



the Skyscraper

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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 Night**
Saturday, April 23

**Astronomy Day &
May Meeting**
Saturday, May 7

Solar Star Party
Saturday, June 18

AstroAssembly
Saturday, October 1

Annual Meeting

Saturday, April 9 at Seagrave Observatory

Meeting presentations will also be conducted over Zoom. Contact Linda Bergemann (L.Bergemann@aol.com) for Zoom Meeting link and information.

We will join the infamous peeptoads and the reappearance of the portable toilet, and return to Seagrave on **Saturday, April 9**. After four long months away, our April Meeting will celebrate Skyscrapers and Seagrave with a **Members Night**. It is also our **Annual Meeting and Election of Officers**.

The evening will begin at 6 PM with socializing over pizza*, when we will get reacquainted and welcome our “new” members who have joined since COVID-19 struck 2 years ago.

*RSVP if you plan to partake in our “Pizza Celebration” so we know how much to buy. Hot coffee, soft drinks and water will be available. And, possibly even some sweets.

At **7 PM**, we will begin with our business meeting, followed by our speakers. Two of our members will describe their experiences observing the **Moon**.

Michael Corvese, a member since early 2021, will be up first. He has a lifelong interest in astronomy and science, and has been an active amateur astronomer since the mid-80's. Michael learned the night sky with binoculars and star charts, and then graduated to telescopes.

Our Lunar Observing Group, which Michael leads, was formed in January to encourage participation in the Astronomical League's Observing Programs. Selecting an easy program to start with, the group has met biweekly since to discuss observing progress and features of the lunar surface. Michael will share many things lunar during his presentation.

Our second speaker will be long-time Skyscraper member **Steve Hubbard**. Steve has been a member of Skyscrapers since 1972 or 73 (the exact date is lost to the mists of time), ever since he discovered it's existence as a teenager. Steve has built telescopes, traveled to far-off places to see observatories or Solar eclipses, and currently has a 14-inch SCT in his back yard for imaging and a 6-inch refractor for travel.

Among other things, Steve enjoys viewing the Moon when the weather is not bitter cold. A few years ago he discovered the challenge of viewing phenomena on the Moon called the Lunar X and Lunar V. If you have not heard of these interesting clair obscur (light and shadow) effects, or if you have never observed them, Steve will show some pictures of them and help you know when to see them and, hopefully, become excited to do so. They are fun challenges to look for around First Quarter Moon phase and are very distinctive, though not so well known as they could be.

Others are welcome to speak about their observing experiences during our “open mic night”. Please contact Steve Hubbard at cstahhs@gmail.com or speak to him at the meeting.

Observing After the Meeting - The observatory telescopes (8” Alvan Clark refractor and 12” and 16” Meade Schmidt-Cassegrains) will be open following the meeting for observing, weather-permitting, of course. The Moon will be at First Quarter, an opportunity to catch lunar features along the terminator.

President's Message

by Steve Siok

This is my farewell president's message. Not that I am going anywhere. Kathy and I have been members for 50 years, starting with the 1972 total solar eclipse. We will not cease our dedication. But it is time for others to lead. And I am so encouraged by our slate of officers. Going forward we are in good hands.

The last two years have been traumatic but also transformative for Skyscrapers. The pandemic caused us to cease our normal activities. No meetings or observing sessions. But we discovered new ways to stay connected. The ZOOM platform gave us a way to continue with our monthly meetings. We were able to have remote speakers. Who would have thought Steve O'Meara could talk to us from Africa. Or that John Briggs could give us a tour of his museum. And many of our members who have moved away are joining us for meet-

ings again. Even as we return to Seagrave we will continue this format.

We have also seen an increase in our membership. This may be because of our facebook page and the fact people were stuck at home. We have a 40% increase in total members.

I am very pleased with our push at outreach. We have participated in star parties in Rhode Island and Mass. We are working with scout groups and will soon have an Astronomy club in the Woonsocket library. And we have continued the library telescope project. Now there is a scope in the Scituate library.

So everyone, please get involved. Read the news letter and log onto the Night Sky Network. It contains our events calendar. Look into the Astronomical League observing programs. Thanks to Conrad and Michael for hosting the photography and

New Members Welcome to Skyscrapers

Emily Conner
of Barrington

Robin Woodbury
of Vernon, CT

Stephen LaFlamme
of Bridgewater, MA

The Frisby family
(Solitaire, Lorenzo &
Blaze) of Woonsocket

Barbara Silva of Cranston

lunar programs. And I hope some of you listened in on the Kalamazoo program on Beginning Amateur Astronomy.

Keep looking up!

Wishing everyone clear skies.

Skyscrapers 75th Anniversary Book 3rd Printing

Skyscrapers celebrated our 25th anniversary with the publication of a small book in 1957. A 50th anniversary book was never realized. In 2007, under the editorship of Skyscrapers historian David Huestis, a 75th anniversary edition was produced covering all the history back to our founding. This comprehensive book included much of the material in the 1957 publication for those

who do not own the rare 1957 issue. It is now being reprinted by popular demand. Payment in advance of printing is required.

The book is available for previewing on Skyscrapers website using this link:

<http://www.theskyscrapers.org/75-years-of-skyscrapers>

You may order and pay for your hard-bound copy of our 75th Anniversary Book

online using PayPal or by check using the order form at the link below:

<http://www.theskyscrapers.org/75-anniversary-book-third-printing>

Once printed, books will be available for pickup at regular meetings of Skyscrapers.

Please direct any questions to Rick Lynch at hstrclrsch@aol.com.



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 **April 15** to Jim Hendrickson, 1 Sunflower Circle, North Providence, RI 02911 or e-mail to jim@distantgalaxy.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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Earth Day at WaterFire Arts Center

by Francine Jackson

Many of us can remember 2019, the 50th anniversary of Apollo 11, especially those of us who sweated in the middle of Providence, in celebration of the date; however, one memory of that, I'm sure, was the WaterFire 23-foot diameter Moon globe. After the outside activities, it was hung in their conference center at 475 Valley Street, while many talks and other exhibits took place there.

And now, Barnaby Evans has done it again. This time, he's hung a 23-foot model of our Earth, in honor of the 50th anniversary of Earth Day this April 22nd. He recently had a reception, introducing the many artists who created many of the exhibits some of them on the wall, while others are strewn all over the floor, many of them fabric renditions of waves, tornadoes, and other weather wonders.

In addition, we were introduced to the fact that Rhode Island actually has its own coral, the northern star coral, or *Astrangia poculata*, which kind of resembles fuzzy rocks. There are also incredible bird flight videos, panels introducing many aspects of life, plus the Hubble Space Telescope, and also an image of WaterFire's building before it became the incredible working space it is today. This very well-funded exhibit will be

open until May 1st.

In addition, Skyscrapers, Inc., has been asked to spend time on the roof, **observing the night sky**. Evans has chosen two Thursdays, **April 7th and 14th**. Although I wasn't able to participate in the first time we were invited to set up on his roof in 2019, he does have a very nice spot that faces south. Anyone who'd love to be a part of this or-

ganization's Earth Day celebration, please come up on the roof with us.

