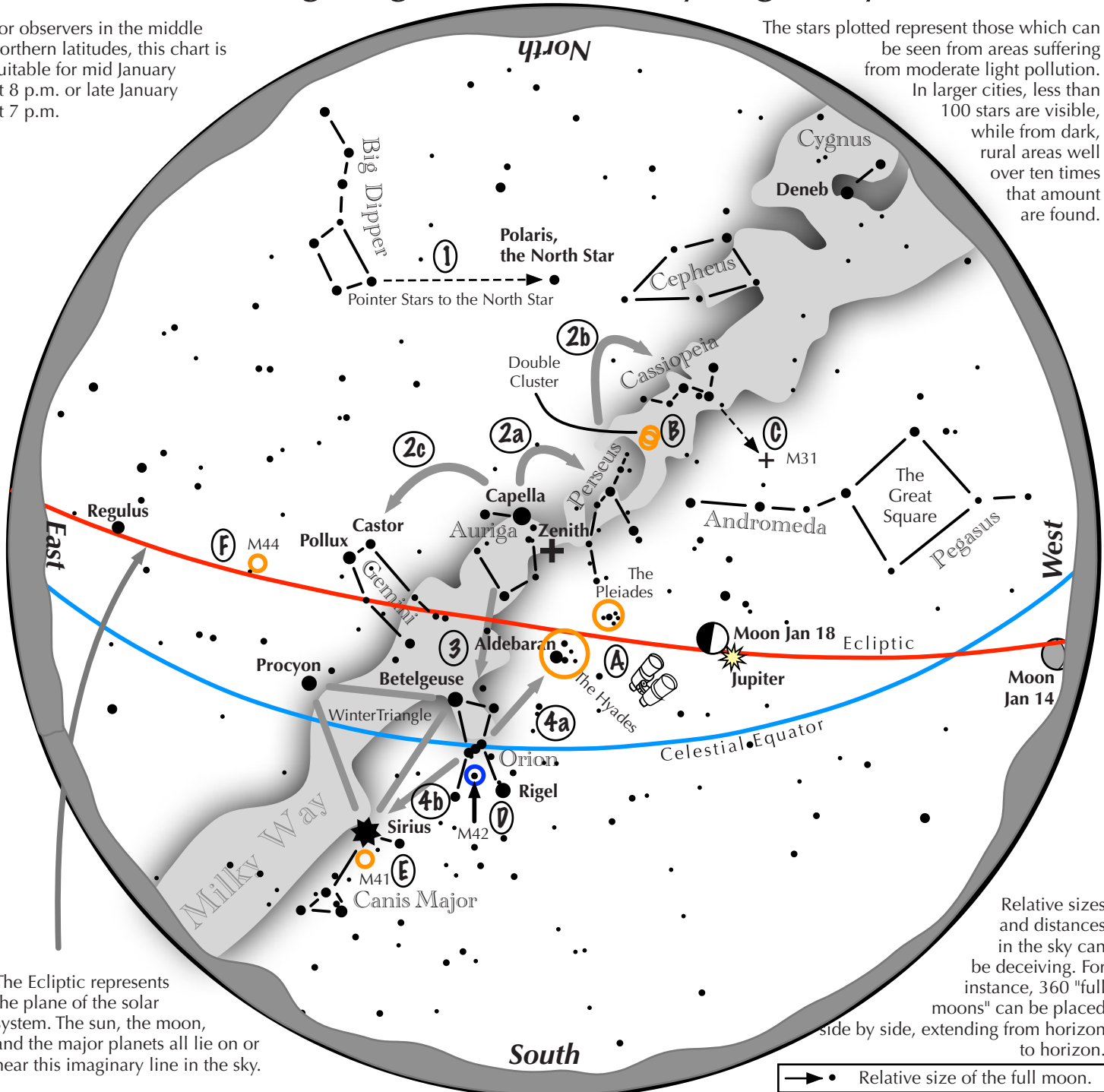
Although the night was so frigid, we're hoping to return in 2024.



# Navigating the mid January Night Sky

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

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



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

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

—●— Relative size of the full moon.

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

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

### Binocular Highlights

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

Astronomical League [www.astroleague.org/outreach](http://www.astroleague.org/outreach); duplication is allowed and encouraged for all free distribution.





# The Sun, Moon & Planets in January

This table contains the ephemeris of the objects in the Solar System for each Saturday night in January 2024. Times in Eastern Standard Time (UTC-5) for Seagrave Observatory (41.845N, 71.590W).

