



the Skyscraper

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May 2023

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

In This Issue:

- 2 President's Message
- 3 Annual Outreach Awards
- 3 Library Telescope Program
- 4 Book Review:
- 4 Always Looking Up - Nancy Grace Roman, Astronomer
- 4 Skylights: May 2023
- 6 Star Party Reports
- 8 NGC 3044: Galaxy in Sextans
- 9 The Sun, Moon & Planets in May
- 10 Seeing Venus in a Different Light
- 13 Astrophoto Gallery
- 16 Starry Scoop
- 18 October 2023 Solar Eclipse Expedition to Albuquerque NM

Land of Fire and Ice -- and Aurora! Saturday, May 6, 7:00pm at Seagrave Memorial Observatory

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

SPEAKERS: Skyscrapers' Members Jim Hendrickson, Francine Jackson, Denise Turco and Laura Landen

Some may remember when Skyscrapers introduced a 6-night trip to Iceland in October 2020. In the months between the announcement and the planned trip, COVID paid us a visit, which caused its cancellation. Well, that trip finally occurred October 22-29, 2022, and eight people from Skyscrapers joined members of the RI Col-

lege Alumni Association to visit Iceland's Magical Northern Lights.

Join Skyscrapers as the travelers share their images of Iceland and its aurora. Jim Hendrickson and Francine Jackson will share their photos and recall their experiences. Photos taken by Rick Lynch (unable to attend) will be shown and described by Denise Turco. Christine Stevens and Laura Landen will also show some photos and recount their adventures.



**Seagrave Memorial
Observatory
Open Nights**
May 6, 13, 20 & 27
@ 9pm



President's Message

by Linda Bergemann

Last month, I addressed our accomplishments over the past year. This month, I will look forward to the next year.

On the horizon for the coming months is activation of our Radio JOVE radio telescope. With it, you will be able to observe natural radio emissions from Jupiter, the Sun, the Earth, and the radio background noise from our Milky Way galaxy at "decimetric" wavelengths. Contact Ed Walsh or Bob Janus, leads on this project, for more information, or visit <https://radiojove.gsfc.nasa.gov>.

The Trustees are proceeding from building to building to identify equipment that can be surplused. They have decided to offer for sale about eight of the many telescopes that have been donated to us. Once the Executive Board has authorized the disposal, these telescopes will be offered to members first.

Plans for AstroAssembly 2023, September 29 & 30, are underway. Bob Horton has commitments from several speakers, and the schedule is taking form. There is much more to do to plan the details for this annual fundraiser. Please contact Bob Horton if you have ideas to contribute.

Michael Corvese and the Program Committee continue to support outreach activities. And, with Steve Siok's help, Seagrave has been open every Saturday that the weather has cooperated. They continue to work on a basic astronomy program target-

ed at youth. Also in the works are field trips to nearby observatories. Contact Michael if you have suggestions for members' activities.

Lastly, at our May meeting, we will introduce our proposed budget for the coming year. I am a month late with this because the sum of requests were more than we were prepared to spend. Some projects will be split over two or Three years. This year's budget reflects an increase in spending of about \$3,500 over last year. Projects planned for this year include moving our

"free" website to a new host and upgrading its security; replacing one of the A/C units in the meeting hall; painting the interior of the meeting hall and adding an astrophotography gallery; and purchasing a dedicated tent and display system for showcasing astrophotography by our members during AstroAssembly and at other outdoor events.

I am proud to be a member of Skyscrapers. I hope you are too.

Clear skies,
Linda



**Cosmic
Coffeehouse**

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

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

To receive your invite, send request to Astro-Geek@comcast.net



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 **May 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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Dave Huestis

Editor

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Jeff Padell

Annual Outreach Awards

by Linda Bergemann

Twenty-one members of Skyscrapers have been awarded the Night Sky Network Star 2022 for sharing the wonders of the night sky and the inspiration of NASA missions with students, families and the community. Each will receive a certificate and a special pin. The following individuals are recognized for their exceptional outreach:

- Katherine Silva Chippendale
- Michael Corvese
- Richard Doherty
- Daniel Fountain
- Jim Hendrickson
- Robert Horton
- Steve Hubbard
- Dave Huestis
- Francine Jackson
- Robert Janus
- Angella Johnson
- Laura Landen
- Curtis Lotter
- Edward Meadows
- James Meltzer
- Mark Munkacsy
- Thomas Perkins
- Kathy Siok
- Steve Siok
- Matthew White
- Ronald Zincone

Please see Linda if your name appears above and you have not received your award.



Library Telescope Program in Rhode Island

Town	Library
Barrington	Barrington Public Library
Charlestown *	Cross' Mills Public Library
Coventry **	Coventry Public Library
Cumberland	Cumberland Public Library
East Greenwich *	East Greenwich Free Library
Greenville	Greenville Public Library
Little Compton	Brownell Library
Newport **	Newport Public Library
North Kingstown *	North Kingstown Free Library
Portsmouth	Portsmouth Free Public Library
Scituate ***	North Scituate Public Library
Tiverton **	Tiverton Public Library
Warwick **	Warwick Public Library
Westerly **	Westerly Library and Wilcox Park
Woonsocket ***	Woonsocket Harris Public Library

*Donated by the members of Skyscrapers, Inc.

** Purchased by the library with assistance from Skyscrapers, Inc.

*** Donated by the Astronomical League Horkheimer Charitable Fund

Book Review

Always Looking Up: Nancy Grace Roman, Astronomer

by Laura Gehl, illustrated by Louise Pigott and Alex Oxton, Chicago: Albert Whitman & Company, 2019, ISBN [978-0-8975-0296-9](https://www.albertwhitman.com/978-0-8975-0296-9), hardbound, \$16.99, US

Reviewed by Francine Jackson

Most of us know that a new telescope is being launched to study, among many subjects of astronomy, dark matter and dark energy, exoplanets, and the infrared universe, in the mid 2020s. It is named for Nancy Grace Roman. But, is everyone familiar with who she was, and why this incredible machine is being launched with her name on it?

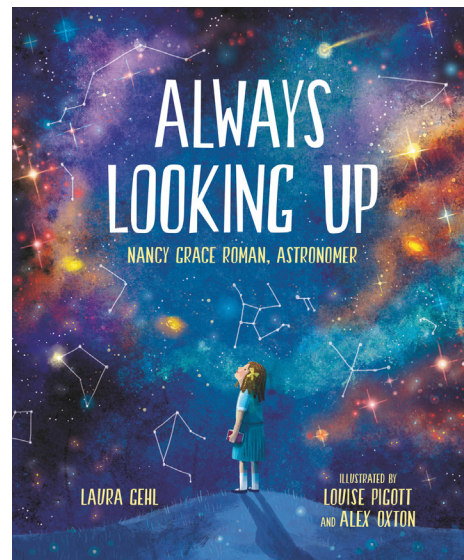
This tiny book, suitable for the very young, as well as adults looking for information on this incredible woman, is written for all to enjoy. It introduces Nancy Grace as a young girl who, like many women in the twentieth century, was discouraged from becoming a scientist. In addition, as a young girl, she had very weak eyesight, preventing her from truly enjoying the sky she loved so much. However, Roman was able to overcome both obstacles, soon becoming one of the top astronomers at NASA.

Her first major project was attempting to convince NASA, and Congress, of the need for a telescope that would observe above the atmosphere; over a decade later, the Hubble Space Telescope left Earth, and is still returning magnificent images.

Throughout her life, Roman stayed focused on her mission: Studying the stars every clear night, and watching their motions through space. Even after retiring, she kept up with the latest developments in astronomy, lectured to both children and adults, and continued to look up at the sky as often as possible.

Although this book is considered one for a young reader, an adult who is totally unaware of Nancy Grace Roman and her many achievements will gladly take an afternoon to read of her many accomplishments, despite the struggles she had as a young woman. Once you read *Always*

Looking Up, you will realize that naming the next space telescope after her is a perfect choice.



Skylights: May 2023

by Jim Hendrickson

After having spent 25 days within the boundaries of Aries, the Sun enters Taurus on May 14. The first 8:00pm sunset occurs on May 17. The Sun will not set earlier than 8:00pm until August 5.