Many organizations have come together to create this very impressive memento for this historic anniversary, so, if you do have time, the exhibits will be available for the next several weeks, please go to Valley Street, Providence, and enjoy the artistic interpretations of Earth Day.



Skylights: April 2022

by Jim Hendrickson

April is the month during which the seasonal change in the evening sky is most noticeable. This is due to the Sun's increasing declination as it moves along the ecliptic, and the resultant later sunsets, resulting in the stars of the winter sky rapidly descending into the western twilight each passing night.

We start April with Orion, Canis Major, and the constellations comprising the Winter Hexagon shining prominently in the southwestern sky, but by month's end, only the top half of Orion will be visible above the horizon after twilight, with his three belt stars, Alnilak, Alnilam, and Mintaka, setting due west at a near horizontal orientation.

The Sun enters Aries just after sunset on the 18th. The following morning, April 19, sees the Sun rising before 6am, a mark it

will remain through August 20.

April begins with a sighting opportunity for a 17-hour-old Moon, on the 1st. You'll need an exceptionally clear western horizon to spot the 0.5% illuminated crescent. Begin observing 20 minutes after sunset. The Moon becomes much easier to find the following night, when the 2.9% illuminated crescent lies on the border of Pisces and Aries.

On the 3rd, use the Moon to easily locate Uranus, just 2.5° to its west. As an additional pointer, the 5.8 magnitude star Omicron (37) Arietis lies 42 arcminutes to the east of the magnitude 5.9 planet. This should be a nice sight in binoculars.

On the 4th, the Moon lies within 4° of the Pleiades cluster in Taurus, and on the 5th, it passes 3° from Aldebaran and the Hyades.

First quarter Moon occurs on the 9th, within Gemini, the Twins.

Full Flower Moon occurs on the 16th. This Full Moon is notable for rising near the 1st magnitude star Spica, in Virgo. Moonrise is at 19:33, just 5 minutes after sunset.

The following night, on the 17th, watch the Moon rise, and keep close watch on its eastern limb, as the star Zubenelgenubi (Alpha Librae) reappears from behind the Moon. Because this is a wide double star, we get to see two separate occultations end. The 5th magnitude Alpha 2 appears at 20:56, and the 2nd magnitude primary appears at 21:03. This event is best viewed through a telescope at medium magnification. Both stars appear from the dark limb beyond Mare Crisium.

After midnight on April 19th, the Moon occults another fairly bright star, 2nd mag-

nitude Dschubba (Delta Scorpii). Disappearance behind the bright western limb occurs at 2:17, and reappearance at 3:10.

If you're up for a bit of an observing challenge, use your telescope to see the waning gibbous Moon pass 8 arcminutes to the north of globular cluster M19 in Ophiuchus at 2:30 on the 20th.

Last quarter Moon occurs on the 23rd, and for the next several days, the waning crescent passes south of the morning planetary parade, with particular interest on the 27th, when it forms a triangle with the two brightest planets, Venus and Jupiter.

The Moon is New on the 30th.

All of the bright planets, except Mercury, appear in the morning sky in April.

Mercury passes superior conjunction on the 2nd, and subsequently enters its best evening apparition of 2022. By the second week of the month, Mercury is already prominently positioned above the western horizon at least a half hour after sunset, and by month's end, when it reaches greatest elongation, 21° from the Sun, it sets nearly two hours after sunset. Be sure to observe Mercury on the 29th and 30th, as it will be just 1.5° from the Pleiades cluster in Taurus.

Another notable conjunction occurs on the 17th, when Mercury passes 2° north of

Uranus. On this night, Uranus is over 18 times farther away from us than Mercury (20.672 AU and 1.124 AU, respectively).

Venus, the brightest object in the morning sky, rises in Capricornus at 4:37 on April 1 and in Pisces on 4:10 on April 30th.

At the start of April, Venus still appears within a fairly tight grouping with Saturn and Mars, though you'll notice that the orientation of the planets is changing fairly quickly. Last month, Venus appeared between Saturn and Mars, but in early April, Saturn appears between Venus and Mars, and Saturn and Mars will swap places on the 5th, when the two planets will appear just 22 arcminutes apart.

Additional planetary conjunctions occur on April 12th, when Jupiter appears just 7 arcminutes above Neptune, though the outermost planet will be difficult to observe low in the sky, and through brightening twilight/, on April 27, Venus appears just 27 arcminutes to the west of Neptune; and on April 30, Venus joins Jupiter, and the two brightest planets will be just $1/2^\circ$ apart.

Jupiter rises at 5:49 on April 1, and by mid-April, it begins to shine through early morning twilight, although it will be difficult to observe low and through twilight,

The evening sky in April is an oppor-

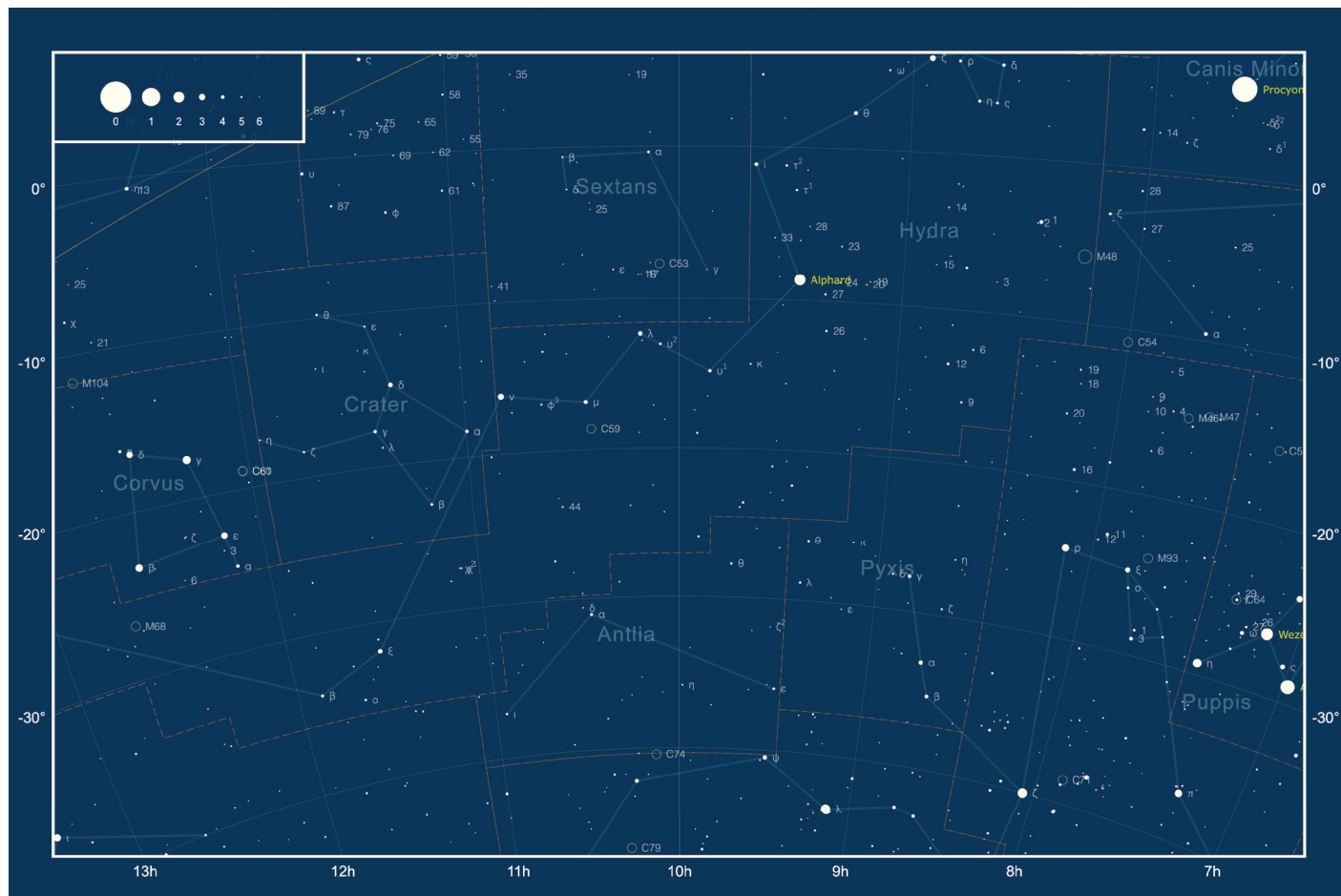
ture time to explore some of the sky's lesser-known stars and constellations.

