Snake River Skies

The Monthly Newsletter of the Magic Valley Astronomical Society. December 2024

Membership Meeting
Dec. 14th at the Herrett Center
CSI main campus at 7:00pm

Centennial Observatory
See Inside for Details

Faulkner Planetarium
See Inside for Details

Club Officers

Dr. Jay Hartwell, Vice President
drhartwellod8@gmail.com

Rick Hull, Secretary
hull3hull3@yahoo.com

Jim Tubbs, Treasurer / ALCOR
jtubbs015@msn.com
208-404-2999

David Olsen, Newsletter Editor
editor@mvastro.org

Rick Widmer, Webmaster
rick@developersdesk.com

Magic Valley Astronomical Society is a member of the Astronomical League

M-51 imaged by
Rick Widmer & Ken Thomason
Herrett Telescope - Shotwell Camera

Message from the Club Vice President

To All My Astro Friends:

As December arrives, let me first thank all of you for your support the past year as your Vice President. I'm sure that as 2025 comes, I and the rest of the board will have some good monthly programs and events. Your continued support will be needed and greatly appreciated. Our annual Christmas party will be held at the Herrett Center library Dec 14th at 7pm. And, as in past years, we're asking all who come to bring an exchange gift ($15-$25 max value) and a dessert, finger food, salad, or treat. Hopefully we'll be able to play some games, too. As 2025 looms, one of the major items of interest will be the solar eclipses and lunar eclipses. The nomination and election for officer was postponed until the December. Please consider any nominations you might have for president and/or board members for 2025.

Astronomical events year 2025

Total lunar eclipse on March 14.

Partial solar eclipse on March 29.

Total lunar eclipse on September 7.

Partial solar eclipse on September 21

And for our group, my hope is that we can stay together and do things together, i.e. star parties, regular monthly meetings, outreach to local school districts and to our community. Best to all of you for continued success. As we end 2024, my thoughts are with all of you for a safe and happy holiday season.

Jay Hartwell

MVAS Vice President

Cheers and best to you, Jay Hartwell, MVAS Vice President:

Visit our Website
www.mvastro.org

Moon Phases for December 2024

Twin Falls, Idaho, United States

December 2024

No.	Su	Mo	Tu	We	Th	Fr	Sa
49	1 1% Waxing Crescent	2 3% Waxing Crescent	3 8% Waxing Crescent	4 14% Waxing Crescent	5 23% Waxing Crescent	6 32% Waxing Crescent	7 43% Waxing Crescent
50	8 First Quarter 08:27 am	9 66% Waxing Gibbous	10 76% Waxing Gibbous	11 85% Waxing Gibbous	12 92% Waxing Gibbous	13 97% Waxing Gibbous	14 99% Waxing Gibbous
51	15 Full Moon 02:02 am	16 96% Waning Gibbous	17 91% Waning Gibbous	18 84% Waning Gibbous	19 76% Waning Gibbous	20 67% Waning Gibbous	21 58% Waning Gibbous
52	22 Last Quarter 03:19 pm	23 39% Waning Crescent	24 30% Waning Crescent	25 22% Waning Crescent	26 14% Waning Crescent	27 8% Waning Crescent	28 3% Waning Crescent
1	29 1% Waning Crescent	30 New Moon 03:27 pm	31 1% Waxing Crescent				

https://www.mooninfo.org/moon-calendar/December-2024.html | Moon Names: The Old Farmer's Almanac, December 2024

December;’s full Moon is called the Cold Moon a name used by the Mohawk people, this Moon occurs when winter cold fastens its grip. The first day of winter in the Northern Hemisphere is marked by the winter solstice, which occurs on In Boise, Idaho, USA: Saturday, December 21, 2024 at 2:18 am MST This corresponds to Saturday, December 21, 2024 at 09:18 UTC. While we will be in winter’s icy grip the skies this time of year are usually clearest for star gazing.

Solstices mark the changing of seasons, occur twice a year, and feature the year’s shortest and longest daylight hours - depending on your hemisphere. These extremes in the length of day and night make solstice days more noticeable to many observers than the subtle equality of day and night experienced during equinoxes. Solstices were some of our earliest astronomical observations, celebrated throughout history via many summer and winter celebrations.

The Sky This Month – December 2024

Highlights of the December Sky

1. The year 2024 winds down with all seven major planets making appearances in the evening and early morning skies this month. Jupiter reaches opposition in Taurus, and Mars also brightens considerably further east on its way to opposition next month. The Geminid meteor shower arrives at mid-month, although the nearly full Moon gets in the way this year. And the Sun reaches the December solstice on the 21st marking the beginning of winter and summer in the northern and southern hemispheres, respectively. Here's what to see in the Night Sky This Month...

2. As Jupiter reaches opposition, our annual Jupiter Observing Guide helps you find what to see on and around this immense world with a telescope or a simple pair of binoculars.

3. For our deep-sky tour this month, let's take a tour of some lovely star clusters and a carbon star in Cassiopeia along the Perseus Arm of the Milky Way.

4. The Atlantic magazine begins their advent calendar of astronomy photos from the Hubble and Webb Space Telescopes.

5. And finally, for some welcome perspective, Carl Sagan explains what he sees when he considers Earth as a pale blue dot in an immense cosmos.

And the astronomy quote of the month:

“One lesson astronomy tells us is that we're a tiny mote in a hostile void, and help is too far away.”

