



Roanoke Valley Astronomical Society

Amateur Astronomy News and Views
In Southwestern Virginia



Volume 41—Number 1

January 2024

RVAS December Meeting Notes

2023 Winter Solstice Social

By Erin Elliott, Secretary

The Celestial Café was opened at 7:00 pm by **President Mike Hutkin**. The Celestial Café is always a fun and engaging time where members and officers can catch up and tonight was no different. Members and officers spoke about various topics within astronomy, astrophotography, and big updates in their personal lives.

At 7:30, the Café closed and Mike, along with our Membership Coordinator, **Frank Baratta**, welcomed members and guests to the December meeting. To begin, Mike presented the evening's agenda.

A huge thank you to Mark Hodges, Barbara Hutkin, Nancy Vogelaar, and Mallory White for bringing delicious sweets and fruit to the Winter Solstice gathering.

Attendance: There were 31 members and 2 guests in attendance at this month's meeting. 18 were in person and 15 attended virtually.



In-person attendees – Mike Hutkin photo

Astrophotography: We thank **Tom Cerul, Ed Dixon, Clem Elechi, Michael Good, Harry Kessler, Bill Krause, and Dave Thomas** for providing their work this month. We had a variety of images focusing on near and deep sky objects.



Pacman Nebula – Clem Elechi photo

To provide each image with the focus it deserves, we are sharing the submissions in a separate article in this newsletter. Do not miss checking out the rest of these images.

Member Observation Reports: A few members reported that they observed the Geminid Meteors that took place in the middle of December.

Member Outreach Committee: We are forming a group of people who are willing to attend outreach events and programs. Currently, we have the following people who are a part of the committee: **Rand Bowden, Dan Chrisman, Ed Dixon, John Goss, Mike Hutkin, Dave Kibler and Bill Savage.** We would like three more volunteers to join this group. A few of the upcoming outreach opportunities at the start of 2024 include a presentation on Basics of Astronomy and Observation to both Roanoke County and Franklin County Parks and Rec, and some various programming at Community School.

What's Up?: Before turning to our program for the evening, Mike asked **Frank Baratta** for his "What's Up?" program on what the skies of January have in store for us. Frank's "What's Up? Highlights" in this issue provide a summary of program. His PowerPoint can be viewed by [clicking here](#). The recording of the program is available by [clicking here](#).

Proposed Changes to the RVAS Club

Constitution and Bylaws: The Executive Committee has voted to propose the following changes to the RVAS Constitution and Bylaws

RVAS JANUARY 2024

and will be asking club members to ratify these amendments:

- Reducing Time in Leadership for the Club President
- Adding a Person to the Executive Committee

An email was sent on January 1, 2024 with more details and a Google Form to cast your vote.

Volunteering: **Michael Martin** gave a quick reminder that no matter your level of interest or years of experience you can have a leadership role in our club.

2023 in Review and Looking Ahead to 2024:

Mike started off by giving us a reminder of RVAS' mission statement: The purposes of Roanoke Valley Astronomical Society are scientific and educational and are directed toward the advancement of the understanding and appreciation of astronomy and related sciences among the Society members and the public at large.

We currently have 94 family and individual memberships representing 155 total members and 30 friends of the club. Of those numbers, 45% of our attendees come to meetings in person and 55% participate over Zoom.



In-person attendees – Mike Hutkin photo

Of the programs in 2023, seven of them were led by members of RVAS itself. In the list below, you can find an asterisk next to the names of club members. Here is a list of the programs we had in 2023:

- January: **Dr. Caitlin Ahrens** and *Volcanism in the Solar System*
- February: **Diane Turnshek** and *Light Pollution and Amateur Astronomy*

- March: **Dr. Al Durhan*** and *Perspectives on Black Hole Accretion Disks*
- April: **Michael Good*** with a Poages Mill Observatory Tour
- May: **Steve Conard** and *Asteroid Size and Shape Determination through Occultation*
- June: **Dr. John Wenskovitch*** and *An Open Cluster Tour through the Milky Way*
- July: **Dr. Ben Tutolo** and *The Geology of Mars*
- August: Member Potpourri
- September: Our monthly meeting was to be our annual picnic, but it was postponed due to weather conditions
- October: was supposed to be **Dr. Chris Britt** (who has rescheduled for January 2024)
- November: **Dr. Scott King*** and *Why Are We Going Back to Venus*
- December: Annual RVAS Winter Solstice Social

The first program of 2024 will kick off with **Dr. Chris Brown** and *JWST – What have we learned*. There are a few other programs on the horizon including **Ed Dixon** and *Where are we and how did we get here*, and **Carson Ray** with an update on his Asteroid Occultation Project. Please reach out to VP **John Wenskovitch** if you have a topic that you would like to share in a 2024 program. One of our goals for the new year is to continue to offer balanced programming to satisfy the wide range of members in our club.