We begin at the head of Hydra, just below Cancer. Hydra, the water snake, is the largest constellation in the sky, but its long, meandering string of dim stars extending southeastward from its fairly conspicuous head is not very well traveled by northern hemisphere observers. It's worth getting to know this constellation's brightest star, Alphard (Alpha Hydrae), which can be found about 16° southeast of the head of Hydra. Despite being as bright as most of the stars in the Big Dipper, Alphard seemingly does not get much attention. Alphard is a class K3 orange giant star, similar to Aldebaran, about 180 light years away. Alphard is about 4.5 times the mass of the Sun, and shines about 950 times as bright.

While Hydra has plenty more to offer, we'll step off here to explore some other small and dim constellations that don't hang around in our sky for very long: Pyxis, the Compass, Antlia, the Air Pump, and Crater, the Cup.

Pyxis is one of the smallest constellations, occupying the area of sky roughly between 8.5 and 9.5 hours right ascension, and -20° and -37° declination.

To find Pyxis, begin at Regulus, draw a



Events in April

- 1 New Moon
- 2 Mercury Superior Conjunction
- 3 Moon 2.6° E of Uranus
- 5 Saturn 0.4° NW of Mars
- 9 First Quarter
- 12 Jupiter 0.2° NW of Neptune
- 16 Full Pink Moon
- 17 Mercury 2° N of Uranus
- 23 Last Quarter
- 26 Moon 6.1° E of Mars
- 27 Venus 0.4° W of Neptune
- 27 Moon, Venus & Jupiter in 5° circle
- 29 Mercury 1.2° S of M45
- 29 Mercury Greatest Elongation East (21°)
- 30 New Moon
- 30 Venus 0.5° SW of Jupiter

Ephemeris times are in EDT (UTC-4) for Seagrave Observatory (41.845N, 71.590W)

line through Alphard, and continue along the line about the same distance. You'll find yourself in a fairly nondescript region of sky to the east of Canis Major, though not immediately adjacent to it (that would be Puppis, the stern). Here you'll find an 8° long line of three stars that points roughly in the direction back to Alphard and Regulus, which should make it fairly easy to find using a binocular sweep.

The brightest star in the entire constellation is magnitude 3.7 Alpha Pyxidis, which expectedly, is not prominent enough to have an official name designated by the International Astronomical Union. The star is a young class B1.5 blue giant, about 850 light years distant, but otherwise unremarkable other than its position in a constellation seldom visited.

Located at the fringes of the Milky Way, Pyxis does have a few small open star clusters that may be explored with a sizable telescope, including NGC 2627, NGC 2658,

and NGC 2818.

Immediately to the east of Pyxis lies Antlia, the Air Pump. Having no resemblance to the object it is meant to depict, Antlia is also populated by a sparse collection of stars no brighter than 4th magnitude. Its constellation figure, as illustrated by the star charts on the IAU's constellation page, shows an offset chevron connecting the stars Epsilon, Alpha, and Iota. The long, western leg forms a line about 13° long which points towards the northwest corner of Corvus to the east, and the shorter leg, at 9°, points roughly back to Alphard.

In getting to know Antlia, we'll again focus on the constellation's alpha star, its brightest, at magnitude 4.3, and also more northerly, so it should be easy to find. Alpha Antliae is at almost the complete opposite end of the spectral classification scale as Alpha Pyxidis. A class K4 giant, Alpha Antliae shines with a luminosity of about 500 suns from a distance of 365 light years.

Antlia contains no notable bright deep sky objects within its borders, but just over its southern border, in the constellation Vela, lies Caldwell 74, a planetary nebula also cataloged as NGC 3132. At roughly the same dimensions and brightness as the more well-known Messier 57 in Lyra, Caldwell 74's extreme southern declination of -40° will make it a challenge to see.

Continuing northeastward and crossing over the water snake, we reach Crater, the Cup. This small constellation consists of eight 4th and 5th magnitude stars in a figure that actually resembles a chalice. Sweeping the area of sky to the west of the more prominent Corvus, you should have little difficulty tracing its figure. Crater is one of few constellations noted for "sharing" one of its line segments with an adjacent constellation. In this case, the southwestern edge of its figure is also a part of

Hydra. If this area of the sky is somewhat familiar, it may be that you have used the stars of Crater as a starting point on your way to find the fairly well-known planetary nebula NGC 3242 (Caldwell 59), located near Mu Hydrae, just a few degrees to the west.

Most of Crater's stars, as well as some in nearby Hydra and Corvus, are at a similar distance range of about 150 light years. Crater's brightest star, magnitude 3.6 delta, lacks a proper name, but its alpha star, magnitude 4.1 is named Alkes, meaning the wine cup.

There are two other officially named stars in Crater, neither of which are naked-eye visible or part of the constellation figure, but are notable as being named by the public in the IAU's NameExoWorlds campaign. The first is Hunahpú, which is the name given to 8th magnitude star HD 98219 and was chosen by Honduras. The name represents one of the twin Sun gods from Mayan mythology. The other twin, Ix-balanqué, is the name given to its planet, a super Jupiter orbiting the K0 subgiant star at a distance of 1.2 AU. Hunahpú is 372 light years away.

The other NameExoWorlds star is Amansinaya, or WASP-34. The name derives from the Tagalog mythology of the Philippines and represents the primordial ocean god and protector of fishermen. Its planet, WASP-34b, is given the name Haik, which is the successor of Aman Sinaya in Tagalog mythology. The planet is just over half the mass of Jupiter and orbits so close that it takes only 4.3 days to orbit its parent, a class G5 sunlike star. The system is 430 light years away.

And finally, no adventure to this part of the sky is complete without a visit to the beautiful lenticular galaxy Messier 104, in Virgo.



