



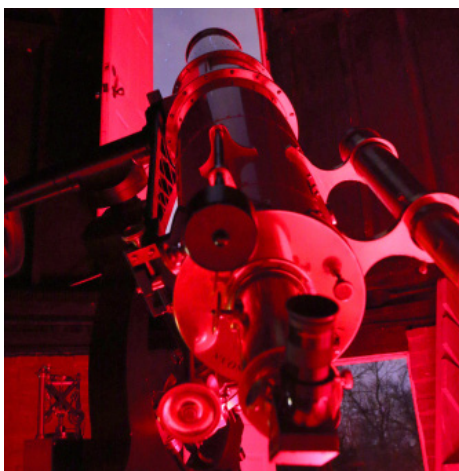
the Skyscraper

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March 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**
March 9, 16, 23 & 30
@ 8pm

January Meeting: October 2023 Solar Eclipse from New Mexico

Saturday, March 2 @ 6:30pm EST
at North Scituate Community House,
546 W Greenville Rd (Rt. 116)

In-person and on Zoom (Contact Linda Bergemann (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

It's March, but I am going to begin with April, the start of our fiscal year. Our April meeting is our Annual Meeting, when we elect our officers and establish the Society's budget for the next year. Normally, we would hold this meeting on the first Saturday of the month. But, due to the Great American Solar Eclipse on Monday the 8th, we will hold the **Annual Meeting on Saturday, April 13th, back at Seagrave Observatory**. When business is done, our historian, Dave Huestis will present a history of Seagrave and Skyscrapers.

While I am thinking of April and the eclipse, the observatory will be open on April 8th for eclipse viewing. Here in RI, the sun will be about 92% obscured. We will have a small staff present with several telescopes available. We will project a live feed from the centerline of totality in the meeting hall. Eclipse glasses will be available. This will not be promoted widely, but we will be there for anyone who wants to pay us a visit. If you are not traveling to observe totality, please pay us a visit.

Back to March. At our March meeting, the

Nominations Committee will present a slate of candidates endorsed for election. Late in the month, members in good standing as of October 31, 2023 will receive an email notice of the election containing a link to the electronic ballot along with instructions. Election results will be reported at the Annual Meeting.

March 31 means that it is time for most of us to renew our membership in Skyscrapers. A renewal notice will be sent to all shortly.

And lastly, we have four open nights scheduled in March. Please plan on attending at least one. Let's hope for clear skies and no mud!

Warm wishes, Linda

New Members Welcome to Skyscrapers

Daniel & Patricia Lake
of East Greenwich

Skyscrapers Official Merchandise

<https://www.bonfire.com/store/skyscrapers/>



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 **March 15** to Jim Hendrickson at 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. Note that you will no longer receive the newsletter by postal mail.

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Book Review

5 Little Dwarf Planets: A Rhyming Solar System Book

by K.J. Field, PlutoShine Press, 2022, ISBN [9781955815055](#), hardbound, \$12.95 US

Reviewed by Francine Jackson

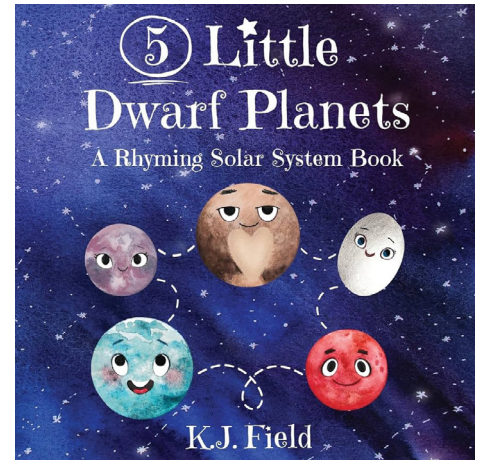
Any young person who likes both astronomy and poetry will really enjoy this tiny book. In only about 40 pages, all five of our known dwarf planets are introduced and described.

Ceres begins the book, not only as the only dwarf not in the Kuiper belt, but the only one without a moon; however, it does have many “friends” within the asteroid belt.

On to the Kuiper belt, where we meet the others: Makemake is first, a ruddy body with a three-century orbit. Then, Eris is “way out,” the farthest away, and the heaviest of the dwarfs. Oval Haumea has the fastest rotation.

And, then, of course, is Pluto, with a heart-shaped surface feature and five moons, one of which is the largest relative body to orbit another; the other four are “teeny, tiny ones.”

In addition to the poetry, the illustrations are eye-catching, sure to encourage any child to want to read about these little, but important, solar system bodies. As an introduction to astronomy, this book is a great way to introduce the dwarf planets; as an introduction to the fun of poetry, and how it can explain what some might consider a difficult topic, *5 Little Dwarf Planets* is a perfect choice.



Skylights: March 2024

by Jim Hendrickson

The March night sky brings about some of the most notable changes that can occur during any given month; some are welcome, and some of them can be challenging.

Most notably on the challenging side, the Sun moving into the northern celestial hemisphere through the equinox gives us fewer hours of darkness to observe, and combining this with the annual “spring ahead” clock change, our evening hours are shifted even further into the daylight. For evening observers, that means that the end of astronomical twilight, when the Sun is 18° below the horizon and the sky is fully dark, changes from 7:09pm EST at the beginning of the month, and moves to 8:46pm EDT at month’s end, giving just over three hours of darkness to observe before midnight.

Among the welcome changes are that the cold, blustery nights are mostly behind us. And with the warmer nights, by the end of March, the spring peepers will be making their annual return, their nightly chirps being the harbinger of a chorus of nocturnal wildlife that will accompany our observing from now until the cool nights of autumn.

March also brings the opportunity to

observe the entirety of the Messier catalog in a single night.

But first, a tour around our solar system.

The **Sun** enters Pisces on the 11th, after having spent the past 40 days moving through Aquarius.

For the past six months, the Sun has been positioned below the celestial equator, that is, in the southerly declinations. At 11:06pm EDT on the 19th, it crosses the equator and moves into the northern sky, shining directly onto Earth’s northern hemisphere for the first time since the end of last summer. This is the equinox, which translates to “equal night,” although due to the Sun having a finite apparent diameter and atmospheric refraction, the true “equal night” occurs on the 17th for our latitude.

Additionally, although unrelated to the position of the Sun, it does affect the times of sunrise, sunset, and other events going forward. Our semiannual daylight time clock shift occurs at 2:00am on the 10th, shifting local time ahead an hour to Eastern Daylight Time, which is four hours behind UTC.

The last quarter **Moon** passes a scant 0.1° south of Antares (alpha Scorpii) on the morning of the 3rd. For observers in the southeastern United States, the Moon will

Events in March

2	17:00	Juno Opposition (mag 8.6)
3	03:00	Moon 0.1° S of Antares
3	10:23	Last Quarter Moon
8	06:00	Moon 4.8° SE of Mars
8	06:00	Moon 5.7° SSW of Venus
10	04:00	New Moon (Lunation 1252)
10	19:00	Moon 3.2° NW of Mercury
11	23:00	Sun in Pisces
13	21:00	Moon 2.8° N of Jupiter
14	23:00	Moon 1.0° SW of M45
16	20:00	Moon 1.5° ESE of Elnath
17	00:11	First Quarter Moon
17	07:22	Neptune Conjunction
19	03:00	Moon 2.0° SSW of Pollux
19	23:06	Equinox
20	03:00	Moon 3.0° NNW of M44
22	05:00	Moon 2.2° NNE of Regulus
22	06:15	Venus 0.6° NE of Saturn
24	18:00	Mercury Greatest Elongation (18.7°E)
25	03:00	Full Worm Moon Penumbral Eclipse
26	20:42	Latest Mercuryset
26	21:00	Moon 2.5° E of Spica
30	05:00	Moon 3.0° W of Antares

Ephemeris times are in EST (UTC-5) through March 9 and EDT (UTC-4) after March 9 for Seagrave Observatory (41.845N, 71.590W)

ocult the star. The two objects are closest

Mercury in the Evening!

Mercury 40 minutes after sunset

On Mar 20 three weeks after Superior Conjunction (SC), Mercury moves nearer to Earth but still appears as a gibbous phase. It is easily visible now out of the brighter twilight.

On March 15, Mercury is relatively far and appears as a gibbous phase. It begins to climb out of the brightest twilight and appears as a bright point.

Superior Conjunction (SC) Feb 28

Greatest Eastern Elongation: Mercury reaches its "half" phase higher in the darker twilight. It is relatively easy to see.

After Mar 27, four to five weeks after SC, Mercury is relatively close to Earth, and appears in the bright twilight as a crescent. It is dim and difficult to spot.

Mercury's best evening apparition of 2024!

From 40 to 60 minutes after sunset after March 15th, look to the west for a point of light shining low above the horizon.