There are more goals listed for our club in 2024. One goal is to continue the hybrid meeting model of in-person and Zoom participation. We also plan to do more outreach opportunities and boost our visibility in the community. Opportunities like the Earth Day Event in Roanoke's Grandin Village are great chances to share with others. We also have the goal to promote more observing opportunities as a club. The club is also setting goals for website and newsletter development.

John Wenskovitch put together a slideshow with a review of observations in 2023 and a peek at what is in store for 2024. You can find those slides at the time stamp [18:27 of this video](#).
RVAS JANUARY 2024

Congratulations to all of our members who participated in the Astronomical League Programming this year! Since 1990 we have had 105 program awards with 37 members who have completed at least one program. There were 2 programs completed by members in 2023. You can find more information on [AL Programs here](#).

The full video of December's program can be viewed [here](#).

2023 Limericks: Below you can find the limericks that were shared this year. Thank you to everyone who shared!

Mike Hutkin

*Watch Betelgeuse shining big and bright
Orion's shoulder, his left, not his right
Currently in red giant phase
Get a look now, ignore the haze
In 100,000 years, supernova its plight*

John Goss

*Silently moving in darkness, it hides now
To see the giant Galilean, I vow
Minutes pass, nothing yet
Stand in cold, won't regret
A faint glimmer, turning brighter brings "Oh, wow!"*

Frank Baratta

*Astronomy captured me
So many years long ago.
Like Jumpin' Jack Flash,
It's a gas, gas, gas.
It's the ne plus ultra show!*

Al Durham

*Uranus is the butt of all jokes
He just stands there and takes all the pokes
When he's seen
He always looks green
But I think it's just what he smokes*

Dave Thomas

*The sky above is full of wonder
And sometimes rain and thunder
But then things turn bright*

*And with it delight
Along with a renewed sense of wonder*

Next month: On January 22, 2024, we will kick off the year with **Dr. Chris Britt** and *JWST – What have we learned*. Please note that the date is different from our usual third Monday of the month. That is because VA Western is closed on the third Monday, so we will be meeting on January 22.

REMINDERS

The January RVAS general meeting is the fourth Monday January 22, not January 15. This is because VWCC is closed for the Martin Luther King holiday on January 15.

**REMINDER to vote on the Bylaws and Constitutional changes sent by email on January 1.
Voting ends January 31, 2024 at 11:59 pm**

The Roanoke Valley Astronomical Society is a membership organization of amateur astronomers dedicated to the pursuit of observational and photographic astronomical activities. **Meetings are held at 7:30 p.m. on the third Monday of each month. See calendar on last page of newsletter for location. Meetings are open to the public.** Observing sessions are held one or two weekends a month at a dark-sky site. For information regarding joining RVAS, including annual dues, click here. Articles, quotes, etc. published in the newsletter do not necessarily reflect the views of the RVAS or its editor.

Officers/Executive Committee/Editor/Webmaster

Mike Hutkin, President (president@rvasclub.org)

John Wenskovitch, Vice President (vicepresident@rvasclub.org)

Erin Elliott, Secretary (secretary@rvasclub.org)

Frank Baratta, Treasurer (treasurer@rvasclub.org)

Nancy Vogelaar, Member at Large (memberatlarge@rvasclub.org)

John Goss, Immediate Past President (immediatepastpresident@rvasclub.org)

Michael Martin, Past President (pastpresident@rvasclub.org)

Ed Dixon, RVAS Newsletter Editor (editor@rvasclub.org)

Erin Elliott, Webmaster (webmaster@rvasclub.org)

RVAS Member Anniversaries

Congratulations to the following members who reach the indicated number of consecutive years with the RVAS since joining or rejoining during the month of January:

Mark Hodges (1986) – 38 years

John, Sarah and David Pero (2015) – 9years

Bert Herald (2017) – 7years

Michael and Diane Malpass (2018) – 6 years

Greg Shaffer (2022) – 2 years

Josh Urban (2022) – 2 years

Erica Reed (2023) – 1 year

Bill Savage (2023) – 1 year

Kyle and Afton Smith (2023) – 1 year

Thanks to all of you for being RVAS members!