Iceland Trip Rescheduled October 22-29, 2022

[theSkyscrapers.org/iceland-2022](https://www.theskyscrapers.org/iceland-2022)

Can We Save Time With the Sunshine Protection Act?

by Francine Jackson

Do you realize the Sun needs protection? According to our Washington Senate, the [“Sunshine Protection Act”](#) was just voted on unanimously.

If you haven't heard, our legislators, not happy with the changing of the clocks twice a year, decided to vote to keep Daylight Saving Time all year, beginning with the “spring ahead” time in 2023. Many people do like the idea of getting rid of the twice-a-year sleep variation, but it seems the push is more toward keeping Daylight Time. Why?

DST was begun as an energy conserving measure during World War I, where the “extra” late hour meant less fuel needed to generate electricity. After the War, DST was continued, but not by all, until the Uniform Time Act of 1966 required all states to implement it; however, Arizona and Hawaii still do not.

The reasoning for keeping Daylight Saving Time instead of Standard Time is rooted on the belief that most people like the later sunset times; some even state it will decrease crime. But, there do appear to be certain problems that arise, not the least of which is the fact that altering this time causes problems with our very own circadian rhythms. One of the major studies concerns sleep. According to the American Academy of Sleep Medicine, Standard Time, which

aligns more with the Sun, better synchronizes ourselves with nature. Some of us may recall the movie “The City Dark,” which showed that increased light lowered the amount of melatonin in the body, which could cause major impacts on our health. Plus, the AASM states that changing to Daylight Time has been seen to be associated with increased obesity, cardiovascular disease, and depression. Some economists also state the time change, overall, costs the economy over \$434 million annually, not only in health, but morning car crashes, and problems with international flights. Not to

mention, having to readjust our sundials.

In 1974, Congress did try to enact year-round DST. The results caused so many complaints, and created so many problems, that the twice-a-year time change was quickly resumed.

Several years ago, I found an old legend, whereby Daylight Saving Time is similar to cutting a piece off the top of a blanket, sewing it to the other side, and announcing you now have a longer blanket. If our legislature does want to stop our “spring ahead,” “fall back” ritual, let's keep time according to the motion of the Sun – let's keep Standard Time.



NASA Night Sky Notes:

Springtime Catspotting: Lynx and Leo Minor

By David Prosper

Many constellations are bright, big, and fairly easy to spot. Others can be surprisingly small and faint, but with practice even these challenging star patterns become easier to discern. A couple of fun fainter constellations can be found in between the brighter stars of Ursa Major, Leo, and Gemini: Lynx and Leo Minor, two wild cats hunting among the menagerie of animal-themed northern star patterns!

Lynx, named for the species of wild cat, is seen as a faint zigzag pattern found between Ursa Major, Gemini, and Auriga. Grab a telescope and try to spot the remote starry orb of globular cluster NGC 2419. As

it is so distant compared to other globular clusters - 300,000 light years from both our solar system and the center of the Milky Way - it was thought that this cluster may be the remnants of a dwarf galaxy consumed by our own. Additional studies have muddied the waters concerning its possible origins, revealing two distinct populations of stars residing in NGC 2419, which is unusual for normally-homogenous globular clusters and marks it as a fascinating object for further research.

Leo Minor is a faint and diminutive set of stars. Its “triangle” is most noticeable, tucked in between Leo and Ursa Major. Leo

Minor is the cub of Leo the Lion, similar to Ursa Minor being the cub to the Great Bear of Ursa Major. While home to some interesting galaxies that can be observed from large amateur scopes under dark skies, perhaps the most intriguing object found within Leo Minor's borders is Hanny's Voorwerp. This unusual deep-space object is thought to be a possible “light echo” of a quasar in neighboring galaxy IC 2497 that has recently “switched off.” It was found by Hanny van Arkel, a Dutch schoolteacher, via her participation in the Galaxy Zoo citizen science project. Since then a few more intriguing objects similar to Hanny's dis-

covery have been found, called “Voorwerpjes.”

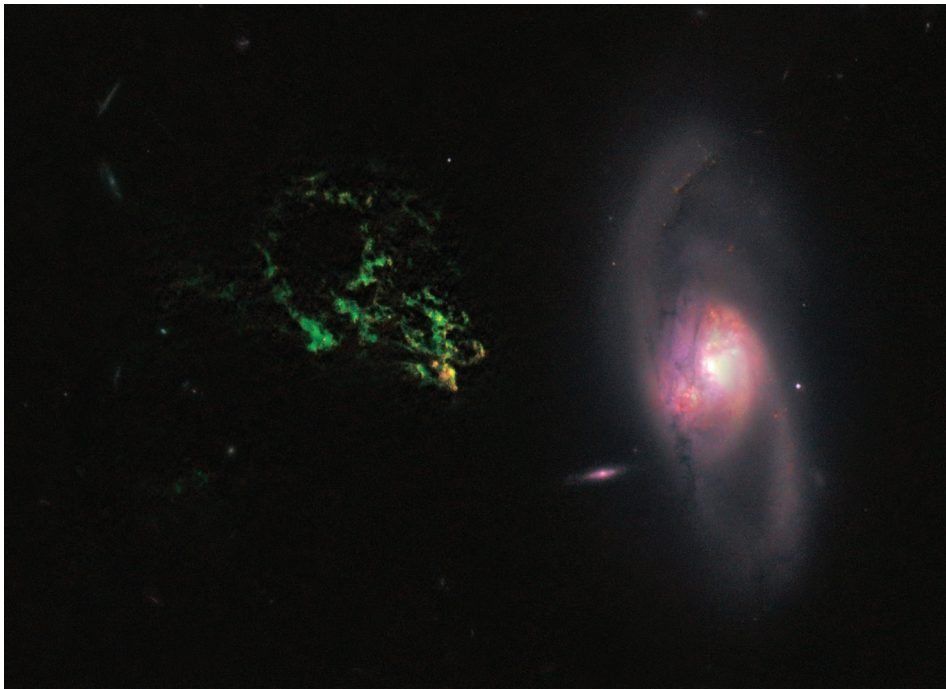
Lynx and Leo Minor are relatively “new” constellations, as they were both created by the legendarily sharp-eyed European astronomer Johannes Hevelius in the late 1600s. A few other constellations originated by Hevelius are still in official use: Canes Venatici, Lacerta, Scutum, Sextans, and Vulpecula. What if your eyes aren't quite

as sharp as Johannes Hevelius – or if your weather and light pollution make searching for fainter stars more difficult than enjoyable? See if you can spot the next Voorwerp by participating in one of the many citizen science programs offered by NASA at science.nasa.gov/citizenscience! And of course, you can find the latest updates and observations of even more dim and distant

objects at nasa.gov.