Object	Date	RA	Dec	Const	Mag	Size	Elong	Phase(%)	Dist(S)	Dist(E)	Rise	Transit	Set
<b>Sun</b>	<b>6</b>	19 05.7	-22 34.9	Sgr	-26.8	1951.8	-	-	-	0.983	07:13	11:52	16:30
	<b>13</b>	19 36.2	-21 36.0	Sgr	-26.8	1951.4	-	-	-	0.984	07:12	11:54	16:38
	<b>20</b>	20 06.2	-20 16.6	Sgr	-26.8	1950.6	-	-	-	0.984	07:08	11:57	16:46
	<b>27</b>	20 35.6	-18 38.6	Cap	-26.8	1949.3	-	-	-	0.985	07:03	11:59	16:54
<b>Moon</b>	<b>6</b>	14 12.4	-15 06.9	Vir	-11.4	1798.9	69° W	32	-	-	02:12	07:21	12:21
	<b>13</b>	21 04.2	-21 58.7	Cap	-9.1	1974.6	21° E	3	-	-	09:07	14:09	19:21
	<b>20</b>	3 16.8	20 38.8	Ari	-12.3	1907.8	113° E	70	-	-	12:10	20:00	04:00
	<b>27</b>	9 39.9	18 08.2	Leo	-12.5	1784.4	165° W	98	-	-	18:50	01:53	08:45
<b>Mercury</b>	<b>6</b>	17 31.0	-20 41.9	Oph	0.2	7.7	22° W	46	0.371	0.880	05:32	10:15	14:59
	<b>13</b>	17 54.9	-21 53.9	Sgr	-0.1	6.6	23° W	65	0.410	1.021	05:34	10:13	14:52
	<b>20</b>	18 30.3	-22 47.1	Sgr	-0.1	5.9	22° W	76	0.441	1.141	05:46	10:22	14:57
	<b>27</b>	19 11.4	-22 54.2	Sgr	-0.1	5.4	20° W	84	0.460	1.237	06:01	10:36	15:11
<b>Venus</b>	<b>6</b>	16 29.1	-19 59.2	Oph	-3.9	13.9	36° W	79	0.721	1.213	04:28	09:15	14:02
	<b>13</b>	17 05.3	-21 19.0	Oph	-3.9	13.5	35° W	81	0.722	1.255	04:42	09:24	14:05
	<b>20</b>	17 42.1	-22 09.6	Oph	-3.9	13.1	34° W	83	0.723	1.296	04:55	09:33	14:11
	<b>27</b>	18 19.4	-22 28.9	Sgr	-3.9	12.7	32° W	85	0.724	1.335	05:06	09:43	14:20
<b>Mars</b>	<b>6</b>	18 04.5	-24 02.0	Sgr	1.4	3.9	14° W	99	1.474	2.408	06:20	10:50	15:19
	<b>13</b>	18 27.4	-23 57.3	Sgr	1.4	3.9	16° W	99	1.466	2.386	06:15	10:45	15:15
	<b>20</b>	18 50.4	-23 40.0	Sgr	1.4	4.0	18° W	99	1.457	2.362	06:09	10:40	15:12
	<b>27</b>	19 13.4	-23 10.1	Sgr	1.4	4.0	20° W	99	1.449	2.337	06:02	10:36	15:09
<b>1 Ceres</b>	<b>6</b>	17 05.5	-21 00.1	Oph	9.0	0.3	28° W	99	2.767	3.598	05:07	09:50	14:32
	<b>13</b>	17 17.5	-21 25.1	Oph	9.0	0.3	32° W	99	2.773	3.555	04:53	09:34	14:15
	<b>20</b>	17 29.2	-21 46.7	Oph	9.0	0.4	37° W	99	2.778	3.506	04:39	09:18	13:57
	<b>27</b>	17 40.8	-22 05.1	Oph	9.1	0.4	41° W	99	2.784	3.451	04:24	09:02	13:40
<b>Jupiter</b>	<b>6</b>	2 14.9	12 18.4	Ari	-2.4	43.2	110° E	99	4.986	4.556	12:09	18:53	01:44
	<b>13</b>	2 15.8	12 24.9	Ari	-2.4	42.2	104° E	99	4.987	4.664	11:42	18:30	01:18
	<b>20</b>	2 17.2	12 34.6	Ari	-2.3	41.2	97° E	99	4.989	4.775	11:16	18:04	00:52
	<b>27</b>	2 19.3	12 47.2	Ari	-2.3	40.3	90° E	99	4.990	4.887	10:49	17:39	00:28
<b>Saturn</b>	<b>6</b>	22 24.8	-11 40.1	Aqr	1.0	16.0	49° E	100	9.736	10.359	09:48	15:07	20:27
	<b>13</b>	22 27.4	-11 24.8	Aqr	1.0	15.9	42° E	100	9.734	10.441	09:22	14:42	20:03
	<b>20</b>	22 30.2	-11 08.5	Aqr	1.0	15.8	36° E	100	9.732	10.514	08:56	14:18	19:40
	<b>27</b>	22 33.1	-10 51.4	Aqr	1.0	15.7	29° E	100	9.730	10.576	08:30	13:53	19:16
<b>Uranus</b>	<b>6</b>	3 07.7	17 15.2	Ari	5.7	3.7	124° E	100	19.613	19.044	12:42	19:49	02:56
	<b>13</b>	3 07.2	17 13.6	Ari	5.7	3.7	117° E	100	19.612	19.147	12:15	19:21	02:28
	<b>20</b>	3 07.0	17 12.7	Ari	5.7	3.7	110° E	100	19.610	19.257	11:47	18:53	02:00
	<b>27</b>	3 06.9	17 12.5	Ari	5.7	3.6	103° E	100	19.609	19.372	11:19	18:26	01:32
<b>Neptune</b>	<b>6</b>	23 44.2	-3 03.5	Psc	7.9	2.3	70° E	100	29.904	30.225	10:35	16:26	22:17
	<b>13</b>	23 44.7	-3 00.1	Psc	7.9	2.3	63° E	100	29.903	30.337	10:08	15:59	21:51
	<b>20</b>	23 45.2	-2 56.2	Psc	7.9	2.2	56° E	100	29.903	30.442	09:41	15:32	21:24
	<b>27</b>	23 45.9	-2 51.7	Psc	7.9	2.2	49° E	100	29.903	30.538	09:14	15:05	20:57
<b>Pluto</b>	<b>6</b>	20 09.2	-22 57.7	Cap	14.5	0.2	15° E	100	34.927	35.877	08:18	12:52	17:26
	<b>13</b>	20 10.2	-22 55.3	Cap	14.5	0.2	8° E	100	34.932	35.905	07:52	12:25	16:59
	<b>20</b>	20 11.1	-22 52.9	Cap	14.5	0.2	3° E	100	34.936	35.919	07:25	11:59	16:33
	<b>27</b>	20 12.1	-22 50.6	Cap	14.5	0.2	7° W	100	34.941	35.918	06:58	11:32	16:06

# Observer's Challenge: IC 1848: Emission Nebula in Cassiopeia

by Glenn Chaple

**Magnitude 7.0, Size 100' X 50'**

As I noted last month, if a deep-sky object isn't part of the Messier or NGC catalogs it may be a stern test for the visual observer. Last month's Observer's Challenge, the Index Catalogue galaxy IC 10 in Cassiopeia, was a case in point. Relatively small (6.3' X 5.1') and faint (magnitude 10.4), it mandates medium to large aperture and dark, transparent skies. Our December Challenge is again pulled from the Index Catalogue. The emission nebula IC 1848, also in Cassiopeia, requires a different approach than IC 10. It's a full 3 or 4 magnitudes brighter than IC 10, but its light is spread over a much larger 100' X 50' area. IC 1848, therefore, seems best suited for a small-aperture telescope and a low-power wide-field eyepiece. In her book *Deep Sky Wonders*, author Sue French notes seeing IC 1848 with a 4-inch refractor and magnifying powers of 17X and 28X, even without a filter. Dark, transparent skies are again a must, and a nebula filter will enhance the view.

IC 1848 is located about 8 degrees ESE of the 3rd magnitude star Segin (epsilon [ε] Cassiopeiae) at 2000.0 coordinates RA 2h 55m 24s and Dec +60o 24' 36". Midway between the two is another large emission nebula, IC 1805, which was the Observer's Challenge for December, 2019. Due to its appearance in astroimages, IC 1805 has been nick-named the "Heart Nebula." For this reason, IC 1848 is sometimes called the "Soul Nebula" (Heart and Soul, get it?). In images of IC 1848, the nebulosity seems to assume the form of a human fetus, hence a secondary (and perhaps more realistic) monicker the "Embryo Nebula."

Both IC 1848 and IC 1805 are part of a vast star-forming region 6000 to 6500 light years away. Each is home to several open star clusters. In fact, the designations IC 1848 and IC 1805 refer to clusters embedded in each.