Mercury reaches inferior conjunction on the 1st, ending its best evening apparition of 2023. Unfortunately, May's morning apparition of our innermost planet will be less than ideal, with Mercury rising no more than an hour before sunrise by the 29th, when it will be at greatest elongation, 25° west of the Sun. This, combined with its position south of the ecliptic, means it will never be more than a few degrees above the horizon in the pre-dawn sky in May. Perhaps most notable, the 28-day waning crescent Moon will be 6° to the left of Mercury on the morning of the 18th.

As Venus treks its way eastward through

the Winter Hexagon throughout May, note some conspicuous alignments and positions. It will cross the north-south axis (the line connecting Capella and Sirius) on the 6th, and will then be in the eastern half of the familiar winter asterism. On the 9th, it will be just 1.7° north of the open cluster M35 in Gemini. On the 16th, it bisects the northeast chord (the line connecting Capella and Procyon). Note also on the 16th, Mars will be in line with Castor and Pollux. Throughout the second half of the month, watch Venus's changing position with respect to these two stars, as well as its approach to Castor and Pollux, until it finally "exits" the Winter Hexagon on the 30th.

Observing the phases of Venus telescopically can be challenging due to its overwhelming brilliance, especially when the planet is distant and in the wide gibbous phases, but it is now within 1 AU, and is beginning to appear fairly large in the eyepiece. In early May, Venus subtends 17 arcseconds as a 66% illuminated gibbous, and by month's end, its 23 arcsecond globe is approaching 50% illumination.

Latest Venusset occurs at 11:40pm EDT, on the 21st.

On the 22nd and 23rd, the waxing crescent Moon joins Venus in the evening sky.

Just as Venus is getting closer and brighter, Mars is becoming more distant and dimmer, though, at magnitude 1.4, still comparably bright to nearby Pollux and Castor. On the 16th, the Red Planet enters Cancer, and is within the same binocular field of view as the open cluster M44 by month's end.

Telescopically, Mars won't reveal much detail, as it reaches a distant 2 AU at the end of May, and its tiny globe is only 4.7 arcseconds across.

Jupiter passed conjunction in mid-April, and by mid-May it becomes visible low in the east before sunrise. The 27-day waning crescent Moon joins Jupiter in the morning of the 17th, at an apparent distance of just 1.8°, a spectacular pairing worthy of a look with a telescope or binoculars. Jupiter enters Aries two days later, on the 19th.

Saturn is located in Aquarius, and rises just after 3:00am EDT at the beginning of

Events in May

- 1 Mercury Inferior Conjunction
- 3 Mars 2.0° N of Spica
- 5 **Full Flower Moon**, Penumbral Lunar Eclipse
- 7 First 2.9° WNW of Antares
- 8 Moon 5° S of Pollux
- 9 Uranus Conjunction
- 9 Venus 1.7° N of M35
- 12 **Last Quarter Moon**
- 14 Mercury Stationary
- 15 Moon 4.0° E of Neptune
- 17 Moon 1.5° SW of Jupiter
- 19 **New Moon**
- 21 Moon 4.5° NW of M35
- 22 Moon 5.1° W of Venus
- 23 Moon 2.0° S of Pollux
- 24 Moon 3.0° N of M44
- 26 Moon 3.2° N of Regulus
- 27 **First Quarter Moon**
- 28 Saturn Quadrature W90
- 29 Mercury Greatest Elongation 25°W
- 29 Venus 4.0° S of Pollux
- 31 Moon 4.5° NW of Spica

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

the month, and about 1:30am EDT at the end of the month. It reaches its point of western quadrature (elongation 90° west of the Sun) on the 28th, and clears the horizon enough to observe with a telescope. Quadrature is one of the best times to observe Saturn because this coincides with the point where the angle between Sun and Earth as seen from Saturn is at its widest (5.9°), making the shadows on Saturn and its rings as seen from Earth most pronounced.

You may also notice that Saturn's ring plane angle is smaller than it has been. The ring plane is tilted about 9° in May, compared to about 15° a year ago. The rings plane angle will continue to decrease, on average, until March 2025, when it becomes 0°.

Uranus is in conjunction on the 9th and will not be visible until mid-June.

Neptune is located in Pisces, 4.7°

south-southeast of gamma Piscium, in the Circlet asterism. The 25-day waning crescent Moon lies 4.0° east of the distant ice giant on the 15th.

Dwarf planet Ceres completes its retrograde loop a few degrees east of Denebola (Beta Leonis) in May, and resumes eastward motion near the intersection of Leo, Coma Berenices and Virgo, finally exiting through Virgo.

Dwarf planet Pluto, now located in western Capricornus, is 1.3° southeast of globular cluster M75. At a distant 34.3 AU, Pluto shines at a dim 14.5 magnitude.

The Moon is 2.0° north of Spica on the 3rd.

The Full Flower Moon occurs on the 5th, with a penumbral eclipse occurring on the opposite side of Earth. On this day, the Moon sets at 5:26am and rises at 8:05pm EDT. Notice that a few minutes past midnight on the 5th, the Moon and Arcturus transit at about the same time.

The Moon passes 2.9° west-northwest of Antares on the 7th. Last quarter Moon is on the 12th.

New Moon occurs on the 19th, and for the week leading up to first quarter on the 27th, it passes some notable objects: 4.5° NW of M35 on the 21st, 5.1° W of Venus on the 22nd, 2.0° S of Pollux on the 23rd, 3.0° N of M44 on the 24th, and 3.2° N of Regulus on the 26th.

On the last night of May, the Moon returns to the same place it was on the first day, a few degrees from Spica.

In early May we get our last look at many of our winter sky's familiar star patterns. Drawing a horizontal line parallel with the western horizon, from left to right, we see Sirius, the Belt of Orion, and Taurus's two prominent clusters, the Hyades and Pleiades, all in position for their seasonal departure from our springtime evening sky. By mid-May, all but Sirius will have dipped out of sight, leaving only the northeastern chord of Winter's Hexagon, which now forms a great chevron, arcing from Procyon in the west, up to Pollux and Castor, and connecting to Capella in the northwest. The

familiar asterism also appears to change nightly, with the eastward march of Venus and Mars through it.

To the east, the stars of summer are beginning to make their evening appearance. Soon after twilight in early May, Vega can be seen hovering over the northeast horizon, and by month's end, Deneb (alpha Cygni) can be seen low in the northeast, and Antares (alpha Scorpii) is visible in the southeast. By midnight, the Summer Milky Way once again arcs across the sky.

High overhead facing north, the Big Dipper's pointer stars are at their upper culmination at the beginning of the month. As the hours and days advance, the Big Dipper can be seen pivoting into the western sky.

In the south during early evenings in May, the sky is dominated by Leo, but several dim constellations await exploration, including Hydra, the water snake, which is the longest constellation, and shares a border with 13 others. Its second magnitude star Alphard, meaning "the lonely one," is reminiscent of Fomalhaut (alpha Piscis Austrinus) in the autumn sky, in that it occupies an area of sky relatively devoid of other bright stars. Alphard is a class K giant star that lies about 180 light years away and shines with the brilliance of 950 Suns.

Following the dim, meandering stars towards the tail of the water snake, we come across a conspicuous, non-symmetrical quadrilateral of third magnitude stars which lie about 15 degrees to the west-southwest of the bright, hot blue Spica (alpha Virginis). This is Corvus, which, with a generous helping of the imagination, and perhaps aided by a dark sky to reveal some of its dimmer members, represents a crow.

Corvus hovers over the south during evenings in May, and is worthy of a visit by observers with a telescope. Although technically located within the neighboring constellation Virgo, Corvus is typically the hopping-off point for a journey to the notable lenticular galaxy Messier 104, familiarly known as the Sombrero Galaxy.

Starting from Algonab (delta Corvi),



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>

jump just 5.5° slightly more north than northeast to find an 8th magnitude glow, elongated roughly east to west. If you are manually driving your telescope and have a bit of difficulty landing on M104 at first, you may arrive at two small and very distinct asterisms nearby that will help guide you to it. The first is a triangular asterism about 6 arcminutes across known as “the stargate.” A close pair of 8th magnitude stars in its center are surrounded by three stars spaced at approximate equal angles. The two brightest stars on the perimeter are approximately the same brightness, at 6th magnitude, and the dimmer, north-

ern component gives the asterism its slight asymmetric appearance. From the center of the stargate, follow a line through this dimmer star and continue northeastward just under one degree. Here, you will find another helpful asterism in the shape of a small arrow, consisting of four 9th magnitude stars that point in a southeasterly direction. Follow this arrow directly to M104, just $1/3^\circ$ away.