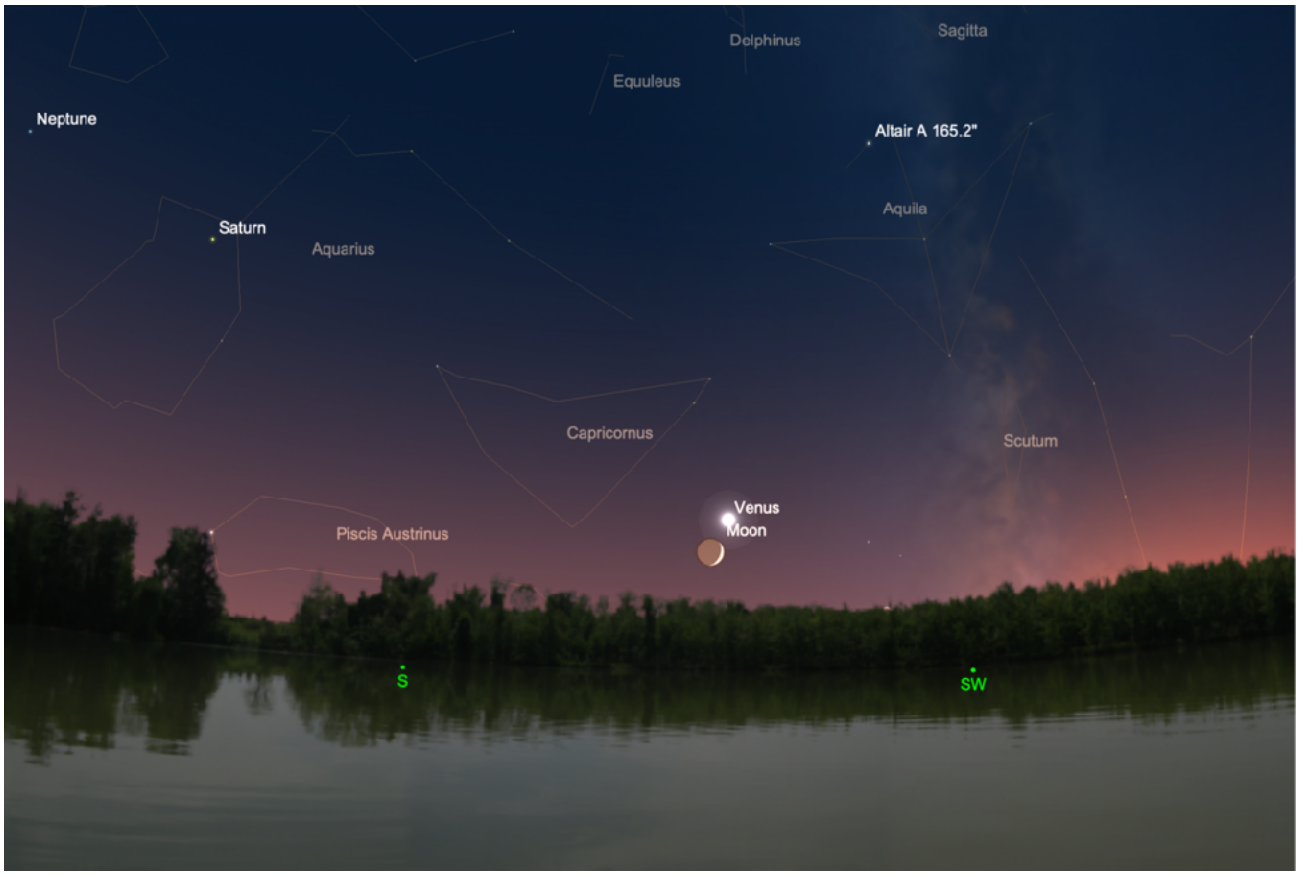
- Sandra Faber

The Sun, on its way to winter solstice, shines through an icy fog on a frosty and snow-covered landscape on a late afternoon in southern Alberta, Canada. Image copyright Brian Ventrudo/CosmicPursuits.com.

(Looking for last month's 'Night Sky'? Find it at this link…)

The long year 2024 winds down with all seven major planets making appearances in the evening and early morning skies this month. Jupiter reaches opposition in Taurus, and Mars also brightens considerably further east on its way to opposition next month. The Geminid meteor shower arrives in at mid-month, although the nearly full Moon gets in the way this year. And the Sun reaches the December solstice on the 21st marking the beginning of winter and summer in the northern and southern hemispheres, respectively. Here's what to see in the night sky this month…

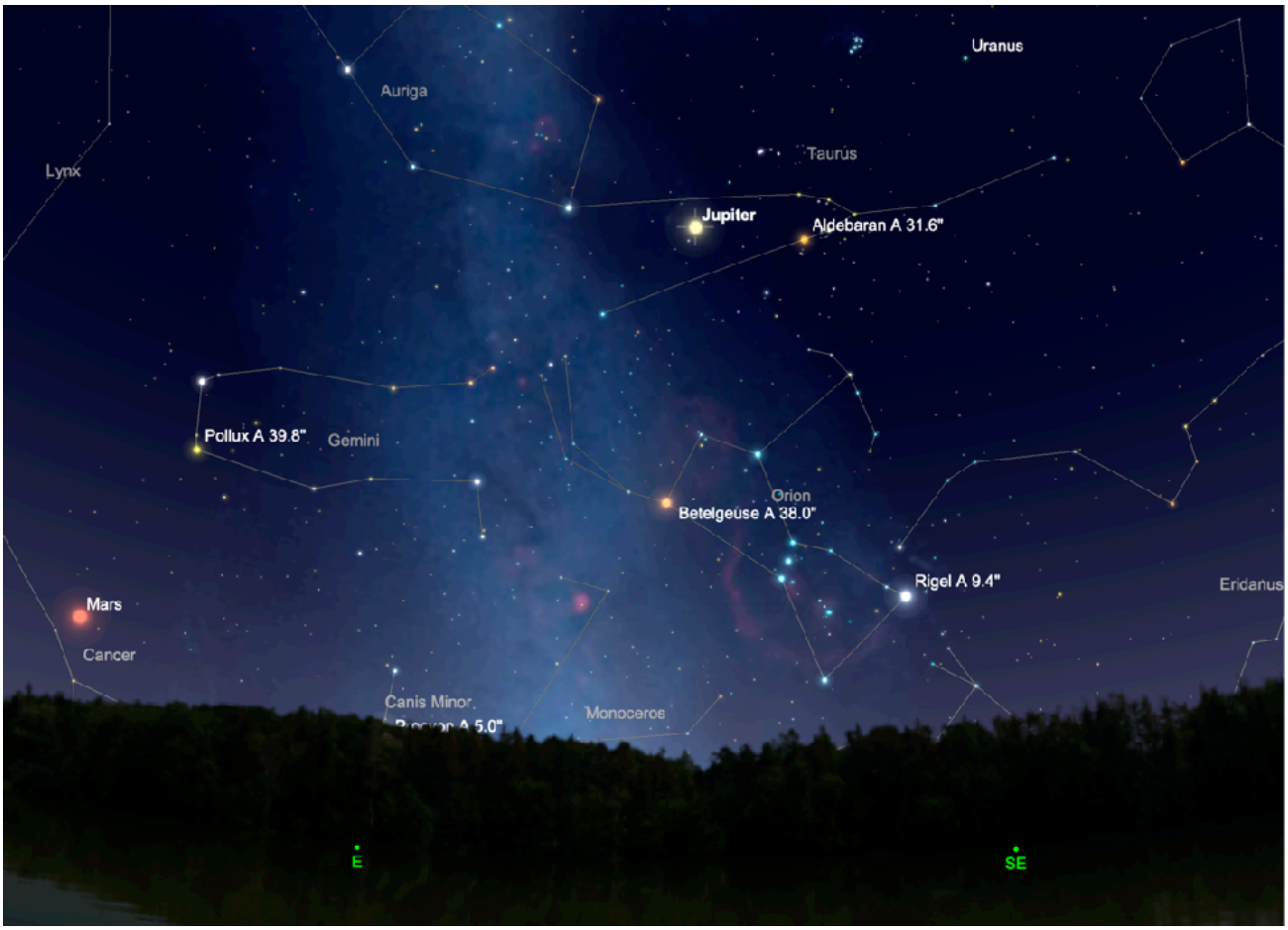
1 December 2024. New Moon, 06:21 UT



Awaxing crescent Moon shines near Venus in the southwestern sky after sunset on Dec. 4, 2024.