- Outstretch your arm and make a fist. Place one side at the true horizon. At its other side should be Mercury.
- Over the next week, the little planet rises slightly higher each evening into the darker twilight while brightening, making it easier to spot.
- On the 24th, Mercury appears as far from the set sun as it will be. This point in its orbit is called Greatest Eastern Elongation. Just three nights later as it descends in the twilight, it will become much more difficult to spot.

eclipse, the Moon lies almost entirely within the penumbral shadow, with just a small position of the Moon's upper limb not covered. While penumbral eclipses are not as conspicuous as a partial umbral eclipse, you may be able to perceive a distinct gradient that runs darker towards the southern limb of the Moon.

During its waning gibbous phase, the Moon passes 2.5° east of Spica, in Virgo, on the 26th, and on the 30th it makes another pass by Antares, this time at 3.0° to the west.

Mercury moved past superior conjunction on February 28, and appears in the evening sky during March for its most favorable evening appearance of 2024.

The first week of the month has Mercury setting less than an hour after the Sun, but each night it moves northeastward, away from the Sun, in a line perpendicular to the horizon, through greatest elongation on the 24th, when it will be 18.7° from the Sun, and setting over 90 minutes after sunset. Mercury's latest setting during this apparition is 8:42pm EDT on the 26th.

Given Mercury's position, relatively high above the horizon during evenings, makes this the best time to observe the tiny planet's rapidly changing phases. As Mercury climbs higher each night, its illuminated fraction decreases as its apparent size increases. It goes from 91%, 5.4 arcsecond gibbous on the 10th, to 7.1 arcsecond 50% "half-moon" on the 22nd, and ending the month at a 9% crescent growing to over 9 arcseconds.

If you're doing your Messier Marathon

a few minutes before 3:00am EDT. This is a very good demonstration of the Moon's motion in the sky relative to the background stars. Begin by tracking Antares with a telescope at medium magnification, and use the Moon's terminator (the division between the light and dark halves of the Moon) as your reference line. The eastward movement of the Moon should be apparent in under one minute.

The Moon is new at 4:00am EDT on the 10th, beginning Lunation 1252. Just 15 hours later is an opportunity to observe the very young, 0.5% illuminated crescent Moon less than 30 minutes after sunset. It will be almost directly below Mercury by 3.3°.

After joining Jupiter, 2.8° to the planet's north on the 13th, the Moon visits the Pleiades once again on the 14th, when the 4-day crescent passes just 1.0° southwest of the cluster. The closest appearance takes place just before Moonset, around 11:00pm EDT.

On the 16th, the Moon passes 1.5° east-southeast of Elnath (beta Tauri) in the early evening. Only 5 hours later, just after midnight on the 17th, the Moon is first quarter.

Through its waxing gibbous phase, the Moon is 2.0° south-southwest of Pollux, in Gemini, on the 19th, 3.0° north-northwest of the Beehive Cluster, M44 in Cancer, on the 20th, and 2.2° north-northeast of Regulus, in Leo, on the 22nd.

The **Full Worm Moon** occurs on the night of the 24th-25th, and, as this full Moon is only a half-cycle from April's total

solar eclipse, the Moon undergoes a lunar eclipse. Unfortunately, however, this is only a penumbral eclipse, which means that no part of the lunar disk slips into the dramatically dark umbral shadow, the shadow under which no part of the Sun illuminates any section of the Moon. In a penumbral eclipse, an observer on the surface of the Moon covered by the penumbral shadow would witness a partial eclipse of the Sun, with Earth covering a portion of, but not the entirety of, the Sun's disk.

The penumbral eclipse begins at 12:53am, peaks at 3:12am, and ends at 5:32am EDT on the 25th. At maximum

ASTRONOMICAL LEAGUE Double Star Activity

Other Suns: Alpha Ursae Majoris

How to find Alpha Ursae Majoris on a March evening

Face northeast. Look for the Big Dipper standing upright on its handle. Alpha is the star on the upper left corner of the bowl.

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

Alpha UMa

A-B separation: 381 sec
A magnitude: 2.0
B magnitude: 7.0
Position Angle: 204°
Colors:
orange
dark orange

Try binoculars!

at the end of the month, you will find the galaxy M74 in Pisces just 2.5° to the north of Mercury.

Venus continues to recede into the pre-dawn twilight during March. Although it rises less than an hour before sunrise, its magnitude -3.9 brilliance maintains its ease of visibility for observers with an unobstructed east-southeast horizon.

As Venus is on its way to superior conjunction in June, and is over 1.5 au away, its gibbous phase is now nearly indiscernible on its nearly 11 arcsecond globe.

The waning crescent Moon is 5.7° south-southwest of Venus on the 8th.

Have you seen **Mars** lately? Chances are you last observed the Red Planet six months ago, when it was still low in the western sky after sunset. Although Mars has been a morning planet since it passed conjunction back in November, it has remained too close to the Sun to be easily observed.

While Mars doesn't rise into astronomical darkness during March, it is above the horizon at least an hour before the Sun. It is about as bright as Pollux, and should be relatively easy to see, at least with binoculars, low on the east-southeast horizon.

At the beginning of March, it is within 4° west of Venus, and on the 8th, the waning crescent Moon is 4.8° to the southeast, appearing almost directly below Mars.

At over 2 AU distant, Mars appears as a tiny, 4.5 arcsecond globe in a telescope.


Jupiter, which has maintained a prominent position high in the south for the past few months, is now slowly receding into the southwest in the evenings.

The 3-day crescent Moon is 2.8° north of Jupiter in the 13th, presenting an opportunity to view not just two, but six solar system bodies at the same time in a small telescope. Use your lowest magnification to try to fit both Jupiter and the Moon in view. Around Jupiter, find its Galilean moons Europa to the planet's east, and Io, Ganymede and Callisto to its west. You may notice what appears to be an extra moon to the north of Jupiter; this is not a moon, but omicron Arietis, a class B9 main sequence star that lies over 590 light years away.

By the end of March, Jupiter sets by 10:00pm EDT.

Saturn, which passed conjunction in late February, is low in the morning sky in March and difficult to observe as it will be lost in twilight. The first opportunity to locate it occurs on the 22nd, when brilliant Venus, 0.6° to its northeast, points the way.


Although the position of **Uranus** in



Said to be one of the eeriest sights encountered in galaxy observing.

NGC 4435 & 4438

"The Eyes"—Two Spiral Lenticular Galaxies



Navigate to NGC 4435 & 4438

1. Find Beta Leonis (Denebola) and Epsilon Virginis (Vindemiatrix).
2. Draw a line from Beta to Epsilon.
3. M84 and M86 lie at the mid point of that line.
4. NGC 4435 & 4438 glow about 40 minutes east of M86.
5. In a 40 minute field, they appear as two eyes staring back in the blackness of space.

Bonus Galaxies:
The region abounds in galaxies: M84, M86, M87, and many fainter ones.

Recommended Aperture:
Not less than 10 inches. The larger, the better.

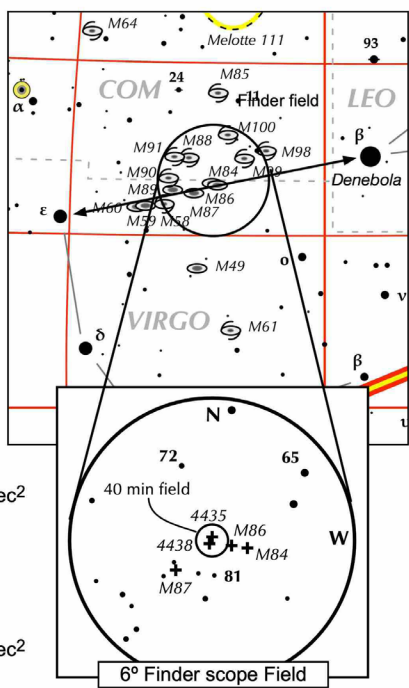
Yes, they do resemble two eyes staring at you from the blackness of space!

Published Characteristics for NGC 4435

Integrated magnitude: 11.7
Size: 2.8 min x 2.0 min
Surface brightness: 13.7 mag./min², 22.6 mag./sec²
Position Angle: 10°
Distance: 52 million light-years

Published Characteristics for NGC 4438

Integrated magnitude: 10.6
Size: 8.6 min x 3.2 min (bright core, faint tails)
Surface brightness: 15.0 mag./min², 24.0 mag./sec²
Position Angle: 20°
Distance: 52 million light-years



6" Finder scope Field

40 minute field

Try your hand at sketching!

Eye-piece Impressions:

NGC 4435: Very small, elusive. Uniform brightness. Use averted vision. Near NGC 4438 and located 25' east of M86. (6-inch Cass.; ACAC)
10 inch f/10 SCT, 125x: "NGC 4435 is slightly elongated with a bright center." JG

NGC 4438: Extremely elongated, uniform brightness, very large. Use averted vision. Located 4' south of NGC 4435. (6-inch Cass.; ACAC)
10 inch f/10 SCT, 125x: "NGC 4438 is elongated with a bright center. Under careful observation, wispy outer regions are noticed." JG

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The Eyes – NGC 4435 & 4438

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southern Aries hasn't changed significantly all year, you may notice that Jupiter is slowly getting closer to it. This is indicative of Jupiter's higher orbital velocity, combined with its nearer distance to Earth, resulting in a higher parallax. The apparent angular distance between the two planets closes from 8.1° on March 1 to just 3.4° on March 31.