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 ob-



A fascinating object, due to the complex weaving of gas, eroding gas pillars, and bok globules on its periphery, with a clear zone in the "interior" created by hot young stars. A wide field view to see the entire object, taken with my 8 inch scope, working at F2, (using hyperstar). This was taken with a ZWO ASI 071 color camera with a Hutech filter, then processed in PixInsight. It's called the "soul nebula" but has always appeared as a human Fetus in appearance. (head toward the left (east). This was about 90 minutes imaging. Mario Motta, MD (ATMoB)



servicing notes, sketches, and/or images to Roger Ivester ([rogerivester@me.com](mailto:rogerivester@me.com)). To find out more about the Observer's Chal-

lenge, log on to [rogerivester.com/category/observers-challenge-reports-complete](http://rogerivester.com/category/observers-challenge-reports-complete).

# Connecting the ‘Dots’ with Asterisms

by Kat Troche

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

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

## Asterisms Through the Seasons

Try looking for these asterisms this season and beyond:

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

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

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

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

Tracing these outlines can guide you to

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

## How to Spot Asterisms

**Use Star Maps and Star Apps** – Using star maps or stargazing apps can help familiarize yourself with the constellations and

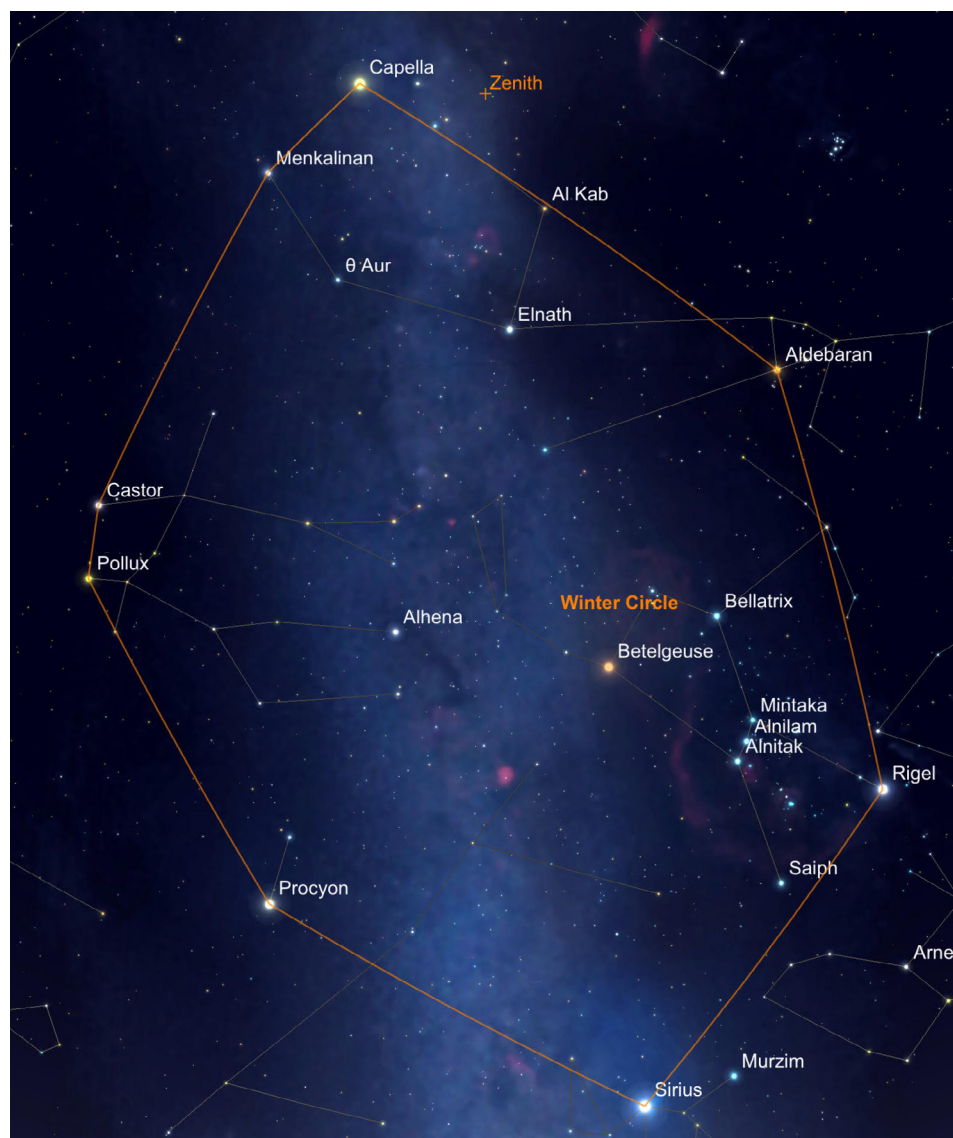
asterisms of the night sky.

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

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

Learn more about how to stay warm while observing this Winter with our upcoming mid-month article on the [Night Sky Network page](#) through NASA’s website!

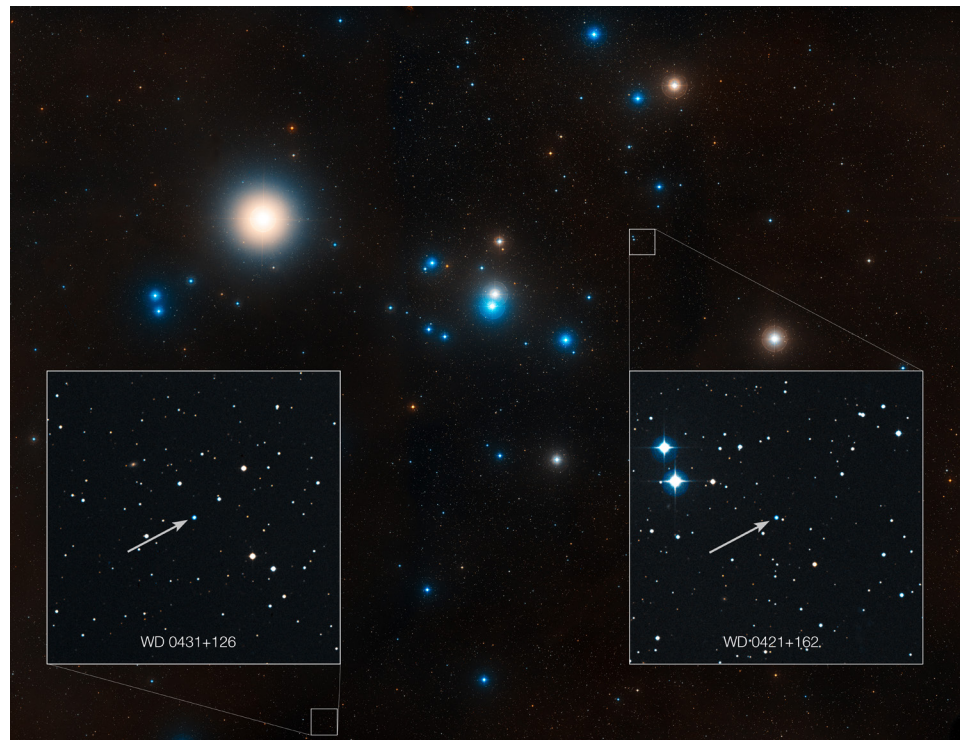
This article is distributed by NASA’s Night Sky Network (NSN). The NSN program supports astronomy clubs across the



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

USA dedicated to astronomy outreach. Visit [nightsky.jpl.nasa.gov](https://nightsky.jpl.nasa.gov) to find local clubs, events, and more!