4 Dec. Look southwest after sunset to see Venus just 2° north of the thin crescent Moon as darkness falls. At magnitude -4.2, Venus is approaching its greatest separation from the Sun and finally moving up the ecliptic to give northern-hemisphere observers a better view of the planet. Southern observers see the planet much further above the horizon this month. In a telescope, Venus reveals a gibbous disk about 17" across.

7 Dec. A fat crescent Moon lies about 4° west of Saturn in the evening sky in Aquarius. Saturn slowly dims and shrinks as its separation from Earth increases, and its rings appear nearly edge-on in a telescope. Tonight, it shines at magnitude +1.0 and its disk spans about 17".



Jupiter lies tangled in the horns of Taurus as it reaches opposition on Dec. 7, 2024.

7 Dec. Jupiter reaches opposition, rising in the east as the sun sets in the west. The planet lies at a distance of about 4.09 AU (611.9 million kilometers). Jupiter shines at a dazzling magnitude -2.8 tonight, brighter than anything else in the night sky except for the Moon and Venus. Its disk spans nearly 49″. The big planet lies in Taurus, north of celestial equator, ideal for northern observers and lower over the horizon for those in the southern hemisphere. Jupiter's four largest moons – the Galilean moons – are also at their brightest and largest near opposition, and all four resolve into tiny disks in a telescope at moderate magnification. Jupiter stays well positioned for viewing for the rest of the year and into 2025 as it moves into the evening sky. Learn more about how to observe Jupiter here…

8 Dec. First Quarter Moon, 15:27 UT

9 Dec. Neptune lies less than a degree south of the Moon.

13 Dec. Uranus sits 4° south of the Moon.

13-14 Dec. The usually reliable Geminid meteor shower peaks in the late hours of December 13 and into the early morning of the 14th. The almost-full Moon obscures the faintest meteors this year, but it's still worth the effort to spot a few Geminids late in the evening and after midnight. Geminids can appear anywhere in the sky and trace their path back to a point near the star Castor in the constellation Gemini. Also, try looking after dark on the 13th for a few brighter Geminids that may enter the atmosphere at a shallow angle and burn slowly across the sky. The meteor shower happens on this date each year as the Earth passes through a stream of debris from the asteroid 3200 Phaethon, an Apollo asteroid discovered in 1983.

15 Dec. Full Moon, 09:02 UT (the full 'Cold Moon')

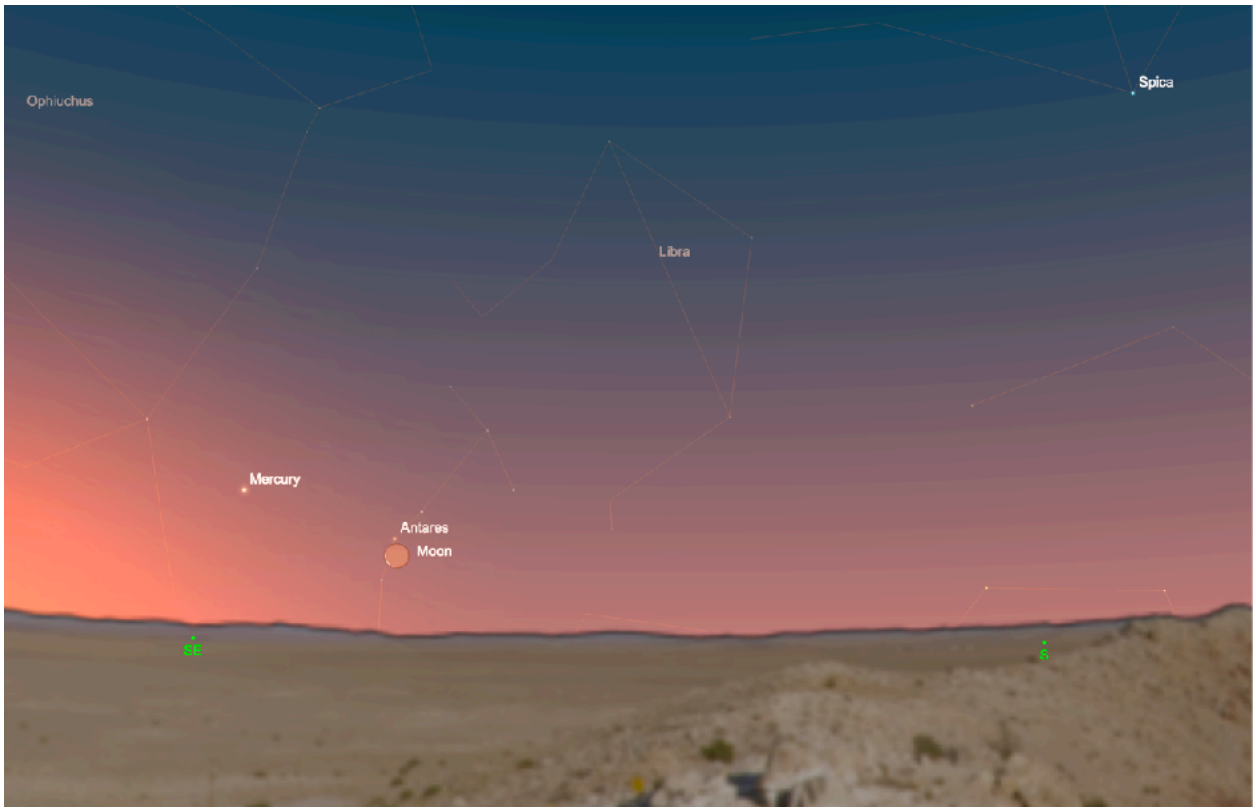
16 Dec. The full Moon forms a tight triangle with Castor and Pollux in Gemini.

18 Dec. Mars, brightening quickly in the constellation Cancer on its way to opposition next month, lies less than a degree south of the waning gibbous Moon. With a brightness of magnitude -0.9, Mars spans a little more than 13" in a telescope, big enough to reveal some detail in a telescope on nights of good seeing. Observers in parts of northern Alaska, northern Canada, and northwestern Europe can see the Moon occult the planet tonight. Detailed timing here.

21 Dec. The December solstice arrives at 09:21 UTC. This marks the longest night of the year in the northern hemisphere and the beginning of winter, and the longest day of the year in the southern hemisphere and the beginning of summer.

22 Dec. Last Quarter Moon, 22:18 UT

25 Dec. Mercury reaches greatest western elongation about 22° from the Sun in the morning sky.



Mercury, the Moon, and Antares rise in the southeastern sky before sunrise on Dec. 28, 2024.