Besides using Jupiter as a guide, you can also find Uranus about 2.5° south-southwest of the magnitude 4.4 star Botein (delta Arietis).

Neptune is in conjunction on the 17th, and won't be visible until late April.

The third-discovered asteroid, **Juno**, reaches opposition on the 3rd in Leo. At 1.68 au distant, the 250-kilometer object shines at magnitude 8.5 in early March. On the 1st, it lies just 0.6° west-northwest of 58 Leonis, a magnitude 5.8 star that is 15°

southeast of Regulus. From there, it moves northwestward towards rho Leo, coming within 1.3° to the southeast of the magnitude 3.8 star at the end of the month.

Dwarf planet **Ceres** is moving higher in the morning sky, making it easier to observe. It lies within 1° of the large and bright globular cluster M22 in Sagittarius during the first week of the month, and any size telescope will be capable of picking up its magnitude 8.9 stellar speck, which is still just over 3 au away from Earth.

Pluto makes its reappearance in the March sky, but only low in the southeast during the latter half of the month. It will not reach optimal viewing position for a few more weeks, but if you don't want to wait, you can find the distant, magnitude 14.6 dwarf planet 0.9° south of the magnitude 5.3 star 4 Capricorni.

4 Vesta, our brightest asteroid, fades to

8th magnitude as it continues its easterly trek through eastern Taurus, and remains visible in binoculars high in the sky.

On the 6th, it lies on the line bisecting Elnath and Tianguan (beta and zeta Tauri, respectively), and is 1.6° north of M1, the Crab Nebula. By month's end, Vesta lies just 2.1° west of open cluster M35 in Gemini.

2 Pallas, though not as bright at magnitude 9.3, is in a good position for observing in the morning sky, as it is located in southern Hercules. In early March, the 510-kilometer asteroid is about 6° west of kappa Ophiuchi, and from there it arcs northward, towards the midpoint of a line connecting Rasalgethi (alpha Herculis) and gamma Herculis, where it lies at the end of March.

There are a few comets in the March sky worth tracking.

Comet 12P/Pons-Brooks is the comet to watch in the evening sky. Visible in the west at the end of twilight, in early March it is moving eastward through Andromeda, just north of the Great Square, by a distance

of about half the height of the square. With the bright Moonlight out of the way, its 8th magnitude glow should be visible in binoculars. The comet is expected to brighten over the next few weeks, as it quickly moves roughly parallel to the horizon, finally meeting up with Hamal (alpha Aries), which it will be within 0.5° of on the 30th and 31st.

Comet 62P/Tsuchinshan 1 has peaked around magnitude 8 and can be found slowly moving westward through Virgo, a few degrees south of the Realm of the Galaxies. This should be a relatively easy pick-up while conducting the Messier Marathon.

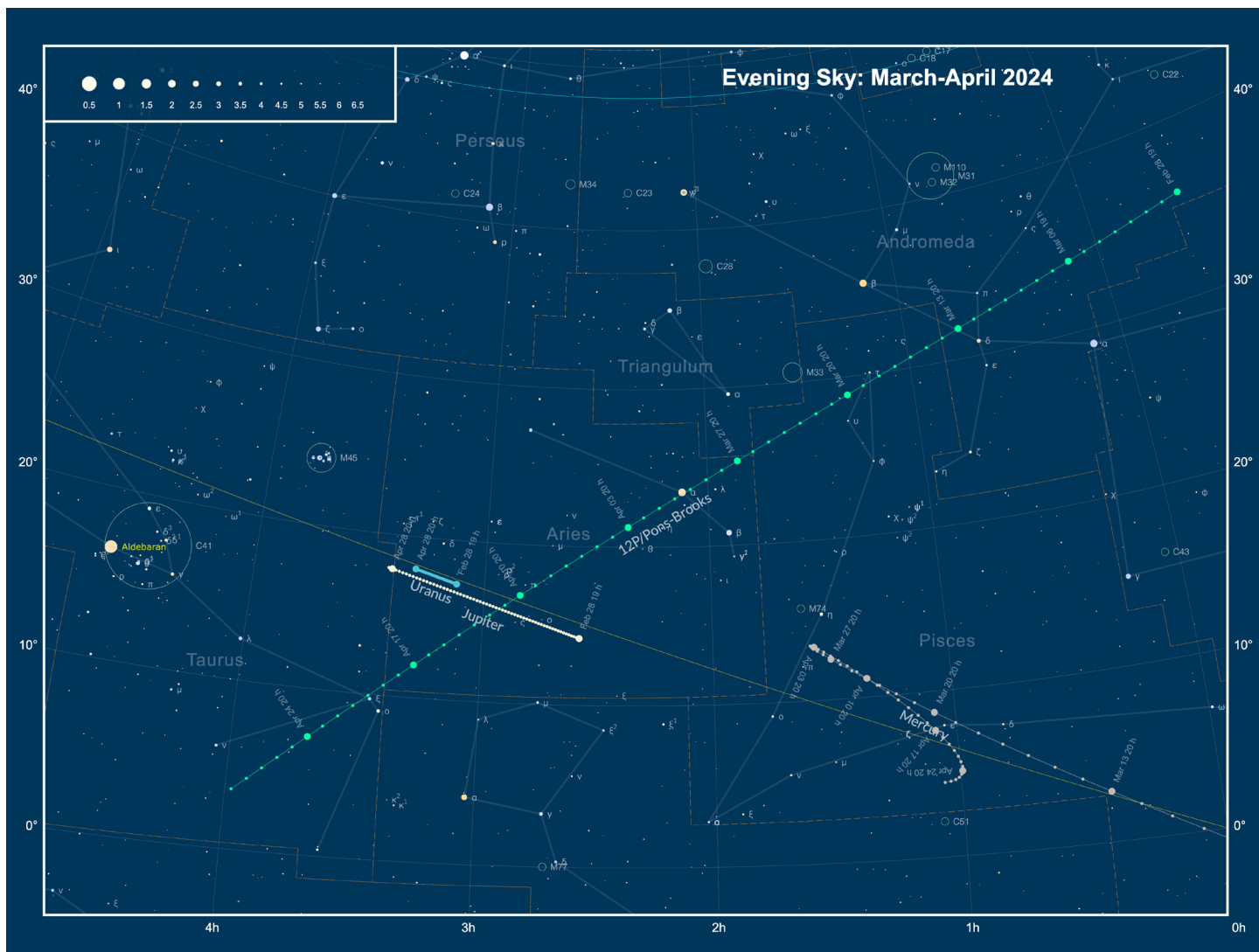
Comet 144P/Kushida, although a bit dimmer at magnitude 9, but is notable for being positioned high in the south in the early evening. On the 1st, it is just 4.0° south of Tianguan (zeta Tauri), and within the same 1° field of view of I19 Tauri, a 4th magnitude M2-class (red) supergiant star that should make for a nice contrast with the green-tinted comet when viewed in

larger telescopes.

The comet then sails eastward through the club of Orion, and passes within 1.5° north of Alhena (gamma Geminorum) on the 21st.

For our latitude of around 42° north, March 16-20 is usually the ideal window during which to conduct the annual **Messier Marathon**, that is, a single night observing session, during which it is possible to see all 110 objects in the Messier catalog of deep sky objects. However, this year, the first quarter Moon lands on the 16th, and doesn't depart the sky until a few minutes before 3:00am. As the extra ambient light produced by the Moon interferes with observing some of the fainter fuzzies, it would be optimal to try the marathon a little earlier this year.

On the night of the 14th-15th, the 4.8-day, 28% illuminated crescent Moon departs the sky a few minutes past midnight, making the galaxy-hunting portion of the effort unimpeded by the Moon's ambient skyglow.



Telescope Review

ZWO Seestar S50 All-in-One Smart Telescope

by Jeff Padell

After watching some YouTube videos and haunting the Seestar Facebook groups, I decided to buy a S50. For astro gear they are relatively short money, \$499. You can run them from a phone or tablet and it is a self contained unit with a built in battery and SD card. The only thing I added was a power tank to run both the tablet and scope for extender periods.

First I have to apologize, the recent cloudy weather is my fault.

The other day I set it up in the window

of my den and opened the window and imaged M42 for about 26 minutes as it came from behind one bunch and trees and headed to the other.

The Seestar can give you a stacked image or individual FITS to download and stack yourself. I did 3 separate exposures and the Seestar gave a stacked image for each (3 total). I then downloaded the FITS images and stacked them in PixInsight. Today I decided to find out how well the Seestar would stack all the images.

I didn't cull them to look for the best stars, just did all 177 10 second subs. Here is what I got.

I got this scope to use for the eclipse in April with a white light filter, and for outreach as I am tired of loading up half my Jeep with gear rather than an almost lunch box-size case. It is alt/az so can get field rotation as you can see from the image.