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



## Reports

### Skyscrapers Executive Committee Meeting via Zoom

**Monday – September 18, 2023 / 7PM**

Executive Committee meeting of Skyscrapers, Inc. was called to order at 7:01 pm by President Linda Bergemann.

Also present virtually were: Maria Brown, Steve Brown, Russ Chaplis, Jim Hendrickson, Steve Hubbard, Bob Janus, Angella Johnson, Kathy Siok, Steve Siok. Total = 10

Absent: Michael Corvese, Dave Heustis, Bob Horton, Rick Lynch

Minutes from August 21st meeting were published in the Skyscraper without any corrections. Copies are filed on the NSN calendar.

#### Open Action Items

Field Trips, Near and Far - No report.

Install antenna for Radio JOVE - Bob J reported about a session that was held on August 12th. The antenna connector kit had some problems, and therefore, will not be ready for a demonstration at AstroAssembly. Linda will check in with Ed Walsh for more information.

Duties for Open Night Volunteers - Steve S – no report.

16-inch Meade Issues - Steve H: no report. Bob H is currently not available to head the 16-inch issues. Linda will address after AstroAssembly. Comment was made the area does need to be cleaned out.

Logo Items - Steve B reported on results from a message he sent out with a link to BonFire, a storefront for items (shirts, sweatshirts, coffee mug and tote bags). Overall feedback was positive. Steve H ordered something and will report back as to the quality of the item.

Some questions Steve B wanted to respond to:

Prices were based on adding a \$2 profit per item. Steve B will pursue: • Adding something on the back of the apparel • Women’s cut shirt • Baseball cap

Decision was made to launch now and make changes as needed. Steve B will write up something for members with information about how to order these items.

Develop Planet Info Cards for Open Nights - On hold.

#### List of Remote A/V Equipment

Linda putting together a list for winter meetings for Community House.

Champlin Grant - Dave and Linda plan to work on the grant and have it ready for December submittal.

Consolidate Library - Linda said the progress on organizing the Library and electronics has been stalled.

#### Officer Reports

Monthly Meetings - Russ reported. OCTOBER: AstroAssembly. NOVEMBER: Steve H got J. Andrew Casey-Clyde, UCONN. DECEMBER: Steve Nathan about 3D Astronomy. JANUARY: Russ suggested having talks by members who are going on a trip for the annular eclipse. Jim H could do that, as well as possibly Ricky Lynch. FEBRUARY: Remote speaker, Dr. Hanna UMass

AstroAssembly Committee - Kathy reported.

• Has about 33 individuals registered, which is about the same amount as last year at this point in time. • Volunteers are committed and know what they need to do. • Linda is handling communications. • Trustees have the physical details (property) under control. • Rick has Astrophoto to all set and will have a sale table. • Kathy has plenty of prizes for the Raffle. • Lunch is all set, as well as the Reception at 5pm. • Program is all set.

Treasurer - Kathy reported. Income from AstroAssembly, as well as items sold at Stellafane, and dues.

Capital equipment reflects an expanded line for refund of returned air conditioner. Purchases include the tent and photo rack. Overall, in the black.

Membership Secretary - Angella reported there is one new member.

Trustees - Steve H reported that thanks to Bob J and Rick Lynch, the property is being maintained. He discovered there were new telescopes in the building (Jim Brenek). We will try to sell the 2 short-focus refractors and 3 mounts and give monies to the family.

Steve H expressed the concern that we have an abundance of telescopes and don’t need more at this point. As far as the selling of telescopes, he questioned the need to be firm on a price. How to get the telescopes to members at a very affordable price to move them along. Why can’t we give a suggested price, but also give the option for “Best Offer?” Don’t be firm on the price, or they may never get sold. The recommendation was made not to waver on the eyepiece prices.

Jim Crawford is ready for a property cleaning on Saturday, Sept 23rd at 9:15 am. Linda will send out a message looking for help. Benches may or may not get sanded and painted in time for AstroAssembly – running out of time and weather may not cooperate.

Linda asked about a tent that was donated. It needs to be opened up and checked to see if it is in good condition.

Program Committee - Linda reported for Michael.

1. Discussed having the member star party an ad hoc group separate from the observatory committee with a dedicated email group with

a copy of all correspondence to the Program Committee Chair (to prevent double booking)

2. Scituate Preservation Society event, Sep. 22 at Seagrave

a. Looking for volunteers to set up telescopes.

b. Dave H presenting the history of Seagrave.

3. Saturday, October 14 eclipse event at Seagrave

a. Open 11:30am-3:00pm (Peak at ~1:30pm)

4. Saturday, October 21, International Observe the Moon night. Not much different than any other public observing night.

a. Public Observing

b. Invite members to set up telescopes

c. Moon-themed videos

d. Maybe lunar challenge objects

5. Trying to arrange a trip to Frosty Drew in October

6. Offsite Events – Sep-Oct

a. Sky Puppy information night, September 25th, Portsmouth Free Library

a. For interested families

ii. Promoting through Portsmouth Public Schools

iii. Program begins on October 16th

a. Moonrise on the Seekonk, October 28th

b. “Starts at Sunset” Waterfire event on the pedestrian bridge, October 28th

Sept. 22 – Scituate Preservation Society: Steve S said that people are interested in seeing different kinds of telescopes. Suggestion was made that the individual bringing the telescope can share information about it. Laura is bringing her telescope. An operator is needed, as well as someone to open and close the dome.

Oct 14th – Laura is in charge for the eclipse at Seagrave.

Oct 21st – Observe the Moon Night – there will be moon-themed videos and challenges on observing the moon.

Sometime in October? Trip to Frosty Dew

Off-site events: Sept 25th - Michael and Mark M- Space Puppy at Portsmouth Library, being promoted through elementary school. Program kick-off is Oct 16th

Oct 28th - Moon rise; starts at sunset pedestrian bridge. More information will be forthcoming.