28 Dec. Early risers with a clear view of the southeastern horizon see a slender crescent Moon rising about half a degree south of the red supergiant star Antares in Scorpius. Look for Mercury about 8° to the northeast. At magnitude -0.4, the speedy little planet outshines Antares by nearly a factor of four. Binoculars help you get a better view of this lovely morning conjunction.

December Night Sky Notes: Spot the King of Planets

This article is distributed by the NASA Night Sky Network, a coalition of hundreds of astronomy clubs across the US dedicated to astronomy outreach. Visit nightsky.jpl.nasa.gov to find local clubs, events, stargazing info and more.

Jupiter is our solar system's undisputed king of the planets! Jupiter is bright and easy to spot from our vantage point on Earth, helped by its massive size and banded, reflective cloud tops. Jupiter even possesses moons the size of planets: Ganymede, its largest, is bigger than the planet Mercury. What's more, you can easily observe Jupiter and its moons with a modest instrument, just like Galileo did over 400 years ago.

NASA's Juno mission captured this look at the southern hemisphere of Jupiter on Feb. 17, 2020, during one of the spacecraft's close approaches to the giant planet. This high-resolution view is a composite of four images captured by the JunoCam imager and assembled by citizen scientist Kevin M. Gill. Credit: NASA, JPL-Caltech, SwRI, MSSS | Image processing by Kevin M. Gill, © CC BY

Jupiter's position as our solar system's largest planet is truly earned; you could fit 11 Earths along Jupiter's diameter, and in case you were looking to fill up Jupiter with some Earth-size marbles, you would need over 1300 Earths to fill it up – and that would still not be quite enough! However, despite its formidable size, Jupiter's true rule over the outer solar system comes from its enormous mass. If you took all of the planets in our solar system and put them together, they would still only be half as massive as Jupiter all by itself. Jupiter's mighty mass has shaped the orbits of countless comets and asteroids. Its gravity can fling these tiny objects towards our inner solar system and also draw them into itself, as famously observed in 1994 when Comet Shoemaker-Levy 9, drawn towards Jupiter in previous orbits, smashed into the gas giant's atmosphere. Its multiple fragments slammed into Jupiter's cloud tops with such violence that the fireballs and dark impact spots were not only seen by NASA's orbiting Galileo probe but also by observers back on Earth!

Look for Jupiter near the Eye of the Bull, Aldebaran, in the Taurus constellation on the evening of December 15, 2024. Binoculars may help you spot Jupiter's moons as small bright star-like objects on either side of the planet. A small telescope will show them easily, along with Jupiter's famed cloud bands. How many can you count? Credit: Stellarium Web

Jupiter is easy to observe at night with our unaided eyes, as well-documented by the ancient astronomers who carefully recorded its slow movements from night to night. It can be one of the brightest objects in our nighttime skies, bested only by the Moon, Venus, and occasionally Mars, when the red planet is at opposition. That's impressive for a planet that, at its closest to Earth, is still over 365 million miles (587 million km) away. It's even more impressive that the giant world remains very bright to Earthbound observers at its furthest distance: 600 million miles (968 million km)! While the King of Planets has a coterie of 95 known moons, only the four large moons that Galileo originally observed in 1610 – Io, Europa, Ganymede, and Calisto – can be easily observed by Earth-based observers with very modest equipment. These are called, appropriately enough, the Galilean moons. Most telescopes will show the moons as faint star-like objects neatly lined up close to bright Jupiter. Most binoculars will show at least one or two moons orbiting the planet. Small telescopes will show all four of the Galilean moons if they are all visible, but sometimes they can pass behind or in front of Jupiter or even each other. Telescopes will also show details like Jupiter's cloud bands and, if powerful enough, large storms like its famous Great Red Spot, and the shadows of the Galilean moons passing between the Sun and Jupiter. Sketching the positions of Jupiter's moons during the course of an evening – and night to night – can be a rewarding project! You can download an activity guide from the Astronomical Society of the Pacific at bit.ly/drawjupitermoons

Now in its eighth year, NASA's Juno mission is one of just nine spacecraft to have visited this impressive world. Juno entered Jupiter's orbit in 2016 to begin its initial mission to study this giant world's mysterious interior. The years have proven Juno's mission a success, with data from the probe revolutionizing our understanding of this gassy world's guts. Juno's mission has since been extended to include the study of its large moons, and since 2021 the plucky probe, increasingly battered by Jupiter's powerful radiation belts, has made close flybys of the icy moons Ganymede and Europa, along with volcanic Io. What else will we potentially learn in 2030 with the Europa Clipper mission?

Find the latest discoveries from Juno and NASA's missions to Jupiter at science.nasa.gov/jupiter/

Originally posted by Dave Prosper: February 2023 Last Updated by Kat Troche: November 2024

Astrophotography With Your Smartphone

A small tripod for a smartphone. They are relatively inexpensive – the author found this at a local dollar store!
Credit: Dave Prosper