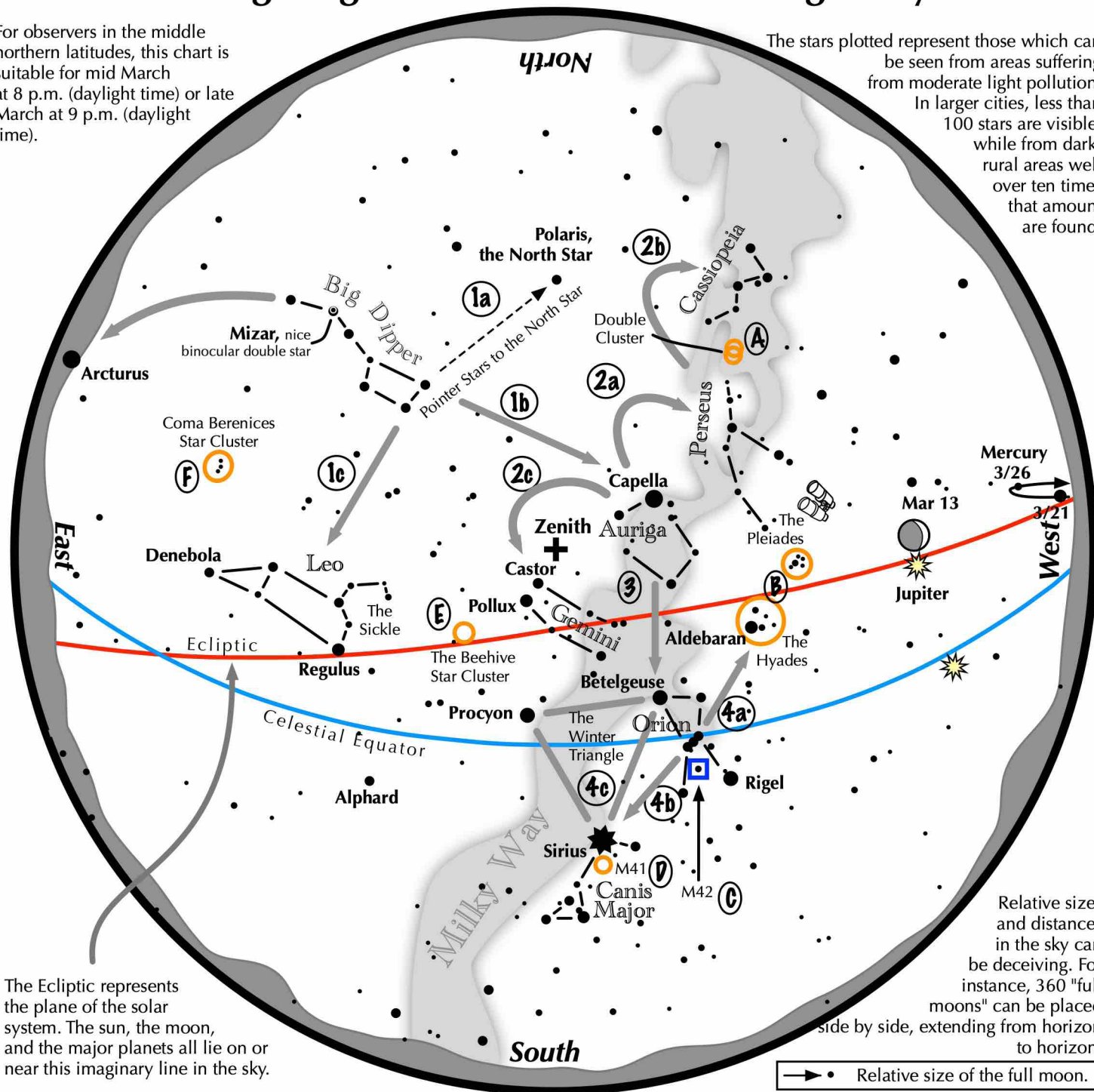
I think Skyscrapers should look into getting one or more of these for outreach. Greg Shanos also has one.



Navigating the mid to late March Night Sky

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

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



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

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

→ • Relative size of the full moon.

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

- 1 Above the northeast horizon rises the Big Dipper. Draw a line from its two end bowl stars upwards to the North Star. Its top bowl stars point west to Capella in Auriga, nearly overhead. Leo reclines below the Dipper's bowl.
- 2 From Capella jump northwestward along the Milky Way to Perseus, then to the "W" of Cassiopeia. Next jump southeastward from Capella to the twin stars of Castor and Pollux in Gemini.
- 3 Directly south of Capella stands the constellation of Orion with its three Belt Stars, its bright red star Betelgeuse, and its bright blue-white star Rigel.
- 4 Use Orion's three Belt stars to point northwest to the red star Aldebaran and the Hyades star cluster, then to the Pleiades star cluster. Travel southeast from the Belt stars to the brightest star in the night sky, Sirius. It is a member of the Winter Triangle.

Binocular Highlights

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



The Sun, Moon & Planets in March

This table contains the ephemeris of the objects in the Solar System for each Saturday night in March 2024. Times in Eastern Standard Time (UTC-5) through March 9, Eastern Daylight Time (UTC-4) after March 9. Ephemeris times are for Seagrave Observatory (41.845N, 71.590W).

Object	Date	RA	Dec	Const	Mag	Size	Elong	Phase(%)	Dist(S)	Dist(E)	Rise	Transit	Set
Sun	2	22 53.2	-7 06.2	Aqr	-26.8	1936.5	-	-	-	0.991	06:18	11:58	17:38
	9	23 19.2	-4 23.5	Aqr	-26.8	1933.0	-	-	-	0.993	06:07	11:56	17:46
	16	23 44.9	-1 38.1	Psc	-26.8	1929.4	-	-	-	0.995	06:55	12:54	18:54
	23	0 10.5	1 07.9	Psc	-26.8	1925.7	-	-	-	0.997	06:43	12:52	19:02
	30	0 35.9	3 52.3	Psc	-26.8	1921.8	-	-	-	0.999	06:31	12:50	19:10
Moon	2	15 19.8	-21 51.1	Lib	-12.1	1794.9	109° W	66	-	-	23:59	04:42	09:18
	9	22 08.7	-15 47.8	Aqr	-9	1981.9	20° W	3	-	-	05:58	11:24	17:03
	16	4 36.2	26 12.1	Tau	-11.6	1910.2	76° E	38	-	-	10:29	18:39	02:53
	23	10 45.8	11 02.1	Leo	-12.5	1783.7	155° E	95	-	-	17:37	00:11	06:34
	30	15 59.5	-24 45.7	Sco	-12.3	1803.8	128° W	81	-	-	23:58	04:29	08:54
Mercury	2	23 04.4	-7 41.9	Aqr	-1.4	5.0	3° E	100	0.367	1.354	06:34	12:11	17:50
	9	23 52.9	-1 33.5	Psc	-1.3	5.3	9° E	94	0.330	1.273	06:32	12:32	18:34
	16	0 38.8	4 49.7	Psc	-1	5.9	15° E	78	0.308	1.133	07:27	13:50	20:14
	23	1 15.3	10 11.4	Psc	-0.3	7.1	18° E	51	0.316	0.949	07:16	13:57	20:40
	30	1 34.5	13 11.2	Psc	1	8.8	17° E	24	0.348	0.770	06:56	13:47	20:38
Venus	2	21 21.6	-16 13.6	Cap	-3.8	11.2	24° W	92	0.728	1.508	05:23	10:27	15:31
	9	21 55.9	-13 38.9	Cap	-3.8	11.0	23° W	93	0.728	1.538	05:20	10:34	15:48
	16	22 29.4	-10 46.0	Aqr	-3.8	10.8	21° W	94	0.728	1.566	06:15	11:39	17:05
	23	23 02.1	-7 38.7	Aqr	-3.8	10.6	19° W	95	0.728	1.592	06:08	11:45	17:22
	30	23 34.3	-4 21.3	Aqr	-3.8	10.5	17° W	96	0.728	1.616	06:01	11:49	17:38
Mars	2	21 05.9	-17 44.4	Cap	1.3	4.2	28° W	97	1.413	2.206	05:13	10:10	15:07
	9	21 27.6	-16 08.9	Cap	1.2	4.3	30° W	97	1.407	2.179	05:01	10:04	15:08
	16	21 49.0	-14 25.3	Cap	1.2	4.3	31° W	96	1.401	2.152	05:48	10:58	16:09
	23	22 10.1	-12 34.8	Aqr	1.2	4.4	33° W	96	1.397	2.125	05:34	10:51	16:09
	30	22 30.9	-10 38.5	Aqr	1.2	4.5	34° W	96	1.393	2.098	05:20	10:45	16:10
1 Ceres	2	18 34.0	-22 59.1	Sgr	9.0	0.4	64° W	97	2.811	3.099	03:04	07:37	12:11
	9	18 43.3	-23 04.9	Sgr	9.0	0.4	69° W	97	2.816	3.016	02:46	07:19	11:52
	16	18 52.1	-23 10.3	Sgr	9.0	0.4	74° W	97	2.821	2.930	03:28	08:00	12:33
	23	19 00.3	-23 15.7	Sgr	8.9	0.4	79° W	97	2.826	2.841	03:09	07:41	12:13
	30	19 07.8	-23 21.8	Sgr	8.8	0.5	84° W	97	2.832	2.751	02:49	07:21	11:53
Jupiter	2	2 37.4	14 24.6	Ari	-2.0	36.3	60° E	99	4.997	5.425	08:44	15:39	22:35
	9	2 42.3	14 48.9	Ari	-2.0	35.6	54° E	99	4.999	5.520	08:19	15:17	22:14
	16	2 47.5	15 14.1	Ari	-2.0	35.1	48° E	99	5.001	5.609	08:56	15:54	22:53
	23	2 53.0	15 39.8	Ari	-1.9	34.6	43° E	100	5.002	5.690	08:32	15:32	22:33
	30	2 58.8	16 06.0	Ari	-1.9	34.1	37° E	100	5.004	5.763	08:08	15:11	22:13
Saturn	2	22 48.7	-9 18.5	Aqr	1.0	15.5	2° W	100	9.720	10.711	06:22	11:51	17:20
	9	22 52.0	-8 59.4	Aqr	1.0	15.5	8° W	100	9.718	10.700	05:57	11:27	16:57
	16	22 55.1	-8 40.6	Aqr	1.0	15.5	14° W	100	9.716	10.678	06:31	12:02	17:33
	23	22 58.2	-8 22.2	Aqr	1.1	15.6	20° W	100	9.714	10.643	06:06	11:38	17:10
	30	23 01.3	-8 04.3	Aqr	1.1	15.6	26° W	100	9.712	10.596	05:40	11:13	16:47
Uranus	2	3 09.0	17 21.8	Ari	5.8	3.5	68° E	100	19.604	19.958	09:03	16:10	23:18
	9	3 09.9	17 25.5	Ari	5.8	3.5	61° E	100	19.603	20.066	08:36	15:44	22:51
	16	3 10.9	17 29.8	Ari	5.8	3.5	54° E	100	19.601	20.167	09:09	16:17	23:25
	23	3 12.0	17 34.5	Ari	5.8	3.5	48° E	100	19.600	20.259	08:43	15:51	22:59
	30	3 13.3	17 39.7	Ari	5.8	3.5	41° E	100	19.599	20.343	08:16	15:25	22:33
Neptune	2	23 50.1	-2 23.8	Psc	8.0	2.2	15° E	100	29.902	30.859	06:59	12:52	18:46
	9	23 51.1	-2 17.6	Psc	8.0	2.2	8° E	100	29.902	30.884	06:32	12:25	18:19
	16	23 52.0	-2 11.3	Psc	8.0	2.2	2° E	100	29.902	30.896	07:05	12:59	18:53
	23	23 53.0	-2 05.0	Psc	8.0	2.2	5° W	100	29.902	30.894	06:38	12:32	18:27
	30	23 54.0	-1 58.8	Psc	8.0	2.2	12° W	100	29.901	30.878	06:11	12:06	18:01
Pluto	2	20 16.6	-22 40.6	Cap	14.5	0.2	41° W	100	34.965	35.710	04:44	09:19	13:54
	9	20 17.4	-22 39.3	Cap	14.5	0.2	48° W	100	34.969	35.632	04:17	08:52	13:27
	16	20 18.0	-22 38.1	Cap	14.5	0.2	54° W	100	34.974	35.544	04:50	09:25	14:00
	23	20 18.7	-22 37.3	Cap	14.5	0.2	61° W	100	34.979	35.449	04:23	08:59	13:34
	30	20 19.2	-22 36.8	Cap	14.5	0.2	68° W	100	34.984	35.346	03:56	08:32	13:07