Although M104’s 8th magnitude glow is visible in small telescopes on a moonless night, a larger aperture (about 6-to-8 inches) will be needed to see its most distinguishing feature: a thick, opaque ring

of dust that bisects the galaxy’s central bulge. The Sombrero moniker originated from old photographs where the galactic core is overexposed, and the dust ring represents the wide brim of the namesake hat. Through the eyepiece of your telescope, the combined light of about 100 billion stars has traveled 29 million light years. The galaxy has a mass of about 800 billion Suns, a bit more than half that of the Milky Way, and is about half of the Milky Way’s radius. Recent observations from Hubble Space Telescope have revealed that M104 has about 2,000 globular clusters, an order of magnitude more than the Milky Way.

Star Party Reports

Chase Farm, Lincoln Friday, April 14, 2023 by Jim Hendrickson

The first of two Starry Night at Chase Farm events took place on Friday night, April 14. Kathy Hartley from Friends of Hearthsides, our hosts for this event, informed us that the event sold out in less than 24 hours, and as an accommodation to those who weren’t able to get in, it would be split into two sessions: the first group would arrive at 7:00pm for the presentation, the move out to the telescope field while the second group would arrive, at 8:00pm for the presentation.

After a record-breaking 92°F in the afternoon, temperatures moderated into the

low 70s by sunset, with a steady, light breeze from the southeast, that briefly brought in the smell of the smoke from the wildfires in Exeter when it turned to the south-southwest for a few minutes around sunset. Predicted mostly-cloudy skies remained about 50% cloud cover through the session, leaving enough sky open for observing some of the more notable objects in the sky.

Bob Janus, Francine Jackson, and Jim Hendrickson set up telescopes (Bob’s 6-inch SCT, Francine and Jim had 4-inch refractors), then Francine went into the visitor center to give her presentation “The Mid-Spring Sky” after a brief introduction by Kathy.

As the first group arrived on the field

from the presentation, the sky was still fairly bright in twilight, but Venus was easily visible and became the primary object early on. As the sky darkened a bit, Mercury became visible (albeit only through the telescope), as did Mars, which was situated less than $1/4^\circ$ from epsilon Geminorum, making for an attractive double through the low power eyepiece.

About 45 minutes later, when the second group arrived after the second presentation, a few from the first group remained, and the sky was now fully dark. Although clouds prevented deep sky observations, we were able to view three planets, the Pleiades, and Mizar and Alcor in Ursa Major.

There were about 70 guests in total, and despite less than ideal sky conditions, they all very much enjoyed the views as well as the presentation and conversation. Questions and topics of discussion ranged from Webb telescope to astrophotography, meteor showers, and our recent trip to Iceland. Many visitors were interested in visiting Ladd and Seagrave Observatories, and some were planning to return to the next Chase Farm Starry Night on August 23.

Pack 11 Coventry Thursday, April 20, 2023 by Francine Jackson

On Thursday, April 20, 2023, Jim Hendrickson and Francine Jackson were invited to spend time at Sts. John and Paul Church in Coventry outside with Chris Schuler’s young scouts of Pack 11 Coventry. As it was still daytime, we could not show anything in the sky, but Jim set up an Astroscan and pointed it at a nearby tree.

We also, using cardboard cutouts of the





Sun, Moon and Earth, had the children take turns showing how the Earth travels around the Sun, and the Moon moves around the Earth, as the Earth is going around the Sun. Mr. Schuler then asked what the distances were to these objects, and proceeded to move the Sun fairly far away in the yard, then had the Moon and Sun take time, with one of the fathers, to move around the Sun as far away as the bodies could. Although it wasn't really far proportionally, it was enough to show how far away distances in space can be, even when they appear fairly close.

After answering a few questions, mainly

about being astronauts, it was time for their meeting to be over. This program showed that, even at a young age, children are fascinated with the sky, and we should continue to offer programs for them.

**River Bend, Uxbridge
Friday, April 21, 2023
by Francine Jackson**

April 21 was the first of eight scheduled nights this year at River Bend Farms, Uxbridge, Mass. Jim Hendrickson, John Kocur and Francine Jackson set up their telescopes on top of the hill at sunset, about 7:30, and already members of the public were begin-

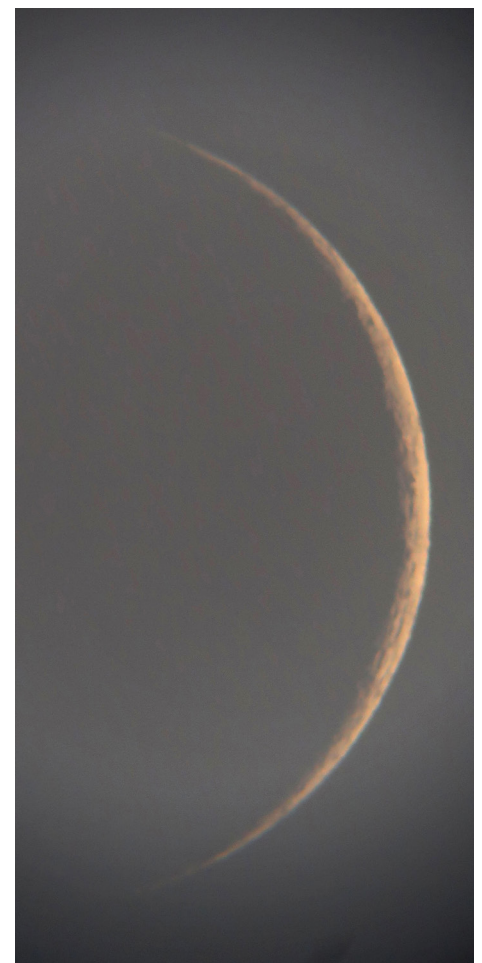


ning to come. The first object viewed was the incredibly small waxing crescent Moon in Jim's new refractor, a sight so small it couldn't be seen with most people's eyes. Also, Venus, Mars, several double stars, galaxies, the Pleiades and M3 were shown.

In addition, a student, Michael, rode his bicycle there, carrying his binoculars and a tripod. He trained his binoculars on Venus, then slew throughout the sky.

Unfortunately, there were no passes of the International Space Station, but several guests did see what could have been a couple Lyrids.

As this was the first night of the season, about 15 persons came, some of whom were "regulars," others who came after reading about it on the National Parks Service website. As we have sent them the tentative list for the rest of the season, we're sure the numbers will increase as time goes on.



Observer's Challenge:

NGC 3044: Galaxy in Sextans

by Glenn Chaple

Magnitude 12.5, Size 4.6' X 0.7'

When William Herschel compiled his Catalogue of Nebulae and Clusters of Stars, he placed a majority of nebulae into three distinct categories – Class I (Bright Nebulae), Class II (Faint Nebulae), and Class III (Very Faint Nebulae). Our April Observer's Challenge, the edge-on barred spiral galaxy NGC 3044 in Sextans, is a Class III Herschel object. It was visually faint to him; it's a faint visual challenge for the modern-day backyard astronomer. Herschel discovered it on the night of December 13, 1784, describing it as "Very bright, large, very much extended 151 degrees, very suddenly much brighter in the middle, equals a star of 10th magnitude."

Too faint to be included in the Herschel 400 list and not plotted in Sky and Telescope's Pocket Sky Atlas, NGC 3044 is located 4 degrees west-northwest of the 4.5 magnitude star alpha (α) Sextantis and $4\frac{1}{2}$ degrees northeast of magnitude 3.9 iota (ι) Hydrae at the 2000.0 coordinates, RA 9h53m40.9s and Dec +01o34'46.7". Star-hoppers can work their way from either star by referring to the accompanying finder charts.

From dark-sky regions, NGC 3044 can be seen with a 10-inch scope. Observers working under slightly light polluted suburban locations will need nearly twice that aperture. A reasonably high magnification and a broadband nebula filter will help.

According to various sources, NGC 3044 lies somewhere between 65 and 75 million light years away. The light you see when you peer into the eyepiece left this galaxy near the end of the Mesozoic era around the time of the demise of the dinosaurs.

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.