This article is distributed by NASA's Night Sky Network (NSN).

The NSN program supports astronomy clubs across the USA dedicated to astronomy outreach.

Visit nightsky.jpl.nasa.gov to find local clubs, events, and more!

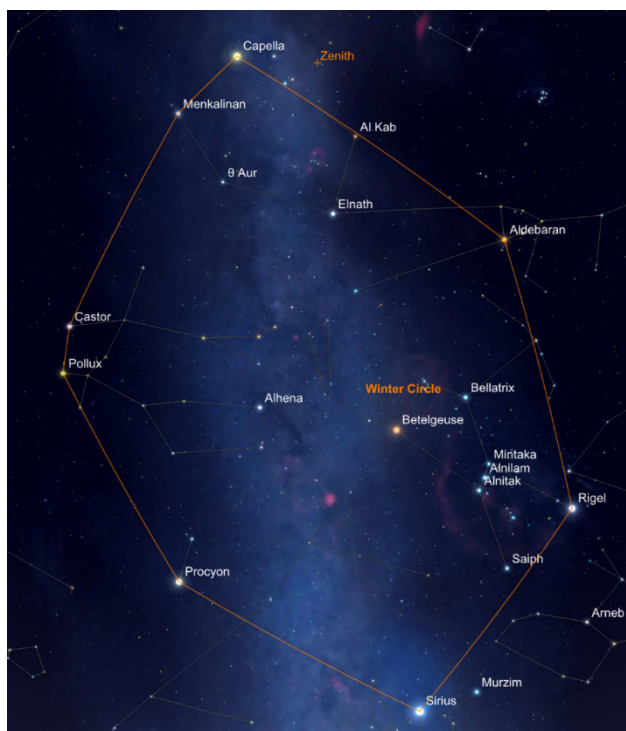
Connecting the 'Dots' with Asterisms

By Kat Troche

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

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

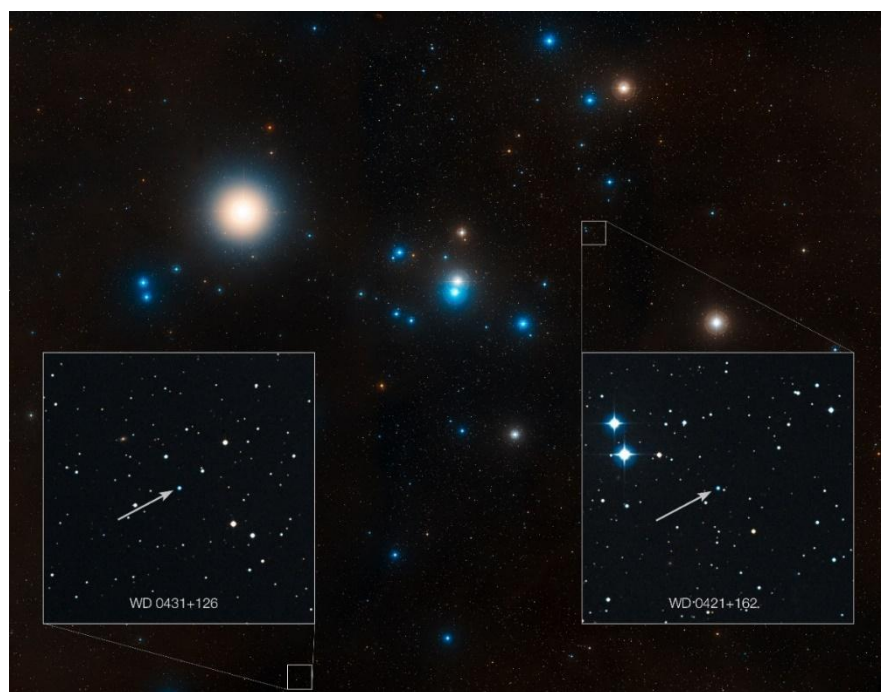
Asterisms Through the Seasons



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

Try looking for these asterisms this season and beyond:

- **Winter Circle** – this asterism, also known as the Winter Hexagon, makes up a large portion of the Winter sky using stars Rigel, Aldebaran, Capella, Pollux, Procyon, and Sirius as its points. Similarly, the **Winter Triangle** can be found using Procyon, Sirius, and Betelgeuse as points. **Orion's Belt** is also considered an asterism.
- **Diamond of Virgo** – this springtime asterism consists of the following stars: Arcturus, in the constellation Boötes; Cor Caroli, in Canes Venatici; Denebola in Leo, and Spica in Virgo. Sparkling at the center of this diamond is the bright cluster **Coma Berenices**, or Bernice's Hair – an ancient asterism turned constellation!
- **Summer Triangle** – as the nights warm up, the Summer Triangle dominates the heavens. Comprising the bright stars Vega in Lyra, Deneb in Cygnus, and Altair in Aquila, this prominent asterism is the inspiration behind the cultural festival [Tanabata](#). Also found is Cygnus the Swan, which makes up the **Northern Cross** asterism.
- **Great Square of Pegasus** – by Autumn, the Great Square of Pegasus can be seen. This square-shaped asterism takes up a large portion of the sky, and consists of the stars: Scheat, Alpheratz, Markab and Algenib.



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

NASA, ESA, STScI, and Z. Levay (STScI)

Tracing these outlines can guide you to objects like galaxies and star clusters. The Hyades, for example, is an open star cluster in the Taurus constellation with [evidence of rocky planetary debris](#). In 2013, Hubble Space Telescope’s [Cosmic Origins Spectrograph](#) was responsible for breaking down light into individual components. This observation detected low levels of carbon and silicon – a major chemical for planetary

bodies. The Hyades can be found just outside the Winter Circle and is a favorite of both amateur and professional astronomers alike.

How to Spot Asterisms

- **Use Star Maps and Star Apps** – Using star maps or stargazing apps can help familiarize yourself with the constellations and asterisms of the night sky.
- **Get Familiar with Constellations** – Learning the major constellations and their broader shapes visible each season will make spotting asterisms easier.
- **Use Celestial Landmarks** – Orient yourself by using bright stars, or recognizable constellations. This will help you navigate the night sky and pinpoint specific asterisms. Vega in the Lyra constellation is a great example of this.

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

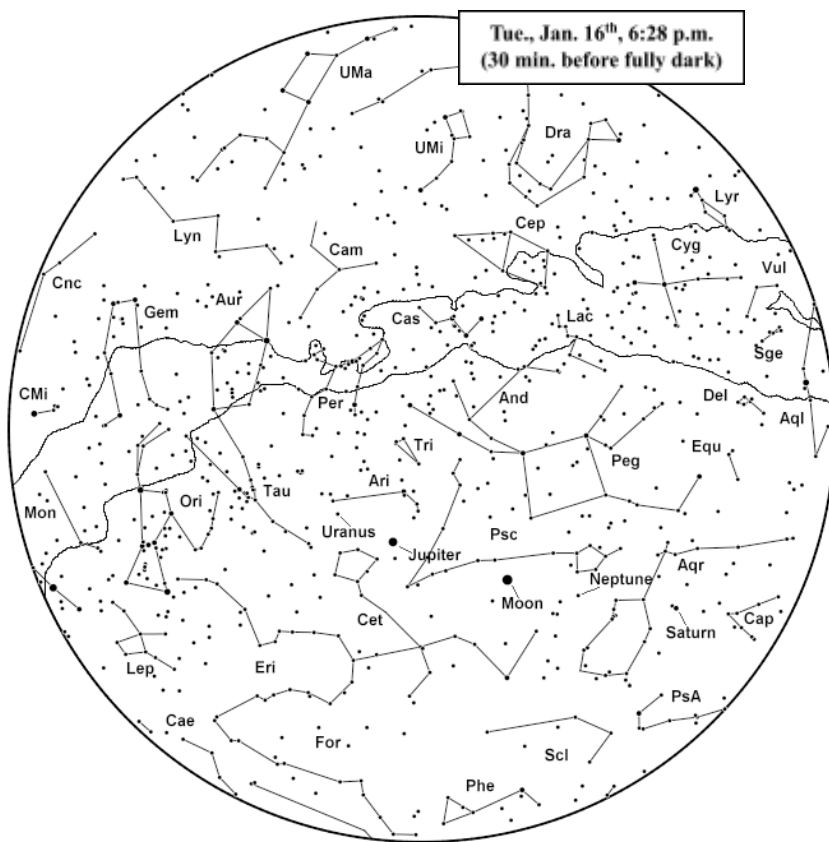
What's Up? Highlights

January 1 to 31, 2024

(From the program presented at the December 18, 2023, meeting. Click [here](#) for the PowerPoint and [here](#) for the video.)