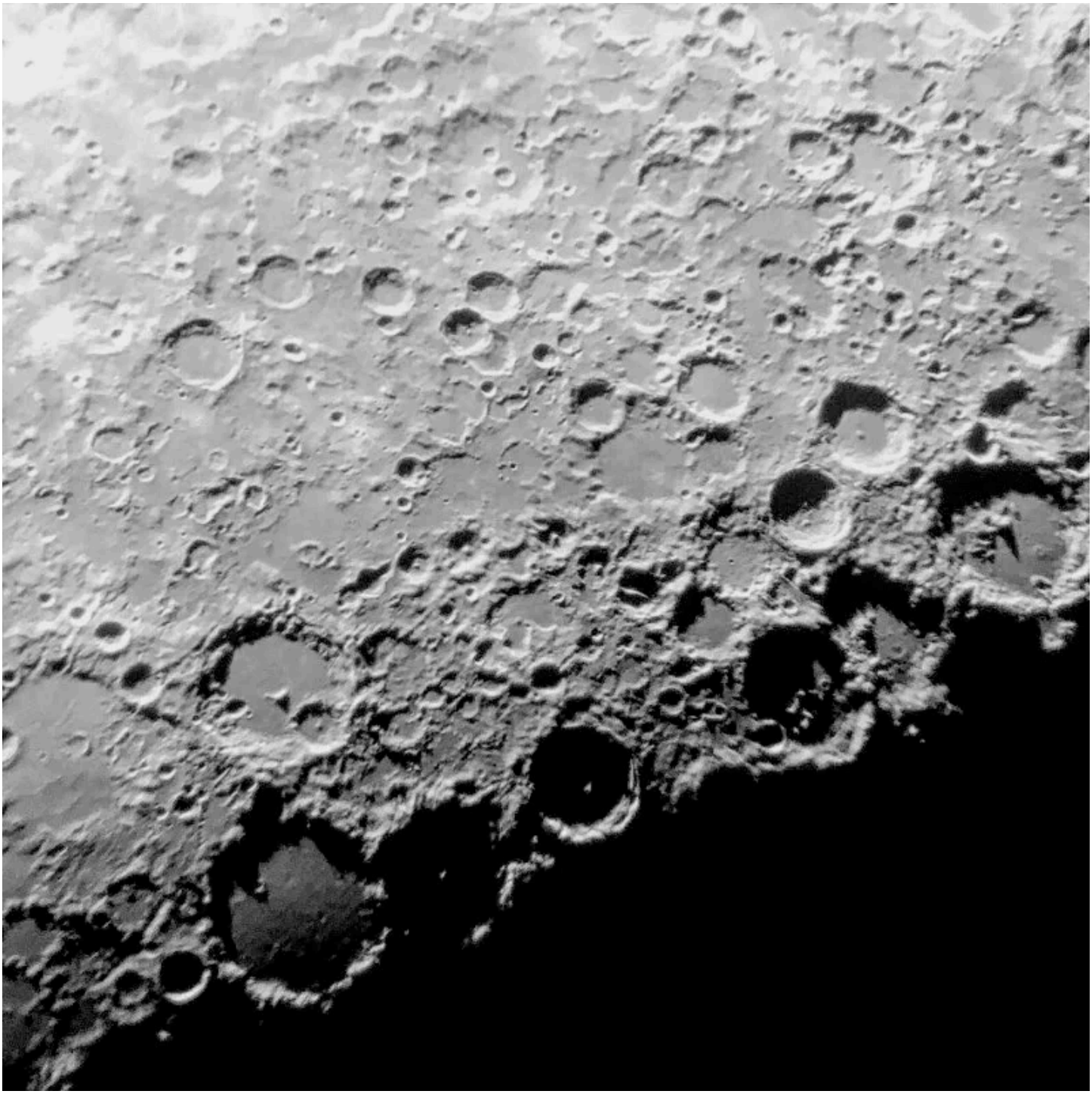
Have you ever wanted to take nighttime photos like you've seen online, with the Milky Way stretched across the sky, a blood-red Moon during a total eclipse, or a colorful nebula? Many astrophotos take hours, expensive equipment, and travel, which can intimidate beginners to astrophotography. However, anyone with a camera can take astrophotos; even with a smartphone, you can do astrophotography. Seriously!

Don't expect Hubble-level images to start! However, you can take surprisingly impressive shots by practicing several basic techniques: steadiness, locked focus, long exposure, and processing. First, steady your smartphone to keep your subjects sharp. This is especially important in low-light conditions. A small tripod is ideal, but an improvised stand, like a rock or block of wood, works in a pinch. Most camera apps offer timer options to delay taking a photo by a few seconds, which reduces the vibration of your fingers when taking a shot. Next, lock your focus. Smartphones use autofocus, which is not ideal for low-light photos, especially if the camera readjusts focus mid-session. Tap the phone's screen to focus on a distant bright star or streetlight, then check for options to fine-tune and lock it. Adjusting your camera's exposure time is also essential. The longer your camera opens, the lighter it gathers - essential for low-light astrophotography. Start by setting your exposure time to a few seconds. With those options set, take a test photo of your target! If your phone's camera app doesn't offer these options, you can download apps that do. While some phones offer an "astrophotography" setting, this is still rare as of 2021. Finally, process your photos using an app or computer program to enhance additional details! Post-processing is the secret of all astrophotography.

The Moon is large and bright, making it a great target for beginners. The author took both of the photos of the Moon in this article using an iPhone 6s. The crescent moon at sunset (above) was taken with a phone propped on the roof rack of a car. Credit: Dave Prosper

You now have your first astrophotos! Wondering what you can do next? Practice: take lots of photos using different settings, especially before deciding on any equipment upgrades. Luckily, there are many amazing resources for budding astrophotographers. NASA has a free eBook with extensive tips for smartphone astrophotography at bit.ly/smartastrophoto, and you can also join the Smartphone Astrophotography project at bit.ly/smartphoneastroproject Members of astronomy clubs often offer tips or even lessons on astrophotography; you can find a club near you by searching the “Clubs and Events” map on the Night Sky Network’s website at nightsky.jpl.nasa.gov. May you have clear skies, and happy snapping!

Originally posted by Dave Prosper: May 2021 | Last Updated by Kat Troche: October 2024 Article Source: https://science.nasa.gov/solar-system/skywatching/night-sky-network/astrophotography-with-your-smartphone/



This closeup shot of lunar craters was taken through the eyepiece of a Celestron C8 telescope with a hand-held iPhone6s. You can purchase or make your own adapter to mount your phone to a telescope eyepiece to aid in taking astrophotos, or even share your view live with others! Credit: Dave Prosper

Phil Harrington's Cosmic Challenge

Galaxy UGC 2838	
	**This month's suggested aperture range:** 15” (38cm) and larger Telescopes Featured telescope: JMI 18” or use the Norman herrett Telescope at the Observatory.

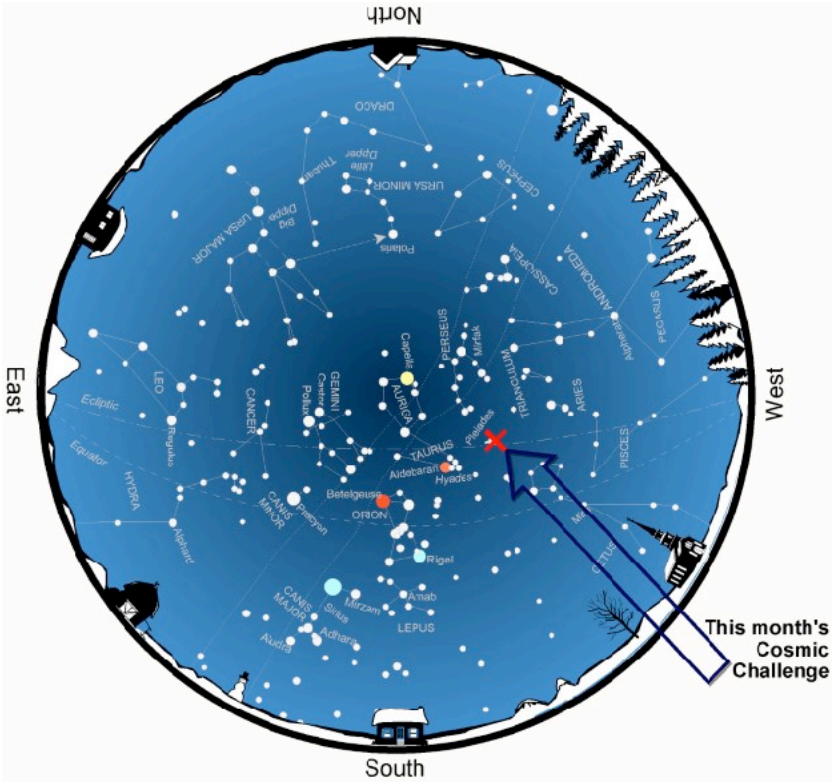
Target	Type	RA	DEC	Constellation	Magnitude	Size
UGC 2838	Galaxy	03h 43.8m	+24° 03.6’	Taurus	17	1.6'x0.2'