Mario Motta, MD. (ATMoB) "Taken with my C14 from Florida, 50 min of Lum subs, then processed."



The Sun, Moon & Planets in May

This table contains the ephemeris of the objects in the Solar System for each Saturday night in March 2023. Times in Eastern Daylight Time (UTC-4). 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	6	2 51.1	16 24.1	Ari	-26.8	1903.0	-	-	-	1.009	05:36	12:42	19:50
	13	3 18.3	18 15.9	Ari	-26.8	1899.8	-	-	-	1.01	05:28	12:42	19:57
	20	3 46.1	19 52.7	Tau	-26.8	1897.0	-	-	-	1.012	05:21	12:42	20:04
	27	4 14.3	21 12.9	Tau	-26.8	1894.5	-	-	-	1.013	05:16	12:43	20:11
Moon	6	15 05.9	-19 17.9	Lib	-12.7	1892.4	176° W	100	-	-	20:06	01:05	05:56
	13	22 05.1	-17 21.7	Aqr	-11.9	1909.2	85° W	46	-	-	02:40	07:53	13:17
	20	3 58.0	22 32.8	Tau	-5.7	1851.0	5° E	0	-	-	05:42	13:34	21:36
	27	10 08.3	16 01.6	Leo	-11.6	1801.3	83° E	44	-	-	12:18	19:18	02:06
Mercury	6	2 26.2	13 59.9	Ari	3.9	12.0	6° W	2	0.456	0.561	05:21	12:14	19:05
	13	2 17.9	11 24.8	Ari	2.3	11.3	16° W	10	0.466	0.598	04:56	11:39	18:22
	20	2 22.1	10 38.7	Ari	1.3	10.0	22° W	22	0.463	0.676	04:36	11:17	17:58
	27	2 38.8	11 42.5	Ari	0.7	8.6	25° W	34	0.446	0.781	04:21	11:07	17:54
Venus	6	5 52.2	26 00.1	Tau	-4.1	17.9	43° E	64	0.719	0.943	07:57	15:44	23:32
	13	6 26.2	26 02.1	Gem	-4.1	19.0	44° E	61	0.720	0.889	08:03	15:51	23:38
	20	6 59.2	25 33.1	Gem	-4.1	20.3	45° E	58	0.720	0.834	08:11	15:56	23:41
	27	7 30.8	24 35.3	Gem	-4.2	21.7	45° E	54	0.721	0.778	08:20	16:00	23:39
Mars	6	7 35.2	23 22.4	Gem	1.4	5.2	67° E	92	1.663	1.783	09:51	17:25	00:59
	13	7 51.9	22 37.7	Gem	1.4	5.1	64° E	92	1.664	1.844	09:44	17:14	00:44
	20	8 08.6	21 46.5	Cnc	1.5	4.9	61° E	92	1.665	1.903	09:37	17:04	00:30
	27	8 25.3	20 48.8	Cnc	1.5	4.8	58° E	93	1.666	1.961	09:30	16:53	00:14
1 Ceres	6	12 00.4	15 07.3	Com	7.7	0.7	127° E	98	2.597	1.858	14:50	21:47	04:45
	13	11 59.7	14 27.8	Com	7.9	0.6	121° E	97	2.601	1.930	14:24	21:19	04:14
	20	12 00.2	13 40.8	Com	8	0.6	115° E	97	2.604	2.009	14:00	20:53	03:44
	27	12 01.8	12 47.4	Vir	8.1	0.6	109° E	97	2.608	2.091	13:38	20:27	03:15
Jupiter	6	1 43.7	9 35.7	Psc	-1.9	33.3	18° W	100	4.954	5.905	04:56	11:33	18:11
	13	1 49.9	10 10.3	Psc	-1.9	33.5	23° W	100	4.955	5.870	04:32	11:12	17:51
	20	1 56.0	10 43.6	Ari	-1.9	33.8	28° W	100	4.955	5.825	04:09	10:50	17:32
	27	2 02.0	11 15.6	Ari	-1.9	34.1	33° W	100	4.956	5.772	03:45	10:29	17:12
Saturn	6	22 32.3	-10 43.8	Aqr	1	16.4	69° W	100	9.803	10.111	02:59	08:22	13:45
	13	22 34.0	-10 35.6	Aqr	1	16.6	76° W	100	9.802	10.000	02:32	07:56	13:20
	20	22 35.4	-10 29.0	Aqr	1	16.8	82° W	100	9.800	9.885	02:06	07:30	12:54
	27	22 36.5	-10 24.0	Aqr	1	17.0	89° W	100	9.798	9.769	01:39	07:03	12:28
Uranus	6	3 05.4	17 05.4	Ari	5.8	3.4	3° E	100	19.651	20.658	05:48	12:54	20:00
	13	3 07.0	17 12.1	Ari	5.8	3.4	3° W	100	19.650	20.659	05:22	12:28	19:35
	20	3 08.6	17 18.7	Ari	5.8	3.4	9° W	100	19.649	20.647	04:55	12:02	19:10
	27	3 10.3	17 25.2	Ari	5.8	3.4	16° W	100	19.648	20.622	04:29	11:37	18:44
Neptune	6	23 50.4	-2 20.0	Psc	7.9	2.2	48° W	100	29.910	30.570	03:46	09:40	15:33
	13	23 51.1	-2 15.9	Psc	7.9	2.2	55° W	100	29.909	30.478	03:19	09:13	15:07
	20	23 51.7	-2 12.3	Psc	7.9	2.2	62° W	100	29.909	30.378	02:52	08:46	14:40
	27	23 52.2	-2 09.2	Psc	7.9	2.3	68° W	100	29.909	30.272	02:25	08:19	14:13
Pluto	6	20 12.5	-22 31.7	Cap	14.4	0.2	105° W	100	34.762	34.490	01:27	06:02	10:38
	13	20 12.5	-22 33.1	Cap	14.4	0.2	112° W	100	34.767	34.381	00:59	05:35	10:10
	20	20 12.3	-22 34.8	Cap	14.4	0.2	118° W	100	34.771	34.278	00:32	05:07	09:42
	27	20 12.0	-22 36.7	Cap	14.4	0.2	125° W	100	34.776	34.182	00:04	04:39	09:14

Seeing Venus in a Different Light

by Greg Shanos

The planet Venus is currently well placed in the western sky right after sunset. The best time to observe the planet is while it is still daylight since it will be higher in the sky, with less atmospheric turbulence. Use a GOTO telescope to find Venus an hour before sunset and just before sunrise. For many amateur astronomers, Venus appears rather featureless and not very interesting except for its phase. Therefore, some believe there is no reason to image Venus on a regular basis. Nothing can be further from the truth; we need to see the planet in a different light - namely the ultraviolet and infrared. These wavelengths are invisible to our eyes; however, today's CMOS planetary imaging cameras are rather sensitive to these wavelengths.

At ultraviolet wavelengths, Venus exhibits high altitude clouds of sulfur dioxide, sulfuric acid and other unknown absorbers. To image these cloud features an ultraviolet filter is required. An inexpensive specialized planetary imaging filter set is available from Astromania for only \$77.99. The filter set includes an ultraviolet 350nm narrowband filter, infrared 685 longpass filter and methane 890nm narrowband filter. Our eyes are fine tuned to see the electromagnetic spectrum between 400nm to 700nm. Today's CMOS chips are sensitive to wavelengths between 300nm to 400nm in the near ultraviolet. A Barlow lens and diagonal prism cannot be used when imag-

ing Venus in the ultraviolet since these additional lenses and mirrors can potentially absorb precious ultraviolet photons. Simply screw the UV filter onto the nosepiece of the monochrome ZWO, QHY or Player One camera then attach it to the telescope at prime focus. A Schmidt-Cassegrain at least 8-inches (200mm) or larger in aperture is ideal for planetary imaging. The telescope must be tracking, however, autoguiding is not necessary and the telescope can even be mounted alt-azimuth. Focusing can be challenging especially in the ultraviolet. My technique is to reduce the screen size of the planet to 50% then focus until the circumference of the planet is as sharp as possible. The video is taken at 100% size and resolution. Adjust the exposure and gain so that the planet is slightly underexposed. The reason for this is that during post-processing if the video were not under-exposed the final image may appear over-exposed. For planetary imaging a 60 second video is typically taken with the free software packages Firecapture or Sharpcap. The reason a 60 second video is taken is because most planets show significant rotation if imaged for longer periods of time. The surface details on Mars, Jupiter and Saturn will appear blurry and smeared in videos longer than one minute. However, this is not true for Venus. Venus exhibits two central meridians, known as CMI and CMII. CMI is for the surface rotation and CMII is for

atmospheric rotation. For Venus, I take a 300 second (5 minute) AVI video. The planet barely rotates during the five-minute exposure with the surface central meridian exhibiting no rotation whereas the atmospheric clouds only rotate 0.3 degrees. Firecapture has an autoguide and cut feature, which will keep the planet centered and reduce the region of interest resulting in a smaller file size. File sizes for planetary videos are typically in the gigabyte range. Once you have the video, import it into the free program Autostakkert for aligning and stacking then export the image into Registax for sharpening. Stack only 15% to 25% of the highest quality video frames. Further sharpening with AstraImage and Photoshop Elements is recommended. I typically do a quick Autostakkert and Registax processing in the field to see the quality of my video-processed image. The time it takes to capture, align, stack and sharpen an image is only 10 minutes (including five minutes to capture the video). If the image is of poor quality, simply take another video. I typically take three to five videos then choose the best-processed image. Import this image into AstraImage.