Observatory Committee - Steve S - we need a clean list.

Preservation Group: SPS is setting up a welcome/registration tent near the entrance after stone wall. Should refreshments be before or after Dave's talk?

By Laws / Standing Policies - Steve B reported that nothing new to report. Work will be done prior to next election season, some time in Spring 2024.

Historian / Librarian - No report.

Webmaster - Jim H asked about publishing minutes in the newsletter again. Linda had not intentionally pursued that since minutes are available on the web via NSN. Jim H said people were accustomed to reading them in the newsletter (since 1998) and would like to include them again; members have requested them.

Financials will not be included, but Linda said

we can work on getting the minutes to Jim in a Word format.

Jim H asked if Jim Crawford was doing videos. Conrad asked this his recorded program become available for members. Linda will check into it, with Jim H's help. Comment was made that Skyscrapers received a donation with the comment they were grateful they could watch the meeting on Zoom.

#### **Unfinished Business**

Winter meetings (Jan, Feb, and Mar)

Steve H will check in November if he can reserve the Community House for winter meetings.

Member Activities - Steve H sent a notice to Linda; Linda said it's fine to send out.

Discussion held on setting up a Star Party group on NSN. Plan is to get this coordinated and start sending notices out after AstroAssembly. This could end up helping the Observing Committee.

Good of the Organization - Bob J received the Rhode Island Monthly Magazine, October issue, and the last page has a picture of Ladd Observatory and comments from Bob Horton.

Meeting adjourned at: 7:53 pm

Next meeting: MONDAY – OCTOBER 23rd at 7:00 pm

### **Skyscrapers Executive Committee**

#### **Meeting via Zoom**

#### **Monday – October 23, 2023 / 7PM**

Executive Committee meeting of Skyscrapers, Inc. was called to order at 7:01 pm by President Linda Bergemann.

Also present virtually were: Maria Brown, Steve Brown, Russ Chaplis, Michael Corvese, Jim Hendrickson, Dave Huestis, Bob Horton, Steve Hubbard, Bob Janus, Kathy Siok, Steve Siok. Total = 12

Absent: Rick Lynch, Angella Johnson

Minutes from September 18th meeting were published in the Skyscraper without any corrections. Copies are filed on the NSN calendar.

#### **Open Action Items**

Field Trips, Near and Far - At Rick's request, this topic will be removed from the Agenda.

Install antenna for Radio JOVE - No report.

Duties for Open Night Volunteers - This project is on hold. Linda will not be available during November. Bob H volunteered to be a Greeter. Kathy is willing to help with videos, but needs some additional training and direction.

16-inch Meade Issues - Bob H. spoke with Bob Napier; they're going to get a hold of Mark. Replacement parts are available and it should be a fairly straight forward job. A lot of equipment is stored in there, but not in the way.

Logo Items - Steve B reported, the merchandise now available. Kathy and Steve will pursue embroidered fleece jackets, probably from Lands End. Feedback is positive, members are pleased with the quality. Kathy asked Steve to keep track of merchandise being purchased and from whom: members or non-members. Steve will get a description of the Bonfire merchandise to Jim H, so he can put something in the

newsletter. Steve is going to find out how the Club will get the deposit of the \$58 profit which is coming as a result of the merchandise already purchased and relay this information to Kathy for the Treasurer's report.

Develop Planet Info Cards for Open Nights - On hold.

List of Remote A/V Equipment - Linda is putting together a list for the Community House for winter meetings.

Champlin Grant - Linda will work on this to meet the December deadline.

Consolidate Library - On hold.

#### **Officer Reports**

Monthly Meetings - Russ reported. NOVEMBER: Andrew Casey-Clyde, UCONN. DECEMBER: Steve Nathan, 3D Astronomy - Christmas Party to be held on Saturday, December 16th. The Community Center is reserved from 3:00 – 8:00 pm. Plan is to do the usual potluck. Suggestion was made for someone to confirm there is still a working microwave at the Center. JANUARY – Talks by members who are going on a trip for the annular eclipse. FEBRUARY: Dr. Hanna UMASS, remote. MARCH: Dave H – history of Seagrave and Skyscrapers. This will be based on the presentation Dave recently gave to the Scituate Preservation Society.

Kathy may have access to someone who worked on the James Webb. If she gets the information, she will give contact information to Russ.

Treasurer - Kathy shared AstroAssembly income and expenses. There were 76 people who registered, with the members and non-members bringing in equal amounts of money. The raffle brought in over \$500. Lunch expenses were \$380, and we collected \$675. Reception was \$300, and with an extra \$5 per person, it resulted in a profit. No big sales of equipment, but with a telescope and mount sale, made about \$600. Overall net was a profit of approximately \$2,600.

Comments for AstroAssembly have been positive: the dinner/reception was a good idea and the pizza was well received. Lunch worked out well. Attendees seemed pleased with the time and schedule of speakers and timing for reception. Astrophotography display was well received. Linda will try and get out a survey.

Treasurer's Monthly Report - Kathy reported there is one \$40 Paypal charge she is not able to reconcile. There is a line item for \$350, which is money in / money out for AstroAssembly. Kathy will have a Budget to date for November meeting.

Membership Secretary - No new members per Linda.

Trustees - Steve H reported. Weather has been challenging, but Jim Crawford is trying to get in the final lawn cutting and clean-up. Steve is optimistic to have one last work session in November. There are some items under the stairs (paint, etc). Steve S reminded Steve H there are 6 cannonballs somewhere; do not throw them away as they part of the original observatory. Steve H has not seen them; will keep an eye out for them. Steve B noticed the gazebo has some fascia board that needs to be repainted and trim

that is rotting. Steve H acknowledged they are aware of this, it's on the list. Jim Brenek will bring things to the dump.

Program Committee - Michael reported. Some events have not happened due to inclement weather.

Sky Puppy Program started in September – had 15 children sign up. The first session was Monday, Oct 16th, and all 15 participants showed up. Mark and Michael are both working on it, knowing there will be some regrouping since this is their first time with the program. It was advertised through local elementary schools and libraries. Michael will send the schedule to Steve S so he can participate. Next scheduled date is November 6th.

Last week Michael gave a presentation on Beginner Stargazing at the Newport Public Library. There were approximately 40 people in attendance.