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



Hanny's Voorwerp and the neighboring galaxy IC 2497, as imaged by Hubble. Credits: NASA, ESA, W. Keel (University of Alabama), and the Galaxy Zoo Team Source: hubblesite.org/contents/news-releases/2011/news-2011-01.html



Map of the sky around Lynx and Leo Minor. Notice the prevalence of animal-themed constellations in this area, making it a sort of celestial menagerie. If you are having difficulty locating the fainter stars of Leo Minor and Lynx, don't fret; they are indeed a challenge. Hevelius even named the constellation as reference to the quality of eyesight one needs in order to discern these faint stars, since supposedly one would need eyes as sharp as a Lynx to see it! Darker skies will indeed make your search easier; light pollution, even a relatively bright Moon, will overwhelm the faint stars for both of these celestial wildcats. While you will be able to see NGC 2419 with a backyard telescope, Hanny's Voorwerp is far too faint, but its location is still marked. A few fainter constellation labels and diagrams in this region have been omitted for clarity.

Image created with assistance from Stellarium

The Sun, Moon & Planets in April

This table contains the ephemeris of the objects in the Solar System for each Saturday night in March 2022. Times in Eastern Standard Time (UTC-5) through March 12 & Eastern Daylight Time (UTC-4) from March 13. 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	0 45.0	4 50.0	Psc	-26.8	1920.4	-	-	-	0.999	06:27	12:49	19:13
	9	1 10.6	7 29.2	Psc	-26.8	1916.6	-	-	-	1.001	06:15	12:47	19:21
	16	1 36.4	10 02.2	Psc	-26.8	1912.9	-	-	-	1.003	06:04	12:46	19:28
	23	2 02.5	12 27.1	Ari	-26.8	1909.2	-	-	-	1.005	05:53	12:44	19:36
	30	2 29.0	14 42.0	Ari	-26.8	1905.6	-	-	-	1.007	05:43	12:43	19:44
Moon	2	1 19.1	5 02.2	Psc	-7.1	1843.4	9° E	1	-	-	07:17	13:58	20:52
	9	7 10.9	26 21.6	Gem	-11.7	1805.5	87° E	47	-	-	11:38	19:37	03:29
	16	13 05.2	-3 55.4	Vir	-12.7	1932	169° E	99	-	-	19:33	01:10	06:36
	23	19 58.3	-25 48.3	Sgr	-12.1	1906.6	97° W	56	-	-	02:33	07:05	11:43
	30	1 51.4	8 51.0	Psc	-7.3	1815.6	10° W	1	-	-	05:43	12:38	19:44
Mercury	2	0 43.1	3 21.7	Psc	-1.8	5.0	2° W	100	0.346	1.344	06:33	12:50	19:09
	9	1 35.3	9 52.7	Psc	-1.6	5.2	7° E	97	0.315	1.288	06:33	13:15	19:58
	16	2 27.8	15 54.7	Ari	-1.1	5.8	14° E	82	0.309	1.169	06:35	13:40	20:46
	23	3 14.4	20 23.2	Ari	-0.4	6.7	19° E	58	0.331	1.005	06:35	13:58	21:22
	30	3 49.0	22 48.8	Tau	0.4	8.0	21° E	36	0.370	0.838	06:31	14:03	21:36
Venus	2	21 52.4	-12 04.8	Cap	-4.2	21.8	46° W	56	0.725	0.777	04:38	09:57	15:17
	9	22 21.9	-10 02.1	Aqr	-4.1	20.4	46° W	59	0.726	0.831	04:32	09:59	15:27
	16	22 51.5	-7 42.1	Aqr	-4.1	19.1	45° W	62	0.727	0.885	04:25	10:01	15:37
	23	23 21.1	-5 07.6	Aqr	-4.0	18.0	44° W	65	0.727	0.939	04:18	10:03	15:49
	30	23 50.8	-2 21.8	Psc	-4.0	17.1	43° W	67	0.728	0.992	04:10	10:05	16:01
Mars	2	21 31.6	-15 57.0	Cap	1.1	5.2	52° W	92	1.425	1.799	04:32	09:36	14:40
	9	21 52.4	-14 17.6	Cap	1.0	5.3	54° W	91	1.418	1.757	04:18	09:29	14:40
	16	22 12.9	-12 31.9	Aqr	1.0	5.5	55° W	91	1.412	1.716	04:04	09:22	14:39
	23	22 33.1	-10 40.8	Aqr	0.9	5.6	57° W	90	1.406	1.675	03:50	09:14	14:39
	30	22 53.1	-8 45.4	Aqr	0.9	5.7	58° W	90	1.401	1.635	03:35	09:07	14:39
1 Ceres	2	4 49.6	24 35.4	Tau	8.8	0.4	62° E	97	2.650	2.971	09:12	16:52	00:32
	9	5 00.1	25 03.4	Tau	8.9	0.4	57° E	97	2.645	3.047	08:53	16:35	00:17
	16	5 11.2	25 28.8	Tau	8.9	0.4	53° E	98	2.640	3.119	08:34	16:19	00:03
	23	5 22.7	25 51.3	Tau	8.9	0.4	49° E	98	2.636	3.187	08:17	16:03	23:49
	30	5 34.6	26 10.6	Tau	8.9	0.4	45° E	98	2.631	3.250	07:59	15:47	23:35
Jupiter	2	23 30.5	-4 17.1	Aqr	-1.9	33.4	21° W	100	4.976	5.898	05:46	11:33	17:20
	9	23 36.5	-3 39.3	Aqr	-1.9	33.6	26° W	100	4.975	5.855	05:22	11:12	17:01
	16	23 42.3	-3 02.4	Psc	-1.9	33.9	31° W	100	4.973	5.804	04:58	10:50	16:41
	23	23 48.0	-2 26.5	Psc	-1.9	34.3	37° W	100	4.972	5.744	04:34	10:28	16:22
	30	23 53.5	-1 51.8	Psc	-2.0	34.7	42° W	100	4.971	5.676	04:10	10:06	16:02
Saturn	2	21 39.2	-15 01.7	Cap	0.9	15.8	50° W	100	9.900	10.512	04:35	09:42	14:49
	9	21 41.6	-14 50.7	Cap	0.9	15.9	56° W	100	9.899	10.418	04:09	09:17	14:24
	16	21 43.8	-14 40.8	Cap	0.9	16.1	63° W	100	9.897	10.317	03:43	08:51	13:59
	23	21 45.8	-14 32.0	Cap	0.9	16.2	69° W	100	9.896	10.211	03:17	08:26	13:34
	30	21 47.5	-14 24.6	Cap	0.9	16.4	75° W	100	9.894	10.099	02:51	08:00	13:09
Uranus	2	2 42.4	15 22.3	Ari	5.8	3.4	31° E	100	19.710	20.563	07:45	14:44	21:43
	9	2 43.9	15 29.1	Ari	5.9	3.4	24° E	100	19.709	20.618	07:18	14:18	21:18
	16	2 45.4	15 36.1	Ari	5.9	3.4	18° E	100	19.708	20.661	06:52	13:52	20:52
	23	2 47.0	15 43.2	Ari	5.9	3.4	11° E	100	19.707	20.692	06:25	13:26	20:27
	30	2 48.5	15 50.4	Ari	5.9	3.4	5° E	100	19.706	20.709	05:59	13:00	20:01
Neptune	2	23 38.3	-3 34.3	Aqr	8.0	2.2	19° W	100	29.918	30.864	05:51	11:40	17:30
	9	23 39.2	-3 28.5	Aqr	8.0	2.2	25° W	100	29.918	30.821	05:24	11:14	17:03
	16	23 40.1	-3 23.0	Aqr	8.0	2.2	32° W	100	29.918	30.765	04:57	10:47	16:37
	23	23 40.9	-3 17.8	Aqr	8.0	2.2	39° W	100	29.918	30.698	04:30	10:20	16:11
	30	23 41.7	-3 13.0	Aqr	7.9	2.2	45° W	100	29.918	30.620	04:03	09:54	15:44
Pluto	2	20 03.7	-22 20.0	Sgr	14.4	0.2	74° W	100	34.495	34.760	03:30	08:06	12:43
	9	20 04.1	-22 20.0	Sgr	14.4	0.2	81° W	100	34.500	34.648	03:03	07:39	12:16
	16	20 04.4	-22 20.3	Sgr	14.4	0.2	87° W	100	34.504	34.535	02:36	07:12	11:48
	23	20 04.5	-22 20.8	Sgr	14.4	0.2	94° W	100	34.509	34.420	02:08	06:45	11:21
	30	20 04.6	-22 21.7	Sgr	14.4	0.2	101° W	100	34.514	34.307	01:41	06:17	10:53