I use a Lucy-Richardson deconvolution function, which further enhances the Venetian clouds. The clouds appear dark against a white planet. Once you have deconvoluted the image in AstraImage, import the image into Photoshop or Photoshop elements. The high pass filter option further brings out details in the cloud structure. Increase the image size by 1.25x to 1.5x depending on the quality of the image. Save the file as a TIFF, PNG or JPG and you are finished.

Once you become proficient in imaging Venus in the ultraviolet, you will want to upgrade your ultraviolet filter. The best UV filters on the market are the Chroma UBessel and the Astrodon UVenus which both achieve a 98% bandpass from 320nm to 380nm whereas the Astromania only allows 80% bandpass at 350nm with some infrared leakage. The Chroma filter does not come cheap at \$295 and is available from the manufacturer. Astrodon UVenus costs slightly less at \$253. I now use the Chroma UBessel filter exclusively and the difference is astounding. The dark clouds of Venus appear with much higher contrast and resolution. You get what you pay for.

The mid-latitude clouds of Venus be-

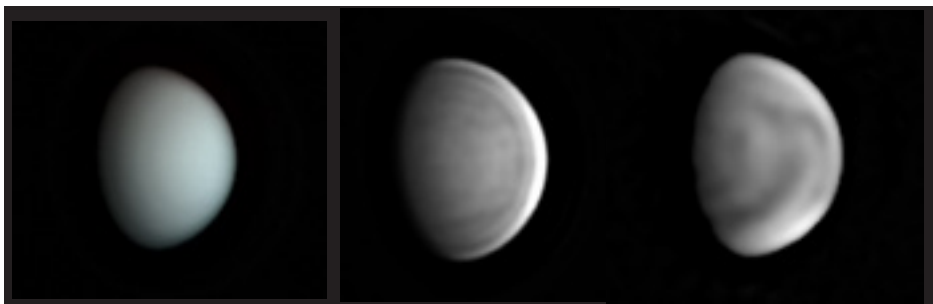


Figure 1: Venus taken on March 22, 2023 in the visible, infrared and ultraviolet by the author. The left image was taken at 22h 09.3m UT (6:09pm local time) CMI: 18.2°, CM2: 192.7° with the ZWO ASI 462MC one-shot color camera and Baader CMOS optimized UV/IR cut filter to simulate what the eye would see. The middle image was taken at 23h 14.1m UT (7:14pm local time) CMI 18.4°, CMII 196.6 with the ZWO ASI 462MM monochrome (high infrared sensitivity) and a ZWO 850nm IR longpass filter while the image on the right taken at 22h 47.3m UT (6:47pm local time) CMI 18.3°, CMII 195.0° with the ZWO ASI 178MM monochrome (high ultraviolet sensitivity) and the Chroma UBessel filter. Venus was at Magnitude -4.0, Diameter 13.4" and 80% phase. North is up. Note how Venus has a very slow rotation rate as evidenced by the central meridian values. It is important to use the camera with the highest sensitivity for the spectral region you would like to image. Venus was 54° above the horizon when the color image was taken and 40° when the infrared image was taken. (Courtesy of the author).



Figure 2: The author imaged an unusual white spot that appeared on Venus in the ultraviolet on Feb 6, 2023 (far right). This caught the attention of three planetary scientists in Europe (namely Antonio Cidadao MD PhD, Agustin Sanchez PhD and Javier Peralta PhD). Dr. Cidadao from Portugal also imaged this white spot on Feb 1st and 2nd 2023 and created this composite view, which includes the author's image at far right. The origin of the white spot remains a mystery. Current hypotheses include volcanic activity, turbulence in the atmosphere, or charged particles from the sun. Scientific papers have been written on this phenomenon and the 2023 occurrence will surely be published. (Courtesy of Dr. Antonio Cidadao).

come visible in infrared wavelengths. Monochrome planetary cameras such as the ZWO, QHY and Player One are sensitive to the near-infrared wavelengths from 700nm to 1000nm. The 685nm longpass filter from the Astromania filter set is therefore required. However, one needs to be deeper in the infrared to have better contrast with the mid-latitude clouds. The ZWO 850nm IR longpass filter costs only \$22 and is strongly recommended. Follow the same procedures as for the ultraviolet. Take a 300 second (five minute) video using the 850nm IR longpass filter then process the video using Autostakkert, Registax,

AstraImage, and Photoshop. The infrared camera gives more video frames therefore one can stack 25% to 33% of the highest quality frames.

There is a hidden treasure for deep-sky and planetary imaging unknown to most amateur astronomers- AstroSurface. AstroSurface is a free software package that aligns, stacks, sharpens, deconvolutes all in the same program. Tutorials are available on YouTube. Fortunately, the learning curve for this program is not very steep. I typically process UV and IR images of Venus using both Autostakkert/Registax and AstroSurface. The images turn out essen-

tially equivalent in quality.

Planetary images taken today by amateur astronomers rival photographs from professional observatories fifty years ago. Therefore planetary images are of great scientific value. The Association of Lunar and Planetary Observers (ALPO) archives your images for amateur-professional collaboration (see www.alpo-astronomy.org). Send images to venus@alpo-astronomy.org. The Venus Section coordinator is Julius Benton PhD. The Planetary Virtual Observatory and Laboratory (PVOL) is a European database. Send images to pvol@ehu.eus. The hstjupiter@groups.io is another database for all the planets not only Jupiter. There is also ALPO- Japan email: alpo-obs@alpo-j.sakura.ne.jp. I send my planetary images to all these databases.

The Akatsuki (Japanese for "Dawn") spacecraft launched by the Japanese Aerospace Exploration Agency entered orbit around Venus on Dec 7, 2015 and has since been continuously studying the atmosphere of Venus using several cameras in the visible, ultraviolet and infrared wavelengths. The Akatsuki Science Data archive has photos of the clouds of Venus in the ultraviolet and infrared that can complement amateur astronomer ground based images.