October 27th – Riverbend, Uxbridge MA, October 28th • Moonrise Over the Seekonk for Blackstone Park. • Mini Water Fire (music event) on the pedestrian bridge in downtown Providence. Starts at sunset. November 3rd – Windham Middle School and Riverbend Park, November 18th – Observe the Moon

Also in November • Frosty Drew • Callahan School • Conrad's Astrophotography session, second half

Linda received an email from the Massachusetts Department of Conservation and Recreation, a partner for Blackstone (same group as Riverbend). They are looking to partner with Skyscrapers on an event for the April 2024 solar eclipse. Linda will need an idea of how many members may be available to help at the Observatory, since many people plan to travel for the eclipse. The sooner, the better to let the Mass Dept of Conservation know our involvement with the eclipse.

Bob J also mentioned the Seagrave Star Parties. Steve H reported two Star Parties have been held, albeit with small groups of people. Perhaps schedule one more in November.

Linda acknowledged there is an interest in more member activities, and we should find ways to get them involved.

Linda mentioned that Michael posts the events on the NSN. Apparently NSN tracks how many CLUB events we host and how many COMMUNITY events at which Skyscrapers may be present. Linda and Michael can review which category to post the events, ie Sky Puppy is currently listed as a Community event, but it should actually be a Club event.

Observatory Committee - Steve S reported that he sent an email to the entire membership a couple of days ago, and thus far is not getting responses. Is there a better way to reach out to members? Recommendation is to send out more than one email, but then pros and cons were discussed as far as people getting too many emails and maybe not reading all that they get.

Special Events - Kathy S confirmed the earlier discussion on the December Holiday party. Have people bring potluck and bring leftovers

home. We will need a list of volunteers committed to set up and clean up. Some discussion on how the room will be set up and how it needs to be left when we clean up.

By Laws / Standing Policies - Steve B and Kathy are working on this and will have something to review at the November EC meeting. Again, there is the challenge of getting other people involved. Linda stressed it needs to be ready by election time (March 2024). Kathy said input on the By Laws and Policies should be available for March 2024; there are some recommended modifications (ie term limits, membership categories), but nothing major.

Historian / Librarian - Dave reported only a few books were sold at AstroAssembly. Finding someone interested in purchasing these old books is challenging. He reminded the group this is a Lending Library. Steve S will check with a bookstore in Wakefield. If anyone has any leads or suggestions on what to do with the multitude of valuable collectors' books, let him know. He has approximately 100 books he would like to move.

Webmaster - Jim H is getting caught up on pictures and cataloging. Linda set a goal for the new website of the March/April 2024 timeframe to support annual dues payments. Feedback is people are not comfortable using Paypal on the website since there is a warning saying it's not a secure website.

#### **Unfinished Business**

Winter meetings (Jan, Feb, and Mar) - Steve H has reserved the Community House. Even if by chance the weather is good, decision was made to keep the meetings at the Community Center.

Member Activities - Star Parties were already mentioned; Steve H had nothing more to report on.

#### **New Business**

Portable Toilet - Since the observatory is going to be available during the winter, a recommendation was made to keep the portable toilet and have the company winterize it. There was some discussion on the budget; is there enough money for an estimated \$600 to maintain it through the winter? Have the cleaning done once every 3 weeks rather than weekly? Kathy and Linda will look into the budget. Item tabled until next EC meeting.

#### **Good of the Organization**

Linda shared that she received an email about an eclipse series from the Kalamazoo Solar Eclipse Astrophotography Series. She will forward information to the membership.

IAU Pro-Am Research Collaboration (PARC) Initiative. Looking for amateurs to partner with. May have a few members interested in that. Linda will send it out to membership.

Meeting adjourned at: 8:10 pm

Next meeting: MONDAY – NOVEMBER 20th at 7:00 pm

### **Skyscrapers Executive Committee Meeting via Zoom**

**Monday – November 20, 2023 / 7PM**

Executive Committee meeting of Skyscrapers,

Inc. was called to order at 7:03 pm by President Linda Bergemann.

Also present virtually were: Maria Brown, Steve Brown, Jim Hendrickson, Dave Huestis, Bob Janus, Angella Johnson, Kathy Siok, Steve Siok, Total = 9

Absent: Russ Chaplis, Michael Corvese, Bob Horton, Steve Hubbard

Minutes from October 23rd meeting were published in the Skyscraper without any corrections. Copies are filed on the NSN calendar.

#### **Open Action Items**

Radio JOVE - No report.

List of Remote A/V Equipment - Working on it.

Champlin Grant - Linda continues to work on this grant, intended for the roof. Linda will send details of financial information needed to Kathy. Jim asked about the possibility of looking into a grant about electronically accessing through the phone and making contributions to scientific discoveries. Linda asked Jim to look into that and forward information to her.

Duties for Open Night Volunteers - On hold.

Develop Planet Info Cards for Open Nights - On hold.

Consolidate Library - On hold.

#### **Officer Reports**

Monthly Meetings - Linda reported on Rick's behalf.

DECEMBER: Steve Nathan, 3D Astronomy - Christmas Party to be held on Saturday, December 16th. The Community Center is reserved from 3:00 – 8:00 pm. The plan is to do the traditional potluck. JANUARY – Talks by members who went to New Mexico for the annular eclipse. FEBRUARY: Dr. Hanna UMASS, remote. MARCH: Dave H – history of Seagrave and Skyscrapers. This will be based on the presentation Dave recently gave to the Scituate Preservation Society.

Treasurer - Kathy reported. Some discussion on CDs that are due December 5th and which will be a better choice for re-investment: 7 month CD at 5% or the 14 month CD at 4.75%, but could bump up in percentage. Overall, the budget to-date is doing well.

Bonfire accounts: \$58 was received and Steve B reported another check is forthcoming. Bonfire information is on Skyscraper's Facebook page.

Membership Secretary - Angella reported we had two new members.

Trustees - Steve S reported in Steve H's absence. Ed Walsh, Jr. approached Linda about rust on a shaft of the Clark telescope. Ed offered to make a new shaft. Linda tried to reach out to Al Hall since he has the drawings but has not yet heard from him. The rust is on a vertical post that connects the two weights to the gear system in the governor.

Program Committee - Michael not present; reported via email to Linda. Here are some highlights from the program committee since the last EC meeting. People need encouragement to come in and look at the sun via solar telescope. People walk by without any interest.

I. Recent Events

a. River Bend Farms, 10/27. Small group of visitors b. Moonrise Over the Seekonk, 10/28. Five Skyscrapers members attended with telescopes and hosted approximately 50 visitors. c. Winman Middle School, 11/3. Three Skyscrapers hosted about 100 people from the Warwick Schools. d. Callahan School, 11/15. Cancelled due to weather. e. Frosty Drew Observatory, 11/12. Fifteen Skyscrapers participated in an evening hosted by Scott MacNeill and focused on observing deep sky objects. f. International Observe the Moon Night, 11/18. Conducted concurrently with our public observing night, we hosted about 15 people. g. Museum of Natural History and Planetarium, 11/19. Solar Observing during STEAM weekend event. Two Skyscrapers hosted about 30 participants.