Barred Spiral Galaxy in Ursa Major: NGC 3079

by Glenn Chaple for LVAS

(Magnitude 10.9; Size 7.9' x 1.4')

If you're a fan of edge-on or nearly edge-on galaxies, you'll love this month's Observer's Challenge- the barred spiral galaxy NGC 3079 in Ursa Major. Modern observations reveal a 3000 light year wide gaseous "bubble" emanating from the galaxy's center, created either by a massive black hole or a burst of star formation.

By chance, I was in the neighborhood of NGC 3079 on the evening of April 28, 1976 when I viewed the double star Struve 1402 (magnitudes 8 and 9, separation 33") with a 3-inch f/10 reflecting telescope. The pair was faintly seen, as was a 10th magnitude companion, 132" south of the main star. NGC 3079 was less than a half degree north-northwest of Struve 1402, but there is no way I would have glimpsed the 11th magnitude galaxy with this little scope.

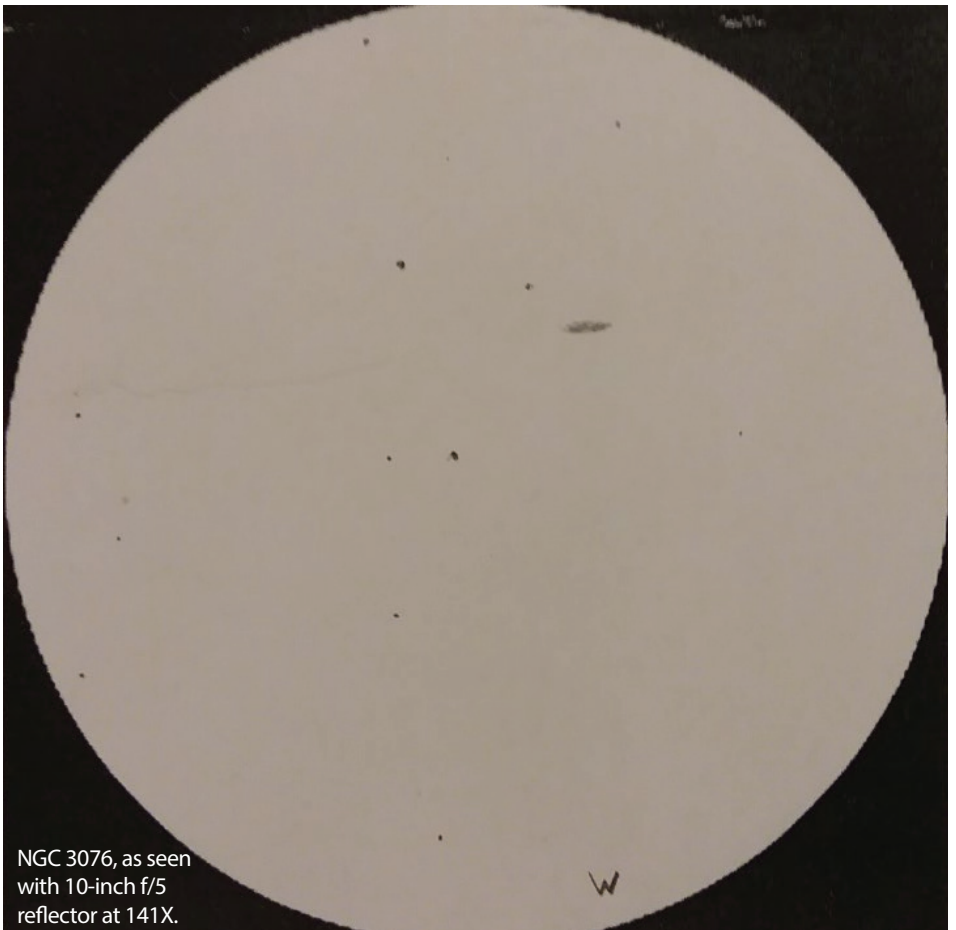
On the evening of March 21, 2022, I sought out NGC 3079 with a 10-inch f/5 reflector. Plugging the galaxy's 2000.0 coordinates (RA 10h 01m 57.8s, Dec. +55o 40' 47") into the AAVSO's online Variable Star Plotter (VSP), I came up with a finder chart that showed a star-hop pathway connecting it to the nearby 4th magnitude star ϵ Ursae Majoris. Low power eyepiece in place, I followed a path 3 degrees south-southeast from ϵ to a triangle of 8th and 9th magnitude stars which lies just south of NGC 3079. Increasing the magnification to 141X, I spotted a faint, elongated smudge just northwest of the northernmost star in the triangle. The bright central region was barely visibly directly, while averted vision fleshed out the outer extensions, which ran roughly north to south.

NGC 3079 was discovered by William Herschel on April 1, 1790. A recent calculation indicates a distance of 54 million light years.

The purpose of the Observer's Challenge is to encourage the pursuit of visual observing. It is open to everyone who is interested. If you'd like to contribute notes, drawings, or photographs, we'll 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 or access past reports, log on to rogerivester.com/category/observers-challenge-reports-complete.