NASA has two missions in the works to study Venus. The DAVINCI (Deep Atmosphere Venus Investigation of Noble gases, Chemistry, and Imaging) mission is planned to launch in 2029 and will study the Venetian clouds. VERITAS (Venus Emissivity, Radio Science, InSAR, Topography, and Spectroscopy) is scheduled to launch in 2031 and will map the surface at higher resolution. The European Space

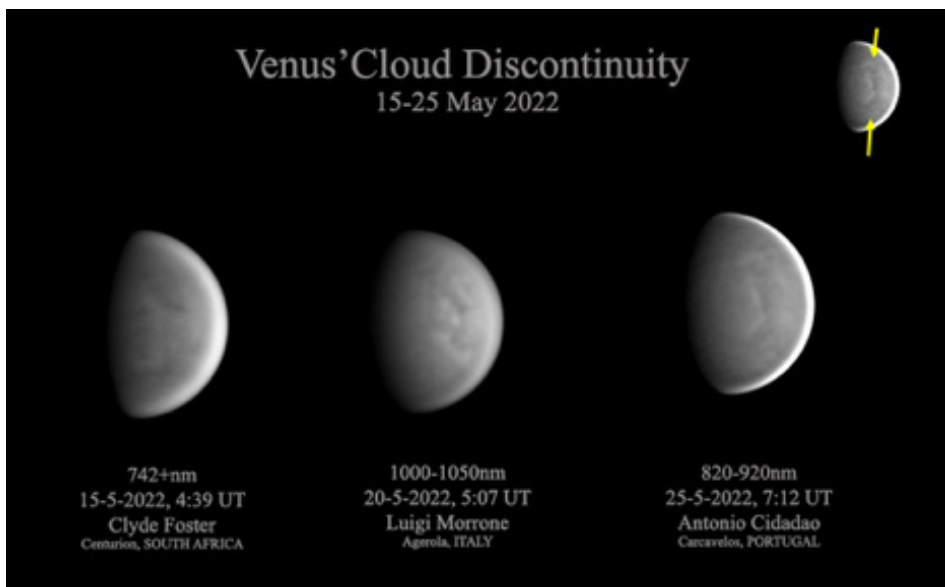


Figure 3: The Venus Cloud Discontinuity is a rare phenomenon believed to be a type of gravity wave that changes the atmospheric density occurring in the mid-latitude clouds at infrared wavelengths (use an 850nm filter). The wave appears as a vertical "bruise" or "zipper" like structure. The author is constantly monitoring for this phenomenon when imaging Venus and hopes to one day observe and image it. (Mosaic courtesy of the author. All Images are from the Venus Section of the ALPO website).

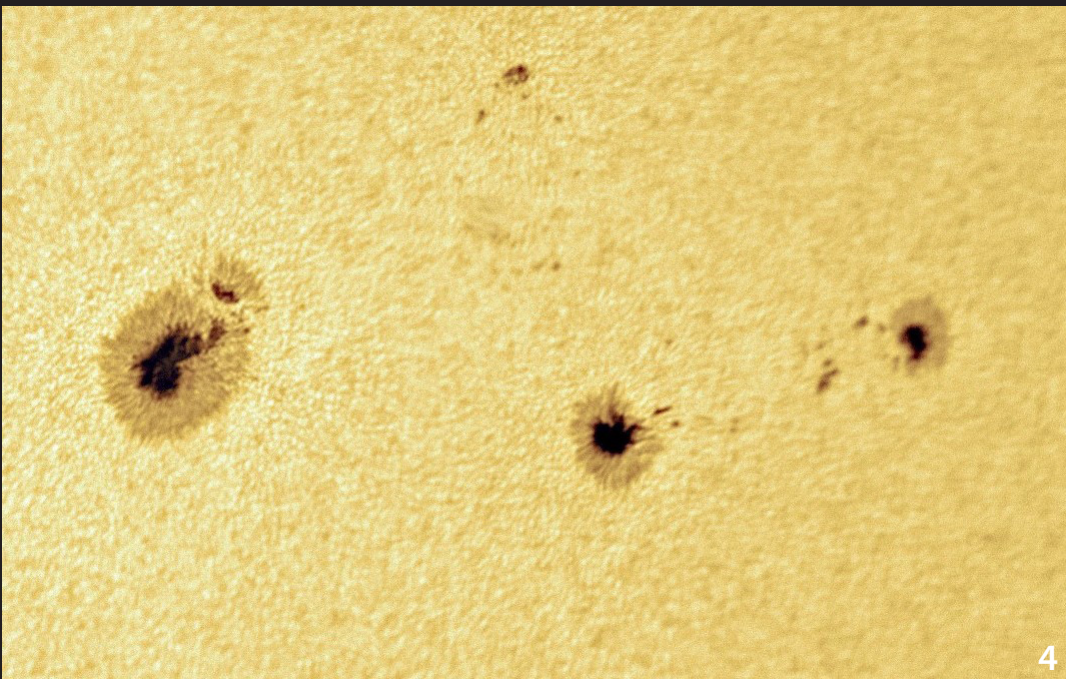
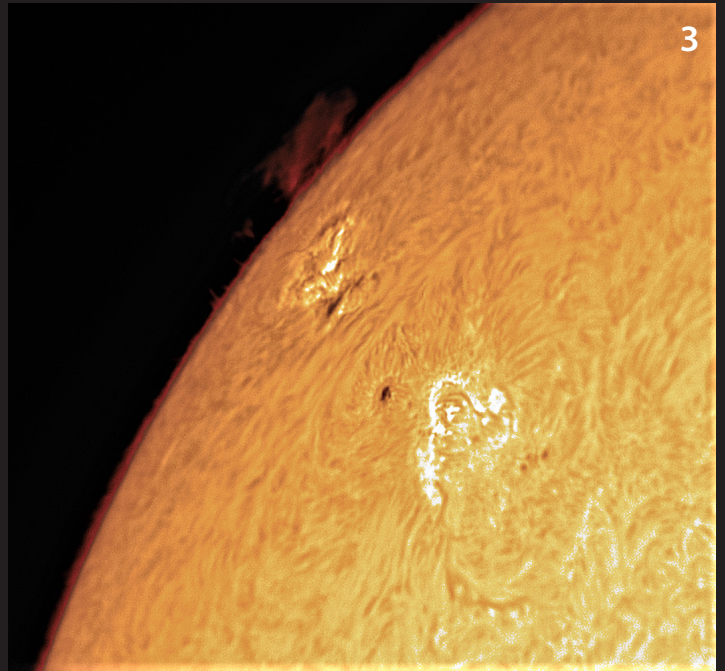
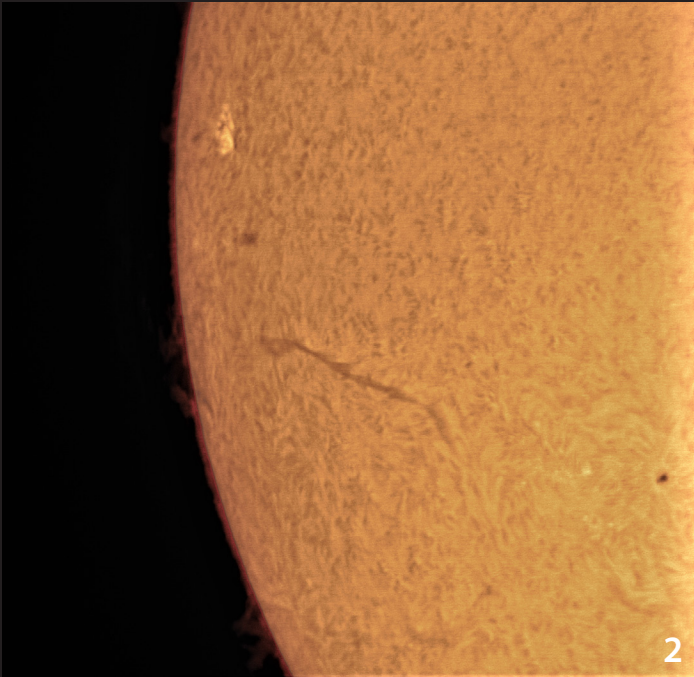
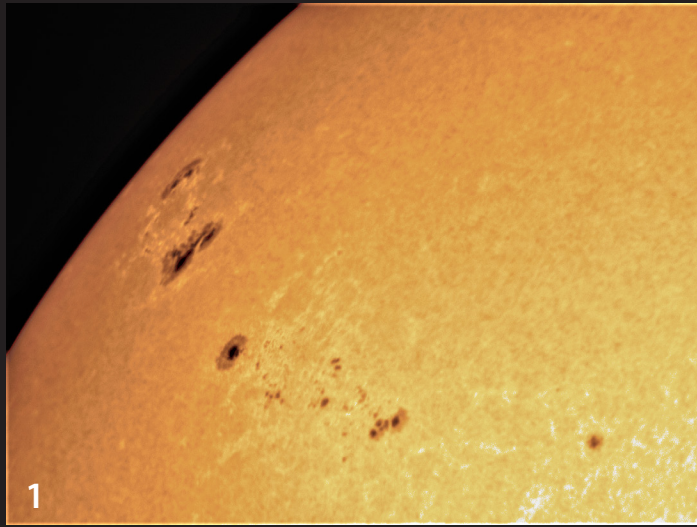
Agency (ESA) plans to launch the EnVISION spacecraft in 2032, which is designed to study the atmospheric composition of Venus.