Observer's Challenge: NGC 1579: Diffuse Nebula in Perseus

by Glenn Chaple

Magnitude 11 [est.], Size 12' X 8'

February is a great time of year to view the Trifid Nebula. I'm not talking about the one in Sagittarius (Messier 20) which won't even appear in the sky until just before sunrise. I'm referring to the reflection nebula NGC 1579 in Perseus whose photographic similarity to M20 earned it the nick-name the Northern Trifid.

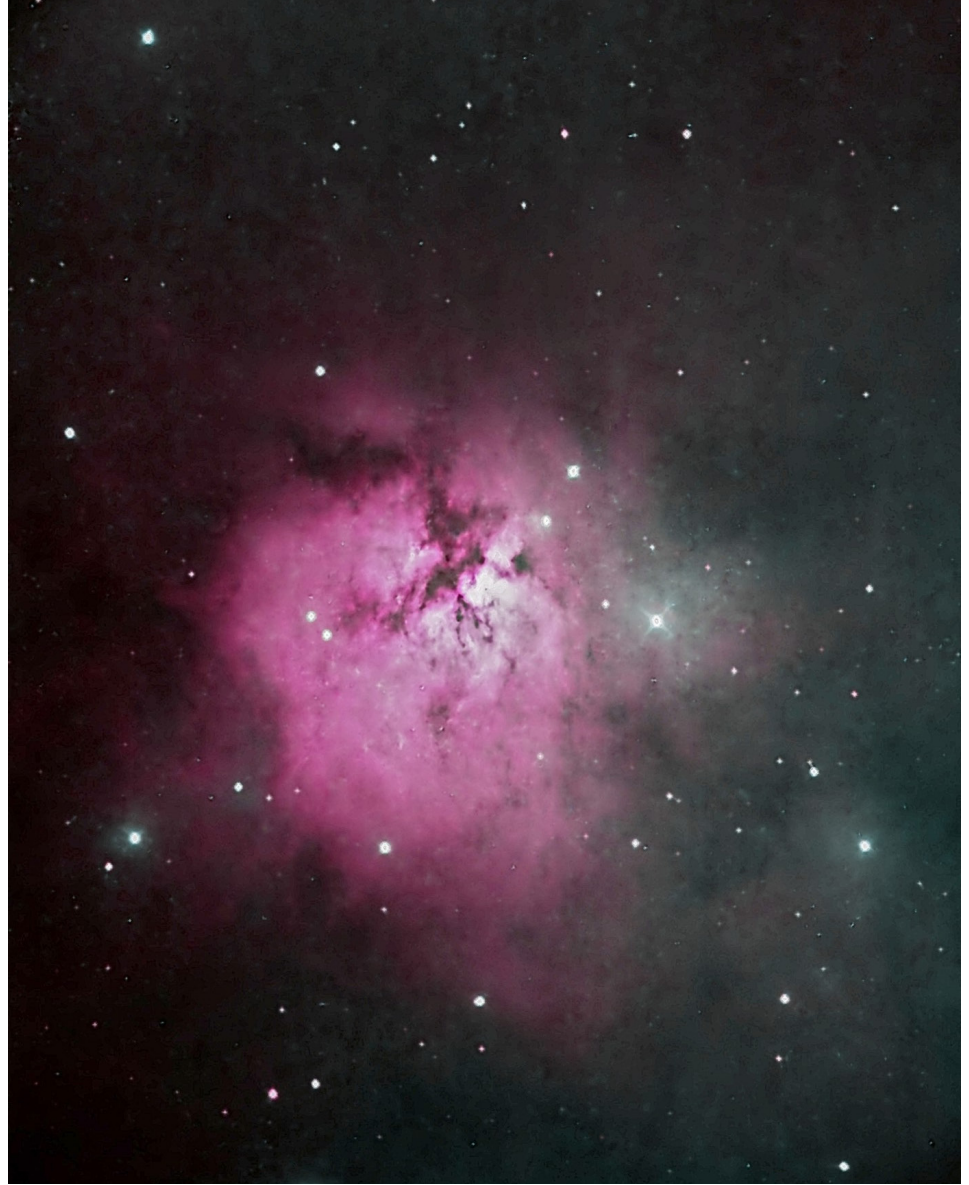
William Herschel discovered this nebula on December 27, 1788 and cataloged it as his 217th Class I (Bright Nebulae) object. He described it as "Considerably bright, considerably large, much brighter in the middle."

NGC 1579 is located at 2000.0 coordinates 4h30m09.5s RA and +35o16'19" Dec. I star-hopped to the area by starting at the 4th magnitude star xi (ξ) Persei and moving 5 ½ degrees ESE to an attractive 3-star row comprised of 6th magnitude 55 and 56 Persei and the pretty double star Struve (Σ) 533 (magnitudes 7.3 and 8.5, separation 19.0"). NGC 1579 was a little over a degree NE of this star.

Although the Northern Trifid might be captured with small-aperture scopes in areas blessed with truly dark skies, it more realistically requires an aperture of 10 inches or more – especially from slightly light-polluted suburban skies. Magnifications of between 50XC and 100X work best.

Most sources place NGC 1759 at a distance of 2000 light years. This is a young star-forming region with an age of perhaps 1 million years.

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



I had some initial difficulty with this one. I took it in NB filters, but essentially no Sulfur signal and very weak O3, so color very poor. I then took RGB, but.. very weak as well, and poor definition, so.. I then processed with Ha as red, and used B and G for color, and came out much better. Taken with my 32 inch F6.5 telescope, about 1.5 hours Ha, 40 min each R and G, processed in Pix. Mario Motta, MD (ATMoB)





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

NASA Night Sky Notes:

Constant Companions: Circumpolar Constellations, Part II

by Kat Troche

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

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

- **12 Lyncis** – a triple star that can be resolved with a medium-sized telescope.
- **10 Ursae Majoris** – a double star that was once a part of Ursa Major.