#### I. Upcoming Events

a. River Bend Park, 11/24. Outreach opportunity for volunteers. Contact Francine Jackson. b. Astrophotography hands-on session, 12/2. Postponed from October. Members will be invited to bring equipment to Seagrave. c. Holiday Party, 12/16 at the N. Scituate Community Center d. Mirror-making class, 1/6-3/23. Dick Parker has one seat available for anyone interested.

#### I. Other Topics

##### a. Dark Sky Activity

I. Francine Jackson and Laura Landen have volunteered to define the objectives for a dark sky interest group for Skyscrapers members

Also in November • Frosty Drew • Callahan School • Conrad's Astrophotography session, second half

Observatory Committee - Steve S had some clear nights and the evenings have been pretty successful, having an average of 20 people in attendance. He would like to see more advertising. Now it's the cold time of year. Bob H was not able to help at this time. Linda thinks a Greeter is important. Keep the meeting hall open for a warm spot.

Special Events - Kathy S - Holiday Party. More information will be coming out. Kathy will submit something to Linda. The plan is to have people arrive by 3:30 pm to set up tables, extension cords, etc. Eat at 5pm. Meeting 6:15 - 8:00 pm.

By Laws / Standing Policies - The three members are Steve B, Kathy S, and Bob H. Steve will set up Zoom meetings with Kathy's assistance. Kathy has the bylaws ready to be reviewed. They will hold a preliminary meeting to talk about the initial discussion / proposals.

Historian / Librarian - Dave H said he is working on a series of articles which will be put out to members over a period of time. His current project is about Frank Seagrave and contemporary events when he was alive. Dave will plan to provide the introductory article to Jim for the January 2024 newsletter. Dave acknowledged that Seagrave was a 19th century astronomer, and not part of modern astrophysics.

Dave wants to get more recent items added to the Library but needs to donate several books to a reputable place that welcomes old astronomy books. Steve S reported the bookstore in Wakefield is now more of a bindery. Dave and Linda

plan to re-approach the contact at AstroMart. Since Dave has a list of books on Google Drive, Kathy suggested we get a list of bookstores and send them the list. The bookstores do not have to be physically located in Rhode Island.

Webmaster - Jim H has looked at the new platform and will get familiar with how it works; it uses WordPress. Linda or Jim will reach out to Jim Crawford to find out the status of DVDs of all previously recorded presentations.

Bob J reported that the Patton is ready to go back online - the dust cover sticks. The 16" telescope is ready to be used, but there are no operators available for public nights. There are other telescopes in the 16" shed. Steve H and Linda plan to take pictures and update the inventory, but it is a big undertaking.

#### Unfinished Business

Portable Toilet - Discussion on keeping the portable toilet service through the winter. Kathy and Linda reported there is money in the budget, especially since monies were not spent on a dumpster (had the pod instead). Motion made by Kathy to move \$580 (approximately \$145/month) from Trustees fund to Utilities fund for the purpose of maintaining the toilet through the winter. Seconded by Steve S. All in favor.

Holiday Party - Planning is coming along. Kathy will let Linda know if we need donations of paper goods, etc.

April 2024 Solar Eclipse - Linda wanted to talk about plans. Who is going to be in Rhode Island for that? She has to get back to Blackstone Corridor. A decision was made - she will get back to them saying we are not able to assist them since Skyscrapers is planning on something at Seagraves, or possibly physically in town. Laura is going to investigate that since there may be an event on the Town Square, roughly around 1pm on Monday, April 8, 2024. Maybe have a presence in Scituate or on the bridge in downtown Providence? Linda would like to line up people who can commit to helping and who will bring telescopes. Linda can send an email to get an idea of who is not traveling and may be available

to help.

#### New Business

Equipment Inventory - Linda is working with Steve H.

Scituate HS Yearbook - Linda received notification they are looking for ads for their yearbook. Jim H has an appropriate ad already prepared. The cost for the half-page ad is \$90, and that is what we have done before. Motion made by Steve Brown to spend \$90 for a half-page ad for 2024 yearbook; seconded by Kathy. All in favor.

Jim will get specifics: in color? Black and white? Specifications? Deadline Dec 23rd.

#### Good of the Organization

Linda will send out information on the Kalamazoo Society's biannual "Introduction to Astronomy," starting January 2024.

Linda received an email from a gentleman at The Preserve in Richmond, RI. The Preserves is a high-end resort and residence which offers a golf course, shooting sports, steakhouse, etc. This individual had been to Seagraves several times and had a proposal for a partnership with Skyscrapers. For the residents and guests, they had started Smores and Telescopes, but the program failed due to cheap telescopes, etc. They now would like to partner with Skyscrapers and offer this every night. Other big resorts are getting into astronomy events.

Discussion followed expressing concern for lack of manpower. We do not have a lot of members who live in that area. Does Scott McNeill (Frosty Drew) have a contact with an intern who may want to have this as a job?

#### Meade Telescope Donation

A donor of a 12-inch Meade reflector telescope ultimately gave it to Ed Ting. Linda was pleased it was a successful "adoption of a telescope."

Meeting adjourned at: 8:03 pm

Next meeting: MONDAY - DECEMBER 11th at 7:00 pm



**Cosmic Coffeehouse**

*Informal astronomy chat room meets on the 15th of each month at 7:00pm*

- interactive ZOOM format
- current news
- featured speakers
- equipment reviews
- observing notes
- fun 'n games

To receive your invite, send request to [Astro-Geek@comcast.net](mailto:Astro-Geek@comcast.net)

# STARRY SCOOP

Editor: Kaitlynn Goulette



## WHAT'S UP

The Winter Hexagon has moved into center stage and acts as a helpful guidepost to the night sky. This asterism consists of the 1st magnitude stars Sirius, Rigel, Aldebaran, Capella, Pollux, and Procyon with another bright star, Betelgeuse, lying in its central region. Another useful guidepost is the three belt stars of Orion the hunter. These stars are positioned in a line that points northwest to the face of Taurus the bull. In the other direction, they point to Sirius, the brightest star of the nighttime sky.

Following sunset, Saturn is visible in the southwestern sky all month long and remains observable until early February. On the 13th and 14th, the crescent moon joins the Ringed Planet and makes for a great photo opportunity. High in the southern sky is Jupiter, blazing at -2.5 magnitude all month. On the 18th, the moon is positioned within a few degrees of the Jovial One.