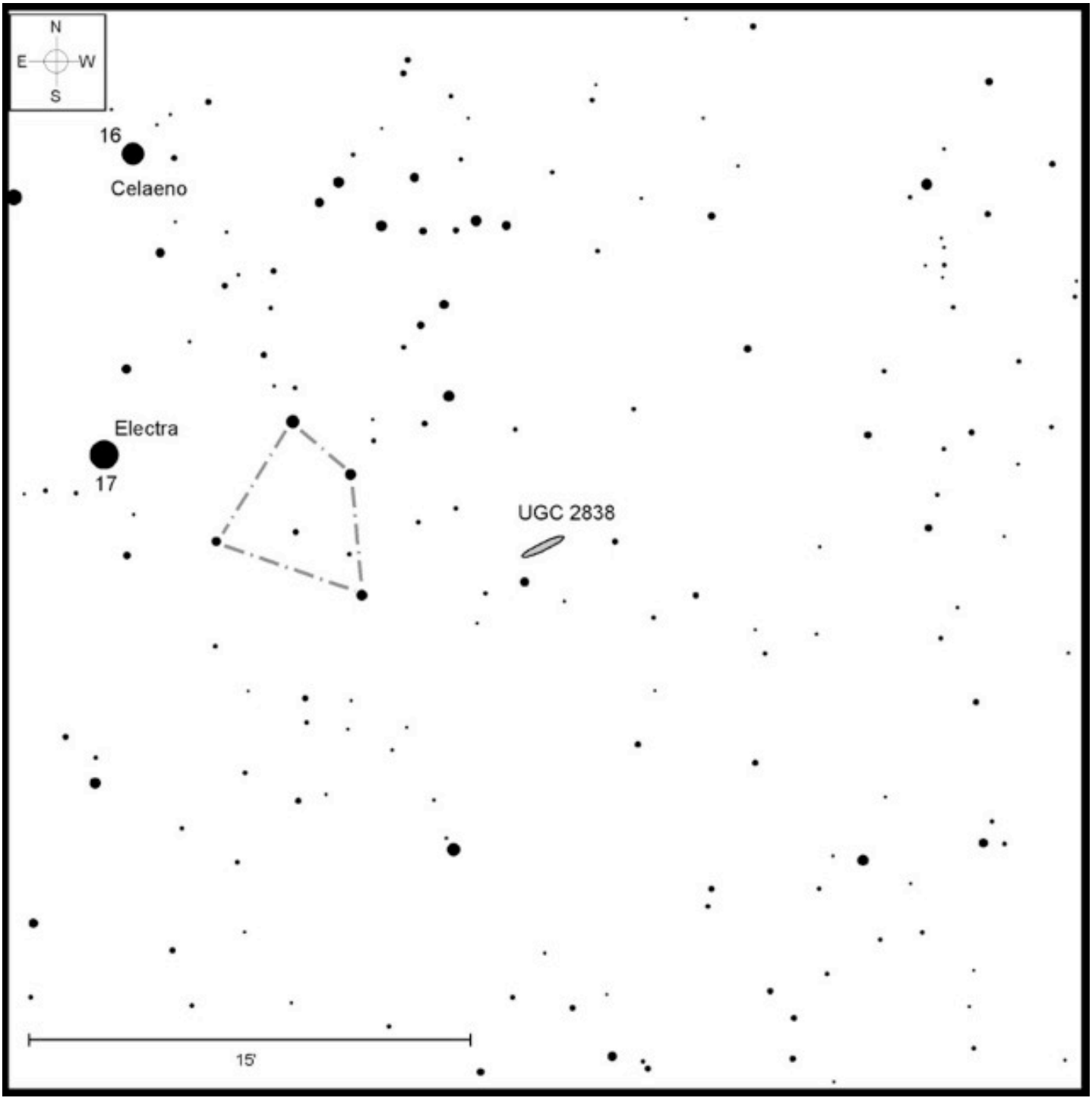
The Pleiades is one of everyone's favorite winter sights. You and I probably look up at that tiny pot of stellar jewels every winter night we head out, just as we have ever since we first became fascinated with the night sky. It’s a seasonal rite.

But did you know there was a small galaxy lurking behind the Pleiades? Not many people do. Its faint disk was never seen by the Herschels or known to John Dreyer when he assembled the New General Catalog and supplemental Index Catalogs.

Records show this little treasure was discovered in the 1950s, although it had been "photobombing" the Pleiades long before that. UGC 2838 was first cataloged in the UGC, the Uppsala General Catalog of Galaxies, in 1973. The specific individual credited with its discovery is not documented. Observing UGC galaxies is great sport for deep-sky observers using very large telescopes. Truth be told, however, most are so faint that the best we can hope for are very dim glimmers just barely perceptible with averted vision. But this little galaxy is different because of its prominent location. UGC 2838 appears just 16' west of Electra (17 Tauri).

UGC 2838, also cataloged as PGC 13696, is classified as an Sc-type spiral, tilted nearly edge-on from our perspective. It spans approximately 40,000 light-years in diameter and is situated at a distance of roughly 303 million light years from Earth. It features a classic spiral structure, though details remain elusive due to its faintness. Advanced imaging techniques reveal it as a relatively small galaxy when compared to iconic spirals like the Milky Way, yet it retains distinct arm structures typical of its classification. Below: Evening star map. Credit: Map adapted from Star Watch by Phil Harrington.