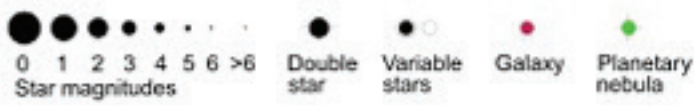
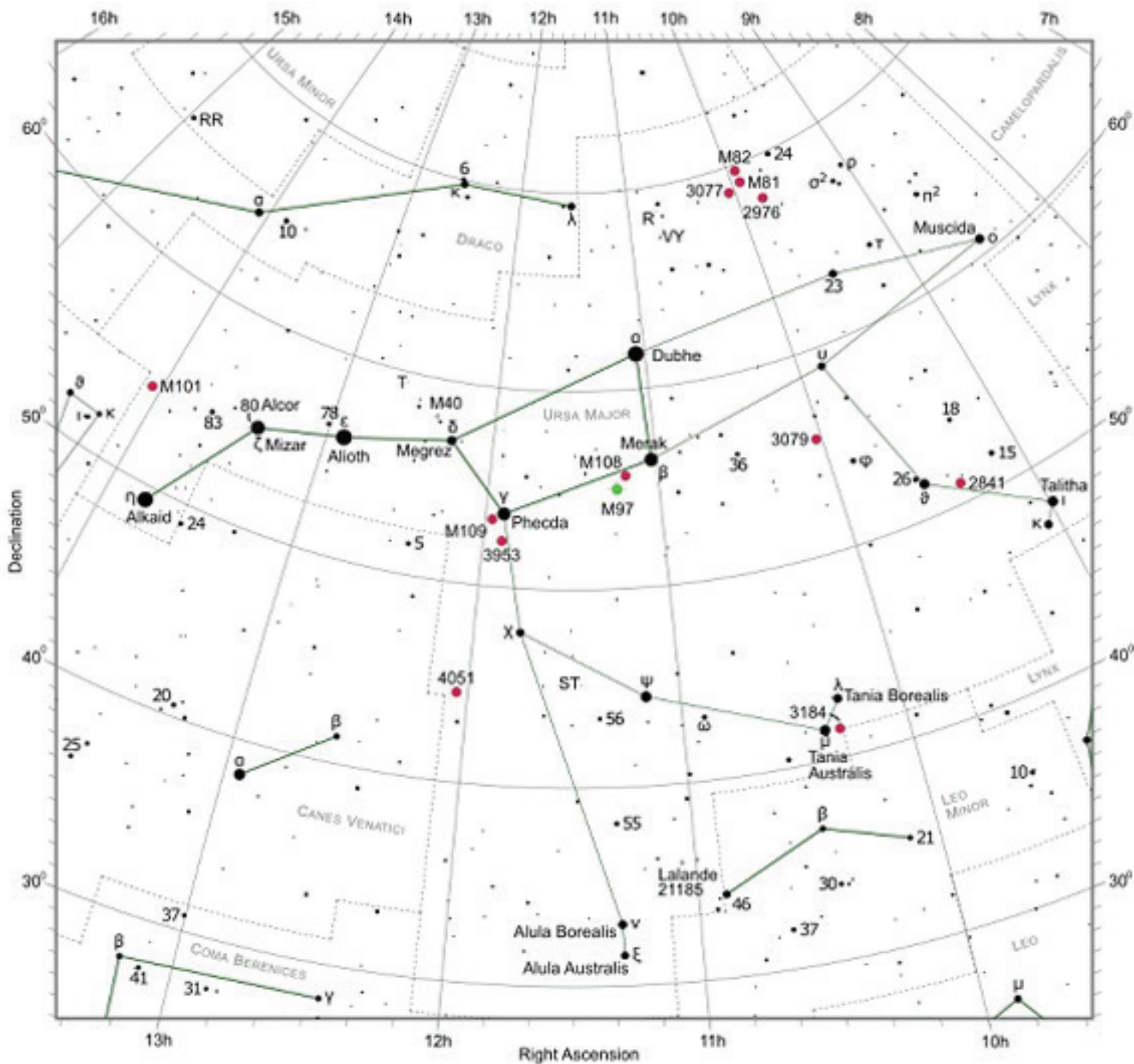


Mario Motta MD (ATMoB) 32-inch f/6 scope with STL 1001E Camera, about 1 hour total integration. North is up. The faint galaxy at upper right is CGCG 265-55, magnitude 14.8.



NGC 3076, as seen with 10-inch f/5 reflector at 141X.

Ursa Major - UMa - The Great Bear



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>

March Reports

Skyscraper March Meeting

March 5, 2022

Scituate Community Center

1. The meeting was called to order by President Steve Siok at 6:15 PM

2. Treasurer: Our membership year starts on April 1, 2022. Dues notices will be emailed to all members. Payment by check or pay pal is accepted.

3. Elections: The election will be held by email using "Election Buddy". All who are members in good standing as of October 2021 will be asked to vote. Your vote is anonymous. Votes should be returned before the April 9th Annual Meeting, where results will be announced.

4. Outreach events:

- We have been invited to participate in the "Planet Earth, the Environment and Our Future" presentation at the WaterFire Arts Center in Providence. There will a large rendition of the Earth and art exhib-

its from March 19th through May 1st. Skyscrapers (with telescopes) will show attendees the moon (weather permitting) on the evenings of March 7th and 14th from the observation deck.

- Astronomy Day Celebration – May 7th
Daytime activities will be held at Ladd Observatory and The Roger Williams Museum of Natural History. Seagrave will be open that evening.

- The Woonsocket Library is looking for a mentor to run a teen Astronomy Club.

Please contact Linda Bergemann if you are interested in volunteering for any of these events. lbergemann@aol.com

5. Reprinting of the Skyscrapers 75 Year Book.

Due to a number of requests, a second printing of this history of Skyscrapers has been produced. Copies are \$40 each. If you would like to purchase a copy, we will be posting a link on the Skyscraper website,

where you can use PayPal or pay with a check. Contact Kathy Siok with any questions.

6. Upcoming trip: "Iceland's Magical Northern Lights" is planned by Collette Tours and co-sponsored by Skyscrapers and Rhode Island College Alumni. The dates are Oct 22 – 29, 2022. Please contact Francine Jackson for further information and deposit details. francine_jackson@brown.edu

7. Member Observing Opportunities through the Astronomical League:

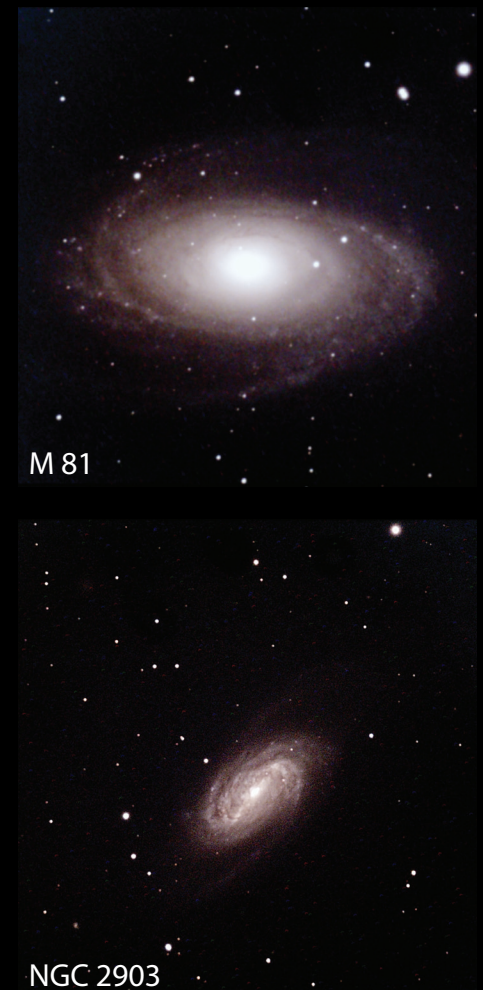
Lunar Observing Challenge – contact Mike Corvese corvesemichael@gmail.com

Galaxy Springtime Challenge – contact Jeff Padell jeffpadell@gmail.com

8. The meeting ended at 6:45 PM, followed by the evening speaker, Scott MacNeil of Frosty Drew Observatory.

Submitted by secretary pro-tem,
Kathy Siok

Deep Sky images by Steve Hubbard taken with 14" SCT, ASI 294MC camera and using Sharp Cap live stack captures. Post processed with GIMP. Composed of 30 second subs, 30 minutes total exposures.