A private mission from Rocket Labs will launch a spacecraft called the Venus Life Finder (VLF) within the next year or so to study the clouds of Venus and attempt to confirm the presence of phosphine and other organic molecules. Phosphine has been in the news as a possible molecule from living organisms in the clouds of Venus.

In conclusion, Venus when imaged in the infrared and ultraviolet portion of the electromagnetic spectrum exhibits dynamic cloud features that are visible in a small telescope by amateur astronomers. Unlike deep-sky, planetary imaging is more reasonably priced and affordable. A ZWO, QHY, or Player One camera costs \$299, the price of an average eyepiece. The Astromania filter set is only \$78 and the ZWO 850nm IR filter is \$22. Therefore for about \$400 you can start imaging the planets “in a different light”.

Figure 4: The author with his 10-inch Meade LX200GPS Schmidt-Cassegrain telescope, ZWO cameras, assortment of filters and MSI GF65 six core 12 thread upgraded to 40GB RAM gaming computer. He recommends using a high-end gaming laptop to greatly reduce video processing time because they use high-end graphic cards, processors and RAM. A fenced in area also helps shield the area from unexpected wind gusts. Part of an Ambient Weather WS8480 weather station can also be seen at the top center of photo. (Photo courtesy of the author).





Sun by Steve Hubbard

1. White light image taken April 13, 2023, with Altair solar wedge on a 6" refractor and green filter. 2 & 3. Taken on April 13, 2023 using 6" refractor and Quark Chromosphere filter. 4. Sunspots in white light, April 25, 2023, using Altair solar wedge on 6" refractor and Player One Mini mm camera.



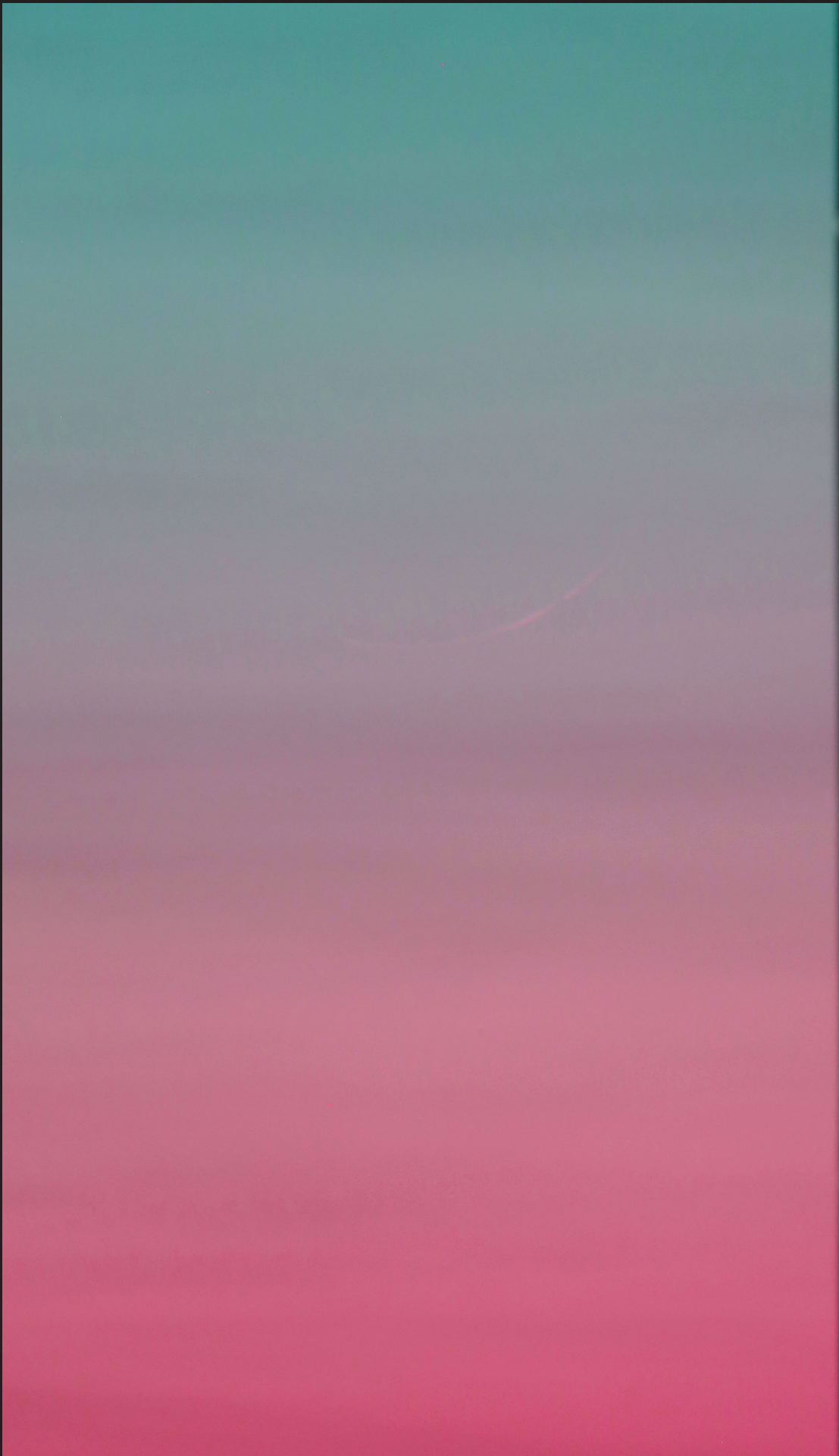
Capitol Planets by Jim Hendrickson

During a trip to Washington DC, Mercury and Venus could be seen in the twilight sky from the steps of the US Capitol on March 28, 2023.



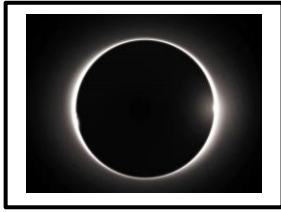
Solar Activity on March 29, 2023 by Conrad Cardano

A still from a 300 frame video was taken every 3 minutes for a total of 42 videos. <http://www.theskyscrapers.org/solar-activity-march-29-2023>



**19-Hour
Crescent Moon
by Bob Horton**

Taken from the roof of the physics building at Brown University, the .68% illuminated crescent Moon is faintly visible on April 20, 2023 before setting behind the Science Library building.



Skyscrapers, Inc. - Annual Solar Eclipse Expedition Albuquerque, New Mexico – October 12-18, 2023

Proposed Itinerary

October 12 depart Providence Southwest # 2263, 7:05AM, change planes Midway, SW # 2989, arrive ABQ 2:10 PM. Projected cost per ticket \$575.00

Rental, Budget Rent-a-Car, full size SUV, 4-person rental ¼ cost gas. Projected cost per person \$250. Fuel \$25 person.

Project cost hotel in Albuquerque 2 nights, \$300 per person.

October 13

Visit Albuquerque Old Town, Planetarium at Natural History Museum, afternoon/early evening visit to Santa Fe. Return to Albuquerque hotel.

October 14 Eclipse day in Albuquerque

Start: 9:13 AM, Maximum: 10:36 AM, End: 12:09 PM

Annularity: 4 minute 48 seconds

Early afternoon, depart for Socorro, check in to hotel, then travel to Magdalena to visit John Briggs Lyceum Telescope Museum late afternoon. Return to Socorro for 2-night stay.

Projected cost \$230 per person.

Donation to Lyceum of \$25 per person, payable in advance to Rick Lynch.

October 15

Visit Magdalena Ridge Observatory, morning; Very Large Array (VLA) afternoon, return to Socorro hotel. Observing somewhere in the evening.

October 16

Top of the World Astronomy Park 40" telescope and many other large telescopes, Enchanted Skies Astronomy Convention, Pie Town, NM. Return to Socorro hotel (long day). Observing somewhere in the evening.

October 17

Flex day, possible visits to Abo & Salinas Pueblo Ruins, Acoma Pueblo, Albuquerque Petroglyph National Monument, Sandia Peak Tramway.

Hotel in Albuquerque. Projected cost \$90 per person.

October 18

Depart Albuquerque Southwest # 3213, 6:55 AM, 1 stop Dallas, no plane change, arrive Washington, DC depart SW # 498, arrive PVD 6:20 PM

Approximate Cost Per Person \$1200
Food and admission charges extra.

Please see reverse side for important notes and requirements.