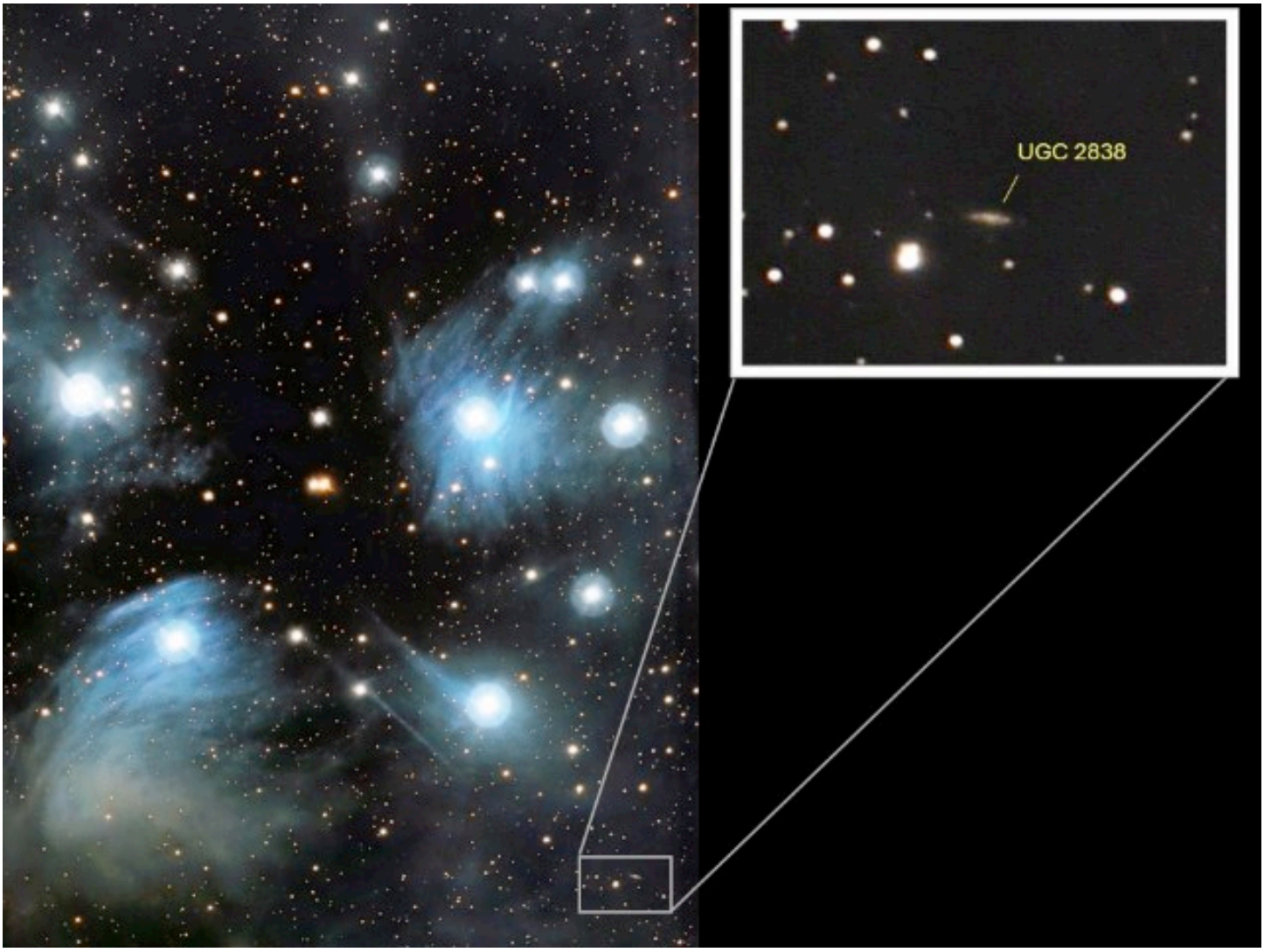




Above: Finder chart for this month's Cosmic Challenge.

UGC 2838's position is both a blessing and a curse. It's a blessing in that we don't have to star hop to some far-off place in a starless field. It's a curse for the very same reason. Not only do the cluster stars dazzle our eyes when looking for the faint starlight from this distant spiral galaxy, the cosmic dust littering the cluster also dulls its appearance.

To find out, let's first locate UGC 2838's field by centering on Electra, the southwestern star in the Pleiades "bowl." Viewing with your "other" eye (that is, the eye you will not be using to search for the galaxy, to maintain its full dilation), shift your gaze 7' westward from Electra to a crooked trapezoid of four stars that reminds me of Corvus the Crow. Now, look for a 12th-magnitude star another 6' west of the "Crow's" southwestern corner. That's your destination. Switch to an eyepiece with a narrow enough field to move the trapezoid's brightest star out of view. Offset the star to the southeast of center, and take a look. Can you spot a very faint, thin sliver of light? If so, you've captured UGC 2838.



Above: UGC 2838 looks like a tiny faint blur in this image taken through the author's 6-inch (15cm) f/2.2 Celestron Origin Home Observatory. Total exposure 1 hour (360 subframes @ 10 sec each)

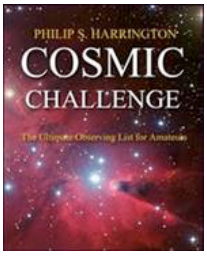
Above: UGC 2838 as viewed using a 7-mm eyepiece (294x) through the author's 18-inch (45.7 cm) Newtonian reflector.

Even with the galaxy's field isolated from the cluster's stars, the background sky is still brightened by the glow of the sisters' nebulosity. Averted vision and lightly tapping the side of the telescope tube to impart motion should help to overcome that handicap, but only if the sky itself is dark and transparent.

My best view of UGC 2838 came through my 18-inch (45.7-cm) reflector using 7- and 10-mm eyepieces from a site with a naked-eye limiting magnitude was better than 6th. The 7-mm eyepiece (294x, 13' field) proved the best, but only after I had spotted the galaxy initially with the 10-mm (206x, 15' field). Trying a 5-mm eyepiece (411x, 10' field), however, dimmed the images so much that the galaxy faded completely from view.

Good luck with this month's Cosmic Challenge! And be sure to post your results in this column's discussion forum.

Until next month, remember that half of the fun is the thrill of the chase. Game on!



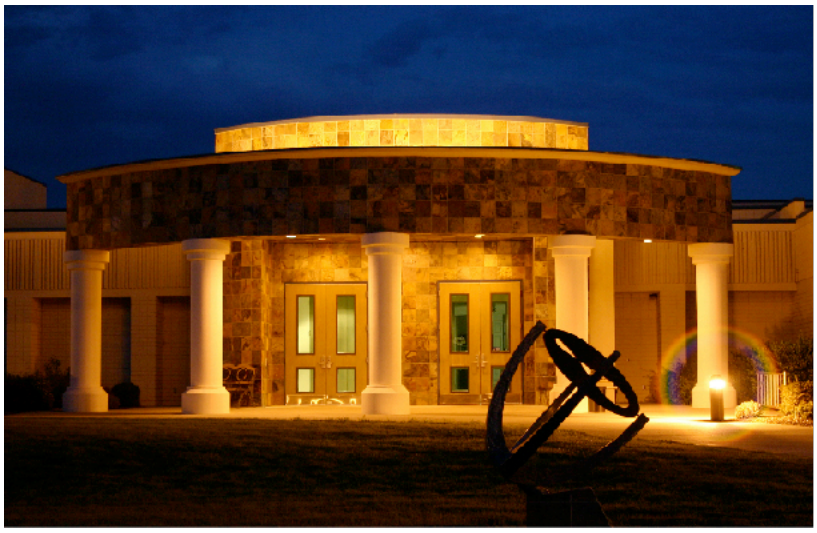
About the Author:

Phil Harrington is a contributing editor to Astronomy magazine and is the author of 9 books on astronomy. Visit www.philharrington.net to learn more.