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

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

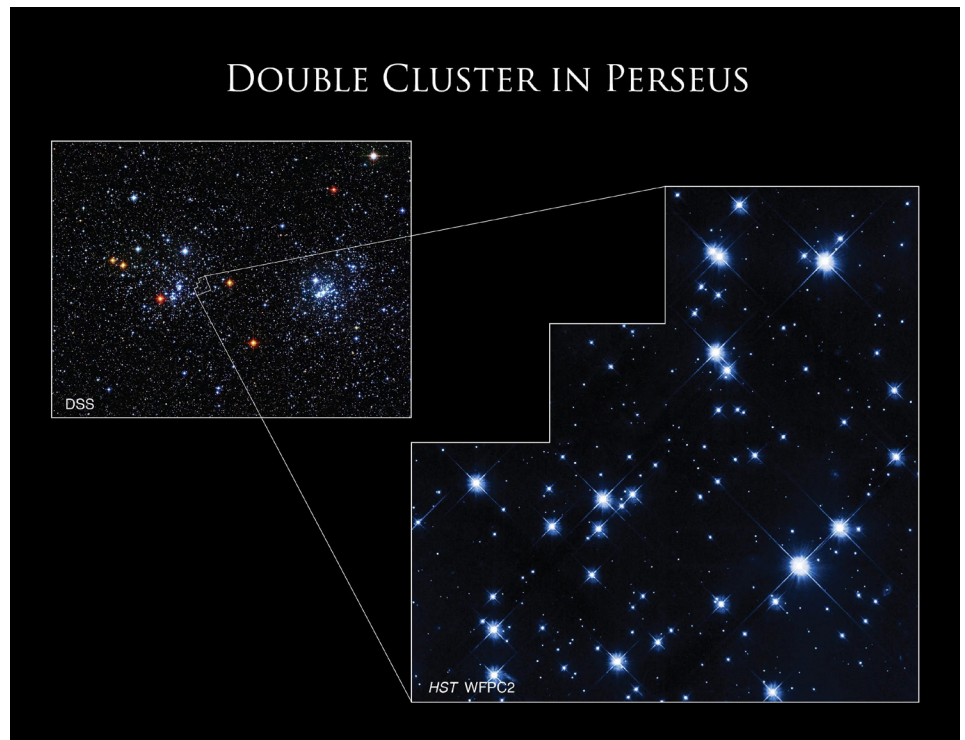
Double Cluster: The constellation Perseus contains the beautiful Double Cluster, two open star clusters (NGC 869 and 884) approximately 7,500 light-years from Earth. This object can be spotted with a small telescope or binoculars and is photographed by amateur and professional photographers alike. It can even be seen with the naked eye in very dark skies. Also in Perseus lies **Algol, the Demon Star**. Algol is a triple-star system that contains an eclipsing binary,

meaning two of its three stars constantly orbit each other. Because of this orbit, you can watch the brightness dim every two days, 20 hours, 49 minutes – for 10-hour periods at a time. For a visual representation of this, revisit [NASA's What's Up: November 2019](#).

From constellations you can see all year to a once in a lifetime event! Up next, find out how you can partner with NASA volunteers for the April 8, 2024, total solar eclipse with our upcoming mid-month article on the Night Sky Network page through NASA's website!

This article is distributed by NASA's Night Sky Network (NSN). The NSN program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit nightsky.jpl.nasa.gov to find local clubs, events, and more!

A ground-based image from the Digitized Sky Survey (DSS) in the upper left shows Caldwell 14, the Double Cluster in Perseus, with an outline of the region imaged by Hubble's Wide Field and Planetary Camera 2 (WFPC2). Ground-based image: Digitized Sky Survey (DSS); Hubble image: NASA, ESA, and S. Casertano (Space Telescope Science Institute); Processing: Gladys Kober (NASA/Catholic University of America)



Star Party Reports

Cupids & Constellations at Norman Bird Sanctuary, Middletown, MA Wednesday, February 14, 2024 by Francine Jackson

February 14th may have been one of the coldest nights this year, but, it was also St. Valentine's Day, and the Norman Bird Sanctuary invited the public to its Cupids and Constellations night. The skies couldn't have been more perfect for observing, despite our having to set up in the snow.

Twenty hardy souls came to listen to Education Coordinator Sara Poirier first in-

roduce the winter sky via PowerPoint, including such beauties as the Heart Nebula, and the gorgeous Owl Cluster. Then, armed with hot chocolate, half the group went on a nature hike, while the others stayed with Sara, Jim Hendrickson and Francine Jackson to show the Moon, Jupiter, M42, and even the Owl Cluster, among others.

Suddenly, a giant cloudlike object began traveling across the sky. Jim recognized it as a part of the SpaceX USSF-124 that had launched just hours before. Using her 8-inch Dobsonian, Sara followed it for

a while, and saw several satellites ejected from it.

When the nature group returned, several of them realized they were too cold to remain outside, but there were others who ventured to the telescopes to see images of the beautiful celestial objects.

Returning inside to grab another hot chocolate before breaking down our scopes, Sara declared the night a great success, and stated there will be other observing nights, preferably in the warmer weather.



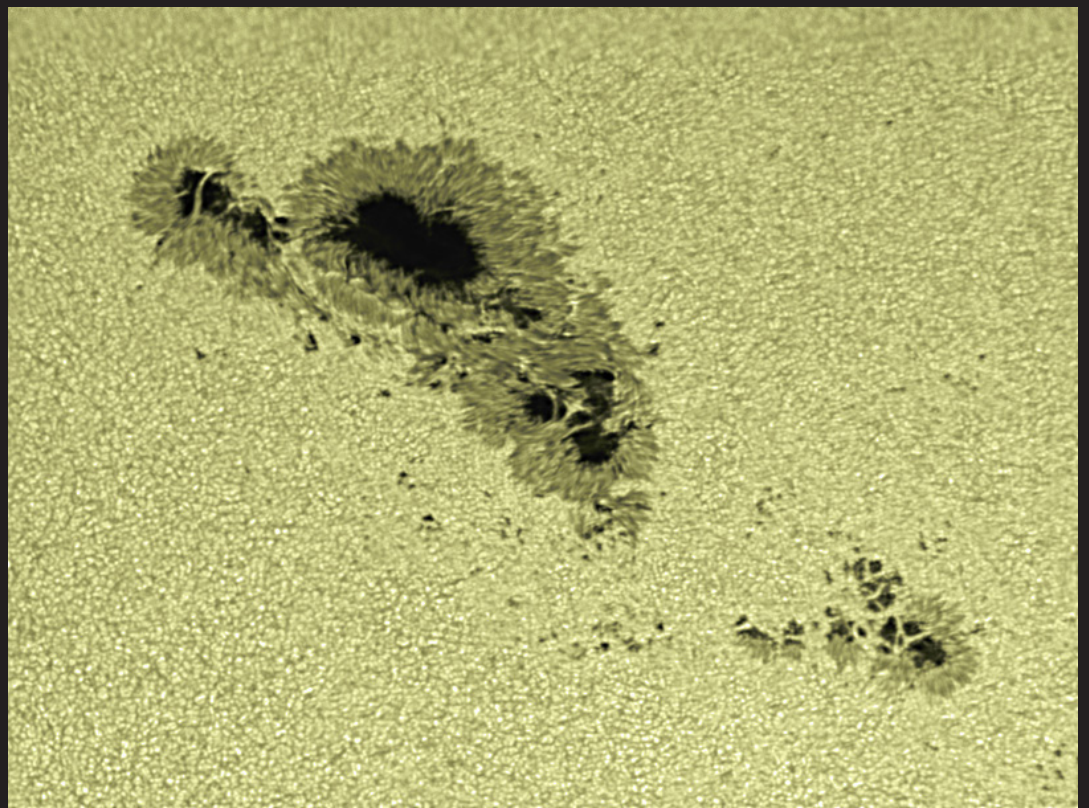


Lunar X & V by Greg Shanos

February 16, 2024 23h 58m UT. The Lunar X and V are rather difficult to see on the disk of the Moon. This image was cropped and push-processed to reveal the X and V near the terminator in high relief. I was also able to observe the X and V visually using a Meade LX200GPS 8-inch GO-TO Schmidt-Cassegrain ACF at 80 power. This cropped image approximates the visual view through an eyepiece of this phenomenon. The Lunar X (also known as the Werner X) is a claire-obscure effect in which light and shadow creates the appearance of a letter 'X' on the rim of the craters Blanchinus, La Caille and Purbach. The X is visible beside the terminator about one-third of the way up from the southern pole of the Moon. The Lunar V forms along the northern part of the terminator near the crater Ukert. Image by Gregory T. Shanos Sarasota, Florida

Sunspot Active Region 3590 by Steve Hubbard

Taken Feb 25 with 6 inch F8 refractor, Altair white light wedge and Apollo mini m camera.