STARRY SCOOP

Editor: Kaitlynn Goulette



WHAT'S UP

Along with the warmer weather, we also have the seasonal spring constellations sailing through our southern sky. Stargazers can easily spot the large star pattern of Leo the Lion with their unaided eye, as it resembles its namesake. To the west of Leo is the constellation Cancer, which holds the fabulous Beehive Cluster. Binoculars resolve this naked-eye fuzzy patch into a breathtaking collection of stars that are gravitationally bound together and were born from the same nebula. To the southeast of Leo is the bright star Spica, which is in the constellation Virgo. For those with a telescope under dark skies, you can find countless galaxies in this region of the heavens. Spring is nothing short of a stargazer's paradise.

If you have the courage to set your alarm clock for a pre-sunrise awakening, you can find the planets Jupiter, Venus, Mars, and Saturn in a "line" formation, parading along the ecliptic, or path of the sun. Only weeks after Venus's greatest western elongation, it remains shining nearly at its brightest and is the easiest to spot. A bit to the west of Venus, appearing to the naked eye as 1st magnitude stars do, you can find the golden-colored Saturn with reddish Mars nearby. Jupiter is the most difficult to view and requires a low horizon, but is an attainable observation especially by month's end. Look for the waning crescent moon in the vicinity of these planets on April 24-27.

This month, we have the annual Lyrid meteor shower running from April 16-25, peaking on the night of the 22nd into the morning of the 23rd. Its meteors radiate from the constellation Lyra, but can appear anywhere in the sky. For best viewing, find a dark spot away from light pollution after midnight.

Thirty-two years ago, the famous Hubble Space Telescope was deployed by the space shuttle Discovery. Over the years, it has made over 1.3 million observations that have taught us much about the universe. It verified the existence of dark energy and helped us learn the approximate age of the universe (13.8 billion years). The Hubble Telescope is still in operation today and will very soon be joined by NASA's James Webb Space Telescope (JWST). Along with its infrared-detecting technology, the JWST will be able to see objects nine times fainter than the Hubble, and promises to deliver new discoveries.

APRIL'S SKY

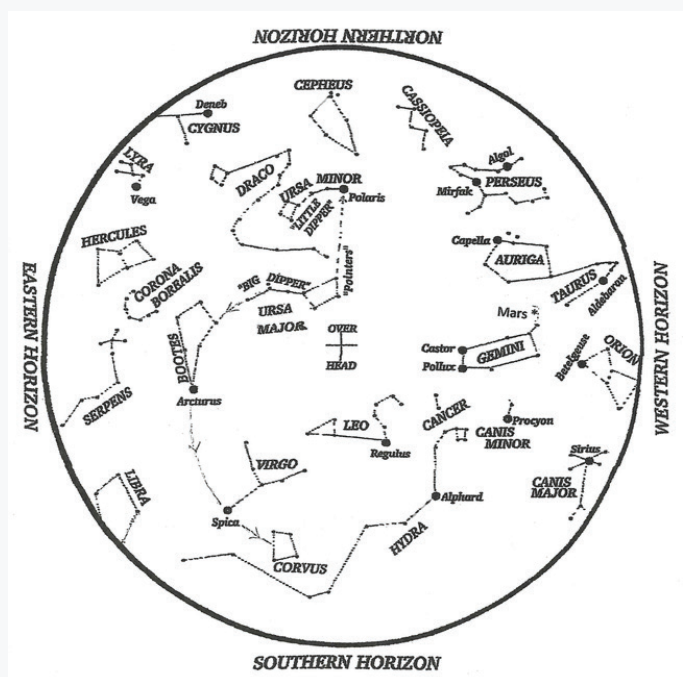
1: New Moon

16: Full Moon

22-23: Lyrids Meteor Shower Peak

29: Mercury at Greatest Eastern Elongation

30: New Moon



Credit: Roger B. Culver
Hold star map above your head and align with compass points.

OBSERVATIONS

With all the stars in the night sky, stargazers often forget about the one that is closest to home, our sun. Observing the sun is very rewarding, but always be sure to view the sun with the proper equipment and a safe solar filter.

When observing the sun, I typically use my 8-inch Dobsonian telescope with a full-aperture, homemade, white-light Seymour Solar filter. This filter has a neutral density of 5 and only allows 0.001% of the sun's light to pass through it.

Finding the sun with a telescope is different than finding objects at night. To locate the sun, I use a Helio-Pod that I attained from the late STARS Club president, my friend Alan Rifkin. Strapped on the optical tube, the Helio-Pod uses a pinhole to project a dot onto a bullseye, which is how it aligns the telescope to the sun.

Through my solar filter, I viewed the sun's photosphere where I could see sunspots blotching its surface. I've recently had the opportunity to observe for several consecutive days and it was satisfying to see the sunspots dynamically change as they progressed across the sun.

I will be attempting more solar viewing to better observe faculae and granules, which are more subtle features and require better atmospheric conditions. I hope to report on these solar observations soon!

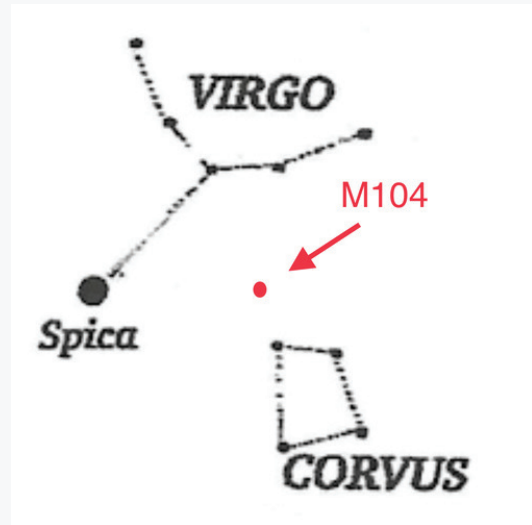


The purpose of the Starry Scoop is to communicate current astronomy and space events. If you want to share your observations or get digital copies of the Starry Scoop, contact starryscoop@gmail.com. The Starry Scoop is now on Facebook. Clear skies!

OBJECT OF THE MONTH

Messier 104 (M104), better known as the Sombrero Galaxy, is this month's featured object. The Sombrero Galaxy is a nearly edge-on spiral galaxy. Its galactic center is uncommonly bright and large, and the galaxy has a noticeable dust lane where stars are being born. M104 is located about 28 million light-years away and is about 50,000 light-years across.

Under dark skies, a large pair of binoculars or a small telescope will reveal this galaxy. It will take at least a 10-inch-aperture telescope to resolve the dust lane. You can find M104 about 10 degrees west of Spica, the brightest star in Virgo. Use the star map below to help you find it.



Sombrero Galaxy
Photo by Kaitlynn Goulette

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