On January 2nd, 65 years ago, the Soviet Union's Luna 1 became the first spacecraft to escape Earth's gravity. It was the first of several missions from 1959 to 1976 that studied the moon in preparation for future moon landings. Luna 1 was intended to crash into the moon to collect data but due to complications, it broke free of the moon's gravity and became the first artificial satellite of the sun. To this day, the Luna 1 spacecraft circles the sun between the orbits of Earth and Mars.

We are treated to the peak of the Quadrantid meteor shower this month on

the night of the 3rd and into the following morning. Annually, it runs from January 1st to the 5th and produces up to 40 meteors an hour. Astronomers believe that this shower is brought about by Earth traveling through a dust trail left behind by the extinct Comet 2003 EH1. For best viewing, find yourself in a dark place after midnight.

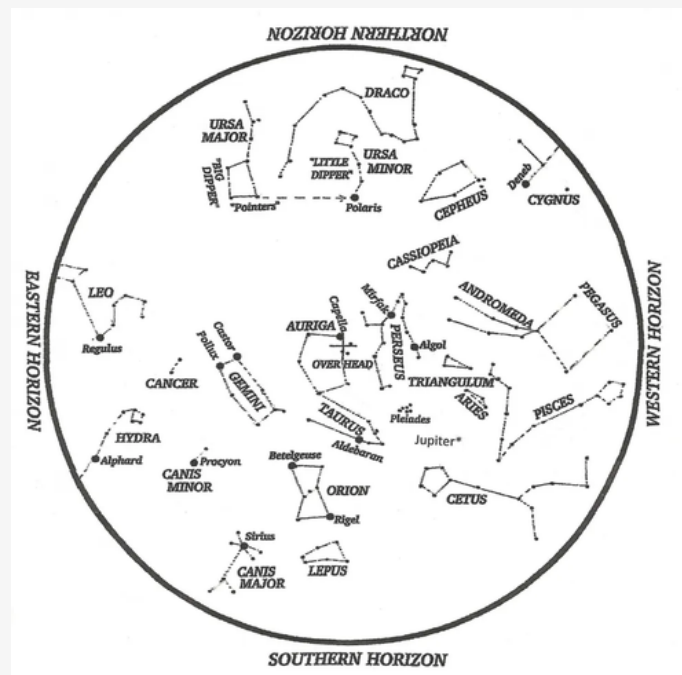
## JANUARY'S SKY

**3-4: Quadrantid Meteor Shower Peak**

**11: New Moon**

**12: Mercury at Greatest Western Elongation**

**25: Full Moon**



Credit: Roger B. Culver

Hold star map above your head and align with compass points.



# OBSERVATIONS

Lani Ching, a member of the Westfield High School Space and Astronomy Club, has been putting her free time to good use by frequently utilizing her 8-inch Dobsonian telescope.

Even with her busy schedule, Lani finds herself under the stars on most clear nights. She explained that her evenings are often one or two observations followed by heading inside to warm up, only to repeat the process all over again.

Recently, Lani's nights have begun with observations of Jupiter, Saturn, and the moon. These are some of her favorite targets and she especially enjoys capturing them with her handheld iPhone camera.

A popular target that Lani has enjoyed observing is the Pleiades star cluster, which is located in Taurus the bull. A 30mm widefield eyepiece provided a "gorgeous view of this sparkling cluster," as she described it.

Another favorite celestial target of Lani's is the Orion Nebula, or M42, which is a bright and beautiful star-forming region in the Orion constellation. Lani greatly enjoyed observing this object at 133 magnification. She describes this famous nebula as "breathtaking" and attempted to photograph it, which proved to be very challenging due to its low surface brightness.

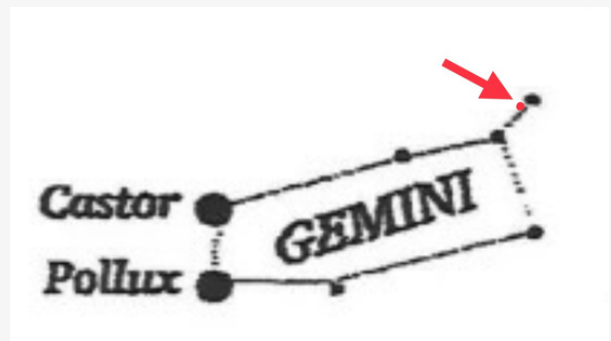


The purpose of the Starry Scoop is to communicate current astronomy and space events. If you want to share your observations or get digital copies of the Starry Scoop, contact [starryscoop@gmail.com](mailto:starryscoop@gmail.com). The Starry Scoop is now on Facebook. Clear skies!

# OBJECT OF THE MONTH

The featured object for January is the Jellyfish Nebula, designated IC 443. This object is a supernova remnant found in the Gemini constellation at a distance of about 5,000 light-years. It's also one of the most studied supernova remnants in the sky due to its interactions with nearby molecular clouds.

Find this object in the foot of Gemini, between the two bright stars Tejat and Propus. A telescope is needed to view this nebula and an OIII filter helps resolve its detail. Good luck!



Jellyfish Nebula Map



The Moon  
Photo by Lani Ching

# Directions to Seagrave Memorial Observatory

## From the Providence area:

Take Rt. 6 West to Interstate 295 in Johnston and proceed west on Rt. 6 to Scituate. In Scituate bear right off Rt. 6 onto Rt. 101. Turn right onto Rt. 116 North. Peeptoad Road is the first left off Rt. 116.

## From Coventry/West Warwick area:

Take Rt. 116 North. Peeptoad Road is the first left after crossing Rt. 101.

## From Southern Rhode Island:

Take Interstate 95 North. Exit onto Interstate 295 North in Warwick (left exit.) Exit to Rt. 6 West in Johnston. Bear right off Rt. 6 onto Rt. 101. Turn right on Rt. 116. Peeptoad Road is the first left off Rt. 116.

## From Northern Rhode Island:

Take Rt. 116 South. Follow Rt. 116 thru Greenville. Turn left at Knight's Farm intersection (Rt. 116 turns left) and follow Rt. 116. Watch for Peeptoad Road on the right.

## From Connecticut:

- Take Rt. 44 East to Greenville and turn right on Rt. 116 South. Turn left at Knight's Farm intersection (Rt. 116 turn left) and follow Rt. 116. Watch for Peeptoad Road on the right.
- or • Take Rt. 6 East toward Rhode Island; bear left on Rt. 101 East and continue to intersection with Rt. 116. Turn left; Peeptoad Road is the first left off Rt. 116.

## From Massachusetts:

Take Interstate 295 South (off Interstate 95 in Attleboro). Exit onto Rt. 6 West in Johnston. Bear right off Rt. 6 onto Rt. 101. Turn right on Rt. 116. Peeptoad Road is the first left off Rt. 116.



47 Peeptoad Road  
North Scituate, Rhode Island 02857