Reports

Minutes – Skyscrapers Executive Committee Meeting via Zoom Monday – January 15, 2024 / 7PM

Executive Committee meeting of Skyscrapers, Inc. was called to order at 7:00 pm by President Linda Bergemann.

Also present virtually were: Maria Brown, Steve Brown, Russ Chaplis, Steve Hubbard, Dave Huestis, Bob Janus, Angella Johnson, Kathy Siok, Steve Siok

Total = 10

Absent: Michael Corvese, Bob Horton, Jim Hendrickson

Minutes from November, 20, 2023 meeting were published in the Skyscraper without any corrections. Copies are filed on the NSN calendar. There was no Executive Committee meeting held in December 2023.

Open Action Items

Scituate HS Yearbook

Kathy said the ad is all set and a check has been mailed.

Radio JOVE

Bob J reported he put four masts up, but the last work session was back in August 2023. Some discussion on trying to get more movement with this project to get something for our investment; a new team will need to be formed to work on this radio telescope project.

List of Remote A/V Equipment

Linda reports this is complete.

Champlin Grant

On hold.

Duties for Open Night Volunteers

On hold.

Develop Planet Info Cards for Open Nights

On hold.

Consolidate Library

On hold.

Officer Reports

Monthly Meetings (Russ)

FEBRUARY: Dr. Margaret Hanner from UMASS will present remotely. Linda will get information to Russ so Dr. Hanner can get in on the Zoom meeting. She has done work on the Pioneer Space Craft.

MARCH: Annular Eclipse talk – Jim Hendrickson.

APRIL: Dave H – history of Seagrave and Skyscrapers. This will be based on the presentation Dave recently gave to the Scituate Preservation Society. Annual meeting. SAT – April 13th.

MAY 4th: Andrew Casey Clyde (re-

scheduled from November 2023)

Greg Shanos – always available to speak, as a back-up.

Linda reported that Dr. Edward Guimont, author of the book, “When the Stars are Right,” is interested in speaking at a meeting. Linda will reach out to him.

Treasurer

Kathy reported on the balance sheet from 11/19/23, since there was little activity in December. She has submitted receipts for Astro Assembly. Property insurance (comparable amount as prior year), has been paid in one lump sum. The CD became due, and is now in a 14 month CD earning 4.74% to become due February 2025.

Membership Secretary

Angella reported two new members.

Trustees

Steve H reported that due to the saturation of the grounds, we have been closed for the past couple of weekends. Bob J checked the grounds and did not see any flooding. There was about 1” of water in the Alvan Clark rain barrel.

Program Committee

Michael was not present.

Observatory Committee

Steve S reported that the schedule is out, but cannot open due to weather. Luke Labriola, a new, younger member has expressed an interest in helping and would like to get trained on the 12”. Linda will send contact information to Steve Hubbard. Bob J offered to make himself available.

Special Events

Nothing to report.

Bylaws / Standing Policies

Steve Brown reported that he, Kathy S and Bob H are in the process of reviewing both the bylaws and policies. They will recommend modifications to be reviewed by the membership for approval.

Historian / Librarian

Dave H continues to work on the Seagrave historical context articles. His goal is to have the intro and first 40 years of Seagrave’s life by the June meeting. Library project is on hold. Nothing new to report about trying to sell books.

Bob J shared framed versions of Frank Seagrave’s history. He thought visitors could read about Seagrave. One could be on display in the anteroom and the other in the Alvan Clark. Linda would also like to utilize QR codes into the “75 Yearbook.”

Steve S bought a book about H. P. Lovecraft. He apparently purchased a telescope similar to the one we have. Dave said that he has not been able to find a direct connec-

tion between Lovecraft and Seagrave.

Webmaster

No report.

Unfinished Business

April 2024 Solar Eclipse

Linda and Jeff Padell will be available the day of the eclipse. There will be a livestream running. Membership will know they will be there, but there will not be any other promotion.

New Business

Equipment Inventory

Linda is reaching out to Rich Doherty for some software suggestions for inventory, such as a home inventory app. The Excel file is very cumbersome. Maybe consider a tablet purchased for the purpose of inventory, take a picture and it goes into the software. We are probably not ready for a barcode scanner, but could be considered for the future. As far as the telescopes we had, Linda reported we have sold the majority of the ones we wanted to sell.

March Executive Committee Meeting

Linda asked who will chair a Nominations Committee. Kathy may be interested, but is busy. Steve S may be interested. The voting is no longer counted by individuals, but by the computer software.

Linda also said that the Budget needs to be ready for March, so it can be presented to the membership at the April meeting.

Linda requested that if the EC members have any thoughts on budget items, to send them to her and Kathy S. Right now the Trustees have a “big wish list.” Steve B. was assured that the trim on the meeting room and paint on the gazebo are included in the standard maintenance. While it was there in last year’s budget, the weather did not cooperate.

Kathy S will send the budget to Linda.

There was some discussion on the Club getting a lawnmower – should it be brand new rather than re-investing in a used one?

Surplus Telescopes

Trustees would like to sell an Orion 6” Starblast tabletop telescope, which was donated to us. The members approved of selling this, all in favor. Linda will get in touch with Bob Napier who will purchase for a new, younger member.

Meeting adjourned at: 7:50 pm

Next meeting: MONDAY – FEBRUARY 12th at 7:00 pm.

Summary of Proposed Changes to the Skyscraper Constitution and Bylaws

January 2024

Constitution

1. Membership Category changed from Junior to Student (High School + College until age 22)

Rationale: to encourage younger members to join at a lower membership fee.

2. Officers: Elimination of 2nd Vice President

Rationale: The traditional job of the 2nd VP is to head up AstroAssembly.

For many years, this has become a job completed by a committee working together. A committee head will be appointed.

Also, this has become a very difficult office to fill.

3. Officers will be elected for a 2 year term

Rationale: Officers need time to learn all aspects of their job and to make progress on the established goals. A longer term will allow officers to get established and work more productively.

4. Officers will have a new limit of 3 full terms during which they may hold office.

Rationale: (See #3 above) In addition, it has become increasingly difficult to fill positions. This will offer another option.

Bylaws

1. Description of the duties of the Vice President was changed to one of coordinating monthly speakers.

Rationale: This officer has been working with others to generate ideas and contact speakers as a small committee.

2. The Recording Secretary keeps the minutes of the meetings and conducts the correspondence of the society.

Rationale: The Membership Secretary, who is appointed, has successfully assumed the role of dealing with membership.

3. The Senior Trustees role has been clarified as the Official spokesperson for the Trustees.

4. The membership categories called "Contributing" has been removed.

Rationale: We no longer use these categories.

Other changes are simply re-wording to clarify descriptions and details.

Constitution - January 2024

ARTICLE I: NAME

The name of this Society shall be “Skyscrapers, Inc. (Amateur Astronomical Society of Rhode Island).”

ARTICLE II: OBJECT

The object of this Society shall be to educate the membership and general public on matters pertaining to astronomy. It shall be an educational, nonprofit organization.

ARTICLE III: LEGAL STATUS

This Society is incorporated as an educational not-for-profit corporation under the laws of the State of Rhode Island, conforming to IRS Section 501(c)(3).

ARTICLE IV: MEMBERSHIP

§1 Membership classes in this Society shall be Student, Regular, Family, Senior, and such other classes as are specified in the By-Laws.

§2 An applicant for Student, Regular, Family, and Senior shall submit a Membership application together with appropriate dues to the membership Secretary of the Society. Application for membership and payment of dues may also be done on the Society’s website.

§3 Student members shall be persons currently enrolled in secondary school or college and under 22 years of age.

§4 Regular members and Senior members shall have the privilege of voting and holding office. Regular members must be 18 years of age or older; senior members must be 65 years of age or older.

§5 Family members shall be Regular members who pay the additional dues prescribed. They shall be entitled to all the privileges of Regular. Family membership provides voting privileges for (2) two individuals over 18 years of age, who are to be listed individually on the membership list.

§6 Honorary membership may be conferred upon any person for unusual and outstanding accomplishment in science. It may be conferred upon a non-member for outstanding contribution to the Society. Honorary membership is conferred by unanimous vote of those present at any Annual Meeting, the name having been proposed at a previous regular meeting of the Society. An honorary member shall have all the privileges of a Regular member except those of voting and holding office. This membership shall be for life and no dues shall be required.

§7 Membership in this Society shall provide all classes the right to have guests attend and participate in all membership functions excluding activities requiring vote by the membership.

§8 Membership Dues in this Society are as listed within the Membership Application and on the Society’s website.

§9 An individual may hold more than one class of membership simultaneously.

ARTICLE V: OFFICERS

§1 The officers shall consist of a President, Vice-President, Recording Secretary and Treasurer. Their duties shall be such as are implied by their respective titles, and as prescribed by the By-Laws.

§2 Qualifications. Officers must have been voting Members for at least one year prior to nomination. Nominees for an office should have experience in the area of responsibility of the office. This may be a result of one’s job or previous successful experience in a similar position in another organization. Nominees may be asked to provide this information upon the request of the nominating committee.