We will be at elevations of 5000'- 6500', air is thin so please take this into consideration. There will be extensive walking on part of the trip, on uneven ground. Most places on not handicap accessible.

The trip will be limited to 12-16 people based on 4 occupants per each SUV. Each SUV driver will be required to rent the vehicle with his own credit card and collect money from the 4 occupants for rental and gas. Budget Rent-a-Car has the best rates on full-size SUVs. **NO CAR RENTALS** as we will be off-road part of the trip and 4-wheel drive is necessary. I will rent a vehicle and take two additional people.

Weather at this time of the year is most pleasant during the day, but evenings at high elevation will certainly be chilly, dress accordingly.

Food, admission fees, (monuments, parks, museums, tramway, VLA, and possibly Magdalena Ridge Observatory are at the individual's expense.

It is imperative that when we arrive that we all stay on schedule each day, all meet at the same time, agree on where we will dine, depart to each location together, etc.

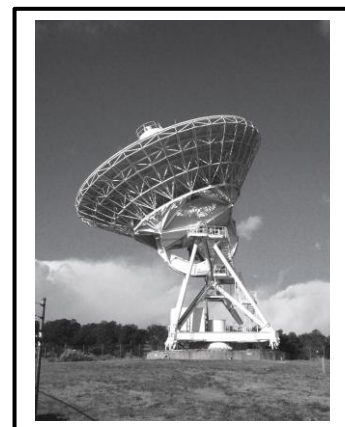
Currently many hotels are already sold out around the time of the eclipse. Rental cars (SUVs) may also be a problem as time gets nearer. Airfares are also a concern as many people will be traveling to NM for the eclipse. This being said, it is most important that we make our reservations no later than mid to late May. If you choose to use another airline other than Southwest, your arrival time must coincide with the Southwest schedule or arrive earlier. We will not accommodate late arrivals.

I will be in New Mexico the first week of May to finalize hotels and site visits. Upon my return on May 8th, I will email everyone who has signed on for the trip with specific hotels. If you plan on joining the trip you must commit by May 8th by contacting me by email. I will then keep everyone up to date on a regular basis. Please, as you make your reservations, send copies to me by email so I can coordinate everything.

Please provide your email address and I will send you links to all the sites we plan to visit as well as some possible options time permitting.

DEADLINE TO SIGN UP
MAY 8, 2023

Rick Lynch
Cell: 401-954-3829
Home: 401-949-3829
Email: hstrclrsch@aol.com



STARRY SCOOP

Editor: Kaitlynn Goulette



WHAT'S UP

Following sunset this month, the Big Dipper can be found very close to the zenith and is a terrific navigational tool. The two stars farthest from the handle, Dubhe and Merak, can be used to point to the North Star, Polaris, as shown on the map below. In the other direction, these "Pointer Stars" lead us south to the constellation Leo the lion. Utilizing the arc of the Dipper's handle, we can also "arc to Arcturus," "spike to Spica," and "continue on to Corvus the crow."

Looking to the west, our evening sky features the planets Mars and Venus, which look like bright stars to the unaided eye. Venus reaches its highest point during mid-to late May and glows at magnitude -4.3. Mars can be found about 17 degrees east of Venus, glowing a reddish-orange color. The crescent moon joins these planets from May 22nd to the 25th. In our morning sky, Saturn can be seen about two hours before sunrise, with Jupiter making its appearance about 30 minutes before the sun joins the sky.

The Eta Aquarid meteor shower runs annually from April 19th to May 28th and peaks this month on the evening of the 5th into the following morning. In the Northern Hemisphere this shower produces about 30 meteors per hour. The full moon blocks the dimmer meteors this year, but the brighter "shooting stars" will still be visible. For best viewing, find yourself a dark location after midnight.

Fifty years ago on May 25th, Skylab 2 was launched. It was the first crewed mission to American's earliest space station, Skylab, which was launched earlier in the month on

May 14th. This crew performed the first repair spacewalk to fix a broken solar array, allowing Skylab to receive enough power to continue operating. Science Pilot Joseph P. Kerwin became the first medical doctor in space and studied the effects spaceflight has on the human body. This crew was also the first to safely return to Earth after inhabiting a space station and set a new record for the longest duration of human spaceflight (28 days).

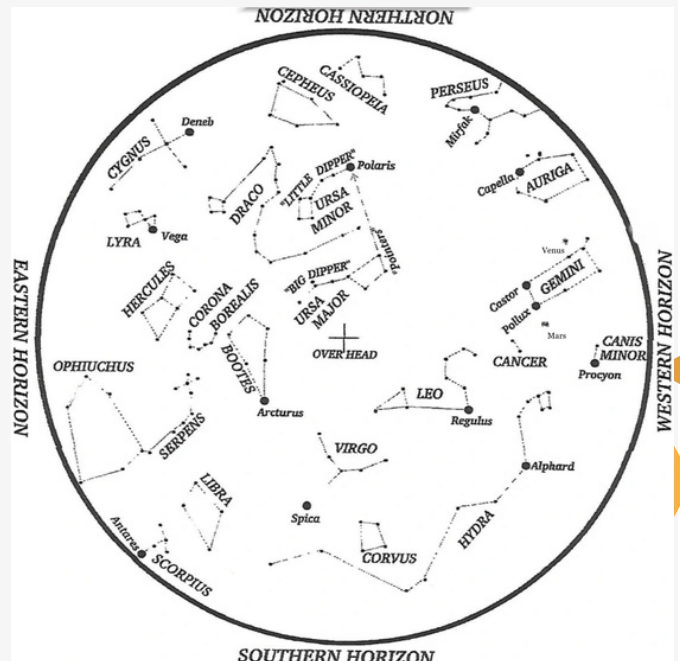
MAY'S SKY

5: Full Moon

5-6: Eta Aquarid Meteor Shower Peak

19: New Moon

29: Mercury at Greatest Western Elongation



Credit: Roger B. Culver

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

OBSERVATIONS

The Westfield High School Space and Astronomy Club recently held an observing event, which included both the Westfield Intermediate School (5th and 6th grade) and Middle School (7th and 8th grade). The first quarter moon was the highlight of the evening. One telescope featured the moon all night, with some students viewing it through a telescope for the very first time. The club's homemade 10-inch "Gravel" Dobsonian telescope featured multiple deep sky objects. The Orion Nebula was by far the favorite target through this telescope.

My family recently traveled down to Washington, D.C. for school vacation week and we had an opportunity to stargaze with the National Capital Astronomers. Clouds blanketed the sky at sunset, but as if a switch had been flipped, the heavens opened up following twilight. My fellow high school astronomy club member and good friend Lani Ching joined me, and we had the pleasure of touring the universe through club members' telescopes. We greatly enjoyed viewing many deep sky objects through their eVscopes. Two observations worth mentioning are the Orion Nebula and Whirlpool Galaxy. With the eVscope's technology, the details of these objects were comparable to digital images.

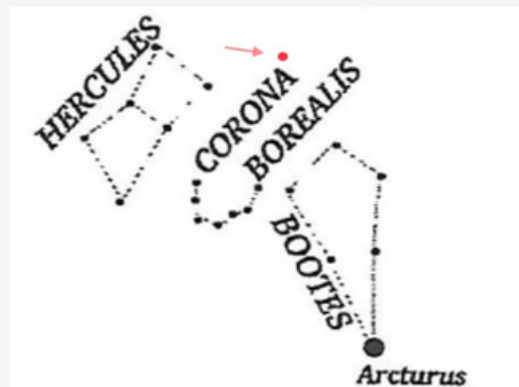
Lani and I, along with our families, attended two planetarium shows at the National Air and Space Museum, and one at the Rock Creek National Park.



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

The carbon star V Coronae Borealis is May's featured object and is located in the constellation Corona Borealis. It's a long-period variable star at a distance of about 8,800 light years. During its 357-day period, this star ranges in apparent magnitude from 6.9 to 12.6. Carbon stars are typically older red giant stars that are nearing the final stages of their lives. Their atmospheres contain an abundance of carbon, hence their name, which forms a dusty layer that scatters blue and green light, allowing only red and orange light to reach us. This causes carbon stars to shine a beautiful red color, much like a ruby. Use the star map below to help you find this object. A telescope is needed to view it. Good luck!



V Coronae Borealis



The Moon

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