Centennial Observatory Upcoming Events
All events are weather permitting.
https://herrett.csi.edu/observatory/faq.aspx

Event	Place	Date	Time	Admission(s)
Telescope Tuesday	Centennial Observatory	Tuesday, November 26, 2024	6:00 - 9:00 PM	$1.50, ages 6 & under free, or free with planetarium admission
Closest approach of Jupiter in 2024	Centennial Observatory	Friday, December 6, 2024	12:00 - 1:00 AM	Free
Telescope Tuesday	Centennial Observatory	Tuesday, December 10, 2024	5:45 - 9:00 PM	$1.50, ages 6 & under free, or free with planetarium admission
Monthly Free Star Party	Centennial Observatory	Saturday, December 14, 2024	6:00 - 9:00 PM	Free

Faulkner Planetarium Shows
Visit the link for current shows and times



Websites and Other Helpful Astronomy Links.

Information on passes of the ISS, the USAF's X-37B, the HST, the BlueWalker 3, and other satellites can be found at http://www.heavens-above.com/

Visit https://saberdoesthe...does-the-stars/ for tips on spotting extreme crescent Moons and https://curtrenz.com/moon.html for Full Moon and other lunar data.

Go to https://skyandtelesc...ads/MoonMap.pdf and https://celestron-si...RReeves-web.pdf and https://nightsky.jpl...ObserveMoon.pdf for simple lunar maps. Click on https://astrostrona.pl/moon-map/ for an excellent online lunar map. Visit http://www.ap-i.net/avl/en/start to download the free Virtual Moon Atlas. Consult http://time.unitariu...moon/where.html for current information on the Moon and https://www.fourmila.../lunarform.html for information on various lunar features. See https://svs.gsfc.nasa.gov/4955 a lunar phase and libration calculator and https://svs.gsfc.nasa.gov/5187/

The Lunar Reconnaissance Orbiter Camera (LROC) quick map. https://www.universa...ise-and-sunset/

For more on the planets and how to locate them, browse http://www.nakedeyeplanets.com/

Summaries on the planets for each month can be found at https://earthsky.org/astronomy-essentials/

The graphic at https://www.timeandd...lanets/distance displays the apparent and comparative sizes of the planets, along with their magnitudes and distances, for a given date and time.

The rise and set times and locations of the planets can be determined by clicking on https://www.timeandd...stronomy/night/

Click on https://www.curtrenz.../asteroids.html for information on asteroid occultations taking place this month.

Visit http://cometchasing.skyhound.com/ and http://www.aerith.ne...t/future-n.html and https://cobs.si/ for additional information on comets visible this month.

A list of the closest approaches of comets to the Earth is posted at http://www.cometogra.../nearcomet.html

A wealth of current information on solar system celestial bodies is posted at http://www.curtrenz.com/astronomy.html and http://nineplanets.org/

Information on the celestial events transpiring each week can be found at https://stardate.org/nightsky and http://astronomy.com/skythisweek and http://www.skyandtel...ky-at-a-glance/

Free star maps for any month may be downloaded at http://www.skymaps.com/downloads.html and https://www.telescop...thly-Star-Chart and http://www.kenpress.com/index.html

Data on current supernovae can be found at http://www.rochester...y.org/snimages/

Finder charts for the Messier objects and other deep-sky objects are posted at https://freestarcharts.com/messier and https://freestarcharts.com/ngc-ic and http://www.cambridge..._april-june.htm

Telrad finder charts for the Messier Catalog are posted at http://www.custerobs...cs/messier2.pdf and http://www.star-shin...ssierTelrad.htm

Telrad finder charts for the SAC's 110 Best of the NGC are available at https://www.saguaroa...k110BestNGC.pdf

Information pertaining to observing some of the more prominent Messier galaxies can be found at http://www.cloudynig...ur-astronomers/

Author Phil Harrington offers an excellent freeware planetarium program for binocular observers known as TUBA (Touring the Universe through Binoculars Atlas), which also includes information on purchasing binoculars, at http://www.philharrington.net/tuba.htm

Stellarium and Cartes du Ciel are two excellent freeware planetarium programs that are available at http://stellarium.org/ and https://www.ap-i.net/skychart/en/start

Deep-sky object list generators can be found at http://www.virtualcolony.com/sac/ and https://telescopius.com/ and http://tonightssky.com/MainPage.php

Freeware sky atlases can be downloaded at http://www.deepskywa...-atlas-full.pdf and https://www.cloudyni...ar-charts-r1021 and https://allans-stuff.com/triatlas/

For current sky charts visit the NASA Night Sky Network https://nightsky.jpl.nasa.gov/news/212/

Magic Valley Astronomical Society
550 Sparks St.
Twin Falls, ID

The Magic Valley Astronomical Society (MVAS) was founded in 1976. The Society is a non-profit [501(c) 3] educational and scientific organization dedicated to bringing together people with an interest in astronomy.

In partnership with the Centennial Observatory, Herrett Center, College of Southern Idaho - Twin Falls; we hold regularly scheduled monthly meetings and observation sessions, at which we share information on current astronomical events, tools and techniques for observation, astrophotography, astronomical computer software, and other topics concerning general astronomy. Members enthusiastically share their telescopes and knowledge of the night sky with all who are interested. In addition to our monthly public star parties we hold members only star parties at various locations throughout the Magic Valley.

MVAS promotes the education of astronomy and the exploration of the night sky along with safe solar observing through our public outreach programs. We provide two types of outreach; public star parties and events open to anyone interested in astronomy, and outreach programs for individual groups and organizations (e.g. schools, churches, scout troops, company events, etc.), setting up at your location. All of our outreach programs are provided by MVAS volunteers at no cost. However, MVAS will gladly accept donations. Donations enable us to continue and improve our public outreach programs.

Membership is not just about personal benefits. Your membership dues support the work that the Magic Valley Astronomical Society does in the community to promote the enjoyment and science of astronomy. Speakers, public star parties, classes and support for astronomy in schoolrooms, and outreach programs just to name a few of the programs that your membership dues support.

Annual Membership dues will be:
$20.00 for individuals, families, and $10.00 for students.
Contact Treasurer Jim Tubbs for dues information via e-mail: jtubbs015@msn.com

Donations to our club are always welcome and are even tax deductible. Please contact a board member for details.
Lending Telescopes: The society currently has three telescopes for loan and would gladly accept others please contact President Robert Mayer, for more information on these and other benefits.

Telescopes are an individual thing and not practical for public use. However, everyone should have the experience of a good look at the Moon for at least 5 minutes in their life time. It is a dimension and feeling that is unexplainable. Pictures or TV can't give this feeling, awareness, or experience of true dimension. A person will not forget seeing our closest neighbor, the Moon.

Norman Herrett in a letter to Dr. J. L. Taylor, president of the College of Southern Idaho