§3 The officers shall be elected by secret ballot at the Annual Meeting for a term of two years or until their successors are elected and take office. A majority of valid ballots cast shall be required to elect.

§4 No member shall hold the same office for more than three consecutive full terms.

§5 Vacancies occurring in office may be filled by appointment of the President until successors are elected at the next Annual Meeting and take office. Should the president resign, the Vice-President, with the assistance of the remaining board members should conduct the business of the Society until the elections at the next Annual Meeting or other duly called special meeting.

ARTICLE VI: MEETINGS

§1 The Annual Meeting shall be held in April of each year at the call of the President. The membership shall be notified 10 days in advance thereof.

§2 Regular meetings shall be held at the call of the President

§3 Special meetings may be called by the President or on a petition directed to the Board of Directors and signed by any 10 voting eligible members. The call shall state the pending business and no other business shall be transacted. The call shall be provided to the membership at least 10 days in advance of the special meeting.

ARTICLE VII: BOARD OF DIRECTORS

There shall be a Board of Directors, whose membership and powers shall be as prescribed by the By-Laws.

ARTICLE VIII: BOARD OF TRUSTEES

There shall be a Board of Trustees, whose membership and powers shall be as prescribed by the By-Laws.

ARTICLE IX: AMENDMENTS

The Constitution may be amended at any regular meeting by two-thirds (2/3) vote of all voting -eligible members present, provided said

amendment has been presented in writing and read at a previous regular meeting, and a notice incorporating said amendment has been provided to the membership.

ARTICLE X: BUDGETS AND EXPENDITURES

§1 The President and Board of Directors shall present a proposed yearly operating budget for membership approval at the annual meeting, or other subsequent duly called meeting.

§2 The Board of Directors shall have the authority to approve unbudgeted expenditures only if these expenditures can be accommodated without exceeding the total approved operating budget. If the total is exceeded, then changes must be approved by the Society at a duly called meeting.

§3 The Board of Directors shall have the authority to approve any expenditure deemed necessary to protect the assets of the Society during emergency situations. When an emergency situation occurs, the Board of Directors is required to inform the Society of the nature of the emergency, the steps taken to protect the property of the Society, and the amount of money that was spent, at the next monthly meeting.

ARTICLE XI: CODE OF CONDUCT

Any individual that violates Local, State, or Federal Law, or conducts themselves in any behavior that compromises the reputation of the Society, will be referred to a disciplinary board consisting of the Board of Directors and the Board of Trustees.

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ARTICLE I: FISCAL YEAR & DUES

§1 The fiscal year shall be from April 1 through the following March 31. The dues year shall be the same as the fiscal year.

§2 Dues are payable on April 1 for the dues year then beginning. The annual dues shall be as stated in the Membership Application and on the Society’s website. Persons applying for membership during the months of April through December pay the above stated annual dues for the current fiscal year (April – March). Persons applying for membership during the months of January through March pay the above stated annual dues, but their membership extends through the next fiscal year.

§3 The Membership Secretary shall, with the approval of the Board of Directors, drop from membership any member who is three months or more in arrears. Members who are not current with their dues may not vote.

ARTICLE II: OFFICERS

§1 The regular term of all Officers, Members-at-Large and Junior Trustee shall commence at the adjournment of the Annual meeting.

§2 The President may at any time appoint such additional officers, chairmen and committees as may be required. The terms of all of these (except, as appropriate, special committees) shall expire with the term of the appointing President. The President shall be, ex officio, a member of all committees.

§3 In the absence of the President the Vice-President shall assume the duties of the President. In the absence of both, the Recording Secretary shall assume the duties of the President.

§4 The President shall:

1. Preside over all meetings of the Society and Board of Directors meetings.
2. Establish an operating budget, with the assistance of the Treasurer and Board of Directors, for approval by the members of the Society, per Article X of the Constitution.
3. Oversee the business and legal responsibilities of the Society.
4. Be the official spokesperson for the Society.

§5 The Vice-President shall:

1. Coordinate programs and activities for monthly meeting.

§7 The Recording Secretary shall:

Take the minutes of all meetings, regular, special, Annual and Board of Directors, and submit a written report to be published in the Skyscraper newsletter. If required by the President, notify all additional officers, chairs and committees of their appointment.

Send all required notices to the membership. In general, conduct the correspondence of the Society.

§8 The Treasurer shall:

1. Pay on his/her authority any routine bills for periodic, recurring expenses as defined by the operational budget, per Article X of the Constitution.
2. Pay any other non-recurring bills that have been approved.
3. Keep an itemized account of all receipts and disbursements and submit a monthly written report to the Board of Directors and membership.
4. File IRS Tax form and Rhode Island Corporate Report annually.
5. Submit an annual report of all receipts and disbursements for the past fiscal year at the Annual Meeting.
6. Auditors appointed by the President shall audit the annual financial report, and the report of the auditors shall be submitted to the Board of Directors the by the June monthly meeting.

ARTICLE III: BOARD OF DIRECTORS

§1 The Board of Directors shall consist of the President, Vice-President, Recording Secretary, Treasurer, two Members-at-Large, and

the Immediate Past President (who shall not have a vote).

§2 The Members-at-Large shall be elected by secret ballot at the Annual Meeting, and their terms shall be the same as those of the officers.

§3 The powers of the Board of Directors shall be:

1. To advise the President and assist in carrying out the duties of the office.

2. To take any action that might be taken by the Society, unless such action is reserved to the Society at Large in the Constitution or By-Laws.

§4 The Board of Directors shall meet at the call of the President or on application of any two members. The President shall be, ex officio, chair.

§5 Any Officer, Committee Member and/or appointed Board Member upon the termination of their duties or vacancy of position shall immediately turn over all Society records, property, files, documents, policies, etc. to the President for transmittal to the appropriate party.

ARTICLE IV: BOARD OF TRUSTEES

§1 The Board of Trustees shall consist of three Trustees, the term of each to be three years. No Trustee shall serve two consecutive terms. One Trustee shall be elected each year by secret ballot at the Annual Meeting. The Trustee with the longest continuous service is usually the Senior Trustee, who is the official spokesperson for the Board. Vacancies occurring in office shall be filled by the Trustees in consultation with the President. That appointment will serve out the remaining term of the vacated office. Should the Board of Directors disagree with the appointment, that decision may be overturned. See Section 3 below.

§2 The Board of Trustees shall have custody of the grounds, structures and equipment belonging to the Society. They may at any time establish or amend rules for use of said grounds, structures and equipment, and establish policies for members comprising the Observatory Committee. They may at any time grant or withdraw permission to individuals to use the grounds, structures and all equipment belonging to the Society.

§3 The Board of Trustees shall be responsible to the Society. Decisions of the Board of Trustees may also be overruled by five members of the Board of Directors, all voting in the affirmative.

§4 The Board of Trustees shall conduct an annual inventory of equipment and property belonging to the Society and submit said inventory list to the Board of Directors prior to the Annual Meeting.

§5 The disposal of Skyscrapers property as des-

ignated within the annual Skyscrapers inventory shall require prior executive board approval.

ARTICLE V: QUORUM

Twelve (12) voting-eligible members shall constitute a quorum for the transaction of business at any meeting as defined in Article VI of The Constitution. At no time shall the lack of a quorum prevent those present from proceeding with the program of the day or evening.

ARTICLE VI: RULES OF ORDER

§1 The rules contained in 'Robert's Rules of Order, Revised' shall govern the Society in all cases to which they are applicable and in which they are not inconsistent with the Constitution and By-Laws.

§2 When a vote is called for, only voting-eligible members may vote. Membership classes conferring the right to vote are enumerated in ARTICLE IX: DEFINITIONS.

ARTICLE VII: DISSOLUTION

Upon dissolution of the corporation (an act which can only be ordered by an open vote of two-thirds of the Board of Directors and confirmed in a duly constituted meeting by the membership of the Society by secret ballot two-thirds of the members present voting in the affirmative, or by order of a court of competent jurisdiction, the Board of Trustees shall after paying or making provisions for the payment of all liabilities of the corporation as determined by the Board of Directors, arrange for the disposal of all of the assets of the corporation in such a manner as to comply with, or to such organization or organizations organized and operated exclusively under, Section 501(C)(3) of the Internal Revenue Code of 1954.

ARTICLE VIII: AMENDMENT

These By-Laws may be amended as necessary by secret ballot at any regular or duly called special meeting, with sixty percent (60%) of the quorum voting in the affirmative.

ARTICLE IX: DEFINITIONS

§1 Where the terms NOTICE, PROVIDE, MAIL, or the past tenses thereof, appear in the Constitution or By-Laws such NOTICE and the act of making the notice available (MAIL and PROVIDE) include communication by US Postal service, Federal Express or another express courier, and email.

§2 Voting-eligible members are those classified as Lifetime members, as well as Regular and Senior members who are current with their dues.

§3 Lifetime Members. Lifetime membership may be bestowed upon a member for outstanding service to the Society by recommendation of the Board of Directors and approval by the voting eligible members. A Lifetime member is not required to pay dues, but has all the rights and privileges of a Regular member.

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