This Month:

Welcome to 2024! It's a whole new year, full of promise and possibility. And we start things off on the 2nd with Earth at its closest approach to the Sun for the year, something which much of the non-astro-aware population finds counterintuitive. Just two days later Earth has a fleeting encounter with one of the year's strongest meteor streams. Another two days still later will find those at our latitude who rise with the Sun getting their latest start for their day of 2024. Meanwhile, as our all-sky map at right shows (click [here](#) for a larger map), mid-January near full darkness spans constellations—moving west to east—from late summer to those of fall and into those of winter. Much more awaits observers prepared to brave the cold of January's nights. See below for the details.



Celestial Events:

- Tue., 2nd – Earth at perihelion – closest to the sun for 2024; 1.67% closer than average and 3.3% closer than its July aphelion (farthest from sun).
- Thu., 4th – Quadrantid meteors. Peak 4:00 a.m. on 4th; 100⁺/hr under dark sky. Radiant rises 11:04 pm on 3rd. Moon (45% illum.) rises at 12:41 a.m. on 3rd, 62° to the east.
- Sat., 6th – Latest sunrise (7:32:38 a.m.) of 2024 for Roanoke. Not on the December solstice due to Earth's elliptical orbit and tilt of its axis.
- Sat., 6th – Algol (β Per) is at minimum brightness for 2 hours centered on 8:01 p.m. EST. (Also, 11:12 p.m. on 3rd; 9:46 p.m. 26th.)
- Mon., 8th – Daytime lunar occultation of Antares (α Sco). Disappearance at 9:25 a.m. on Moon's bright limb; reappears 10:47 a.m. from dark edge. Moon 11% illum., 38° west of sun. Binocular event. **WARNING: EXTREME CAUTION NEEDED—Avoid any view of the sun.**
- Sat., 20th – Waxing gibbous Moon makes a thin triangle with the Pleiades and Hyades clusters high in the ESE an hour after sunset.

Sunset and Twilight:

Sunset Range: 5:13 p.m. (Jan. 1st) to 5:43 p.m. (Jan. 31st)

Twilight Ends: 6:46 p.m. (Jan. 1st) to 7:13 p.m. (Jan. 31st)

Weekend Observing Opportunities: (Dark of the Moon Weekends)

Jan. 5th/6th

Jan. 12th/13th

Moon Phases:

Wed., 3rd – Last Quarter

Tue., 12th – New Moon

Tue., 19th – First Quarter

Tue., 26th – Full Moon

MEMBERS FORUM – DECEMBER 18, 2023

At the December 18 meeting, we asked members to break into small groups and discuss what they would like to see our club provide. This is a summary of your suggestions. Thank you and don't hesitate to share your thoughts with any member of the executive committee if there are other things to add to the list.

KEEP

- Guest speakers
- In person & zoom
- Astrophotography – but some members have a small interest

WANT TO SEE

- More organized observing sessions (not just at the picnic)
- Hands on sessions
- Refreshments once in a while – not just at the winter solstice social
- Mentor / Mentee program
- Have someone give a suggestion on a regular basis, for a target that would be good for naked eye, another for binoculars, and a third one for telescopes.
- Monthly suggestions on what would be good astrophotography targets
- Ask speakers to start out at a level that beginning astronomers can understand before they go on to more complex issues.
- Have more meetings that focus on equipment for beginning and advanced astronomy.
- Programs aligned to a wide range of interests
- A monthly challenge “to observe”

TOPICS AT MEETINGS

- Equipment reviews from members (recent purchases)
- Tutorial: Visual observing & astrophotography
- Guidance on what to buy as you advance through the hobby of amateur astronomy.
- UFO night: What have the observant members seen themselves. What do you think about video footage you have seen. Is the universe too big to get here?
- Ultra large telescopes being built, when and where, what will we see?
- How are elements produced? hydrogen- iron/ iron- uranium?
- Gravitational wave astronomy- how does it work?
- Share experiences w/ certain software with a demo from a member who uses it. Learn new features.
- Why did I become interested in astronomy?
- How to best film the April 2024 eclipse
- Back to basics: 5 minutes on things like What are astronomical distances, planetary motion, galaxies, nebulae, clusters

Roanoke Valley Astronomical Society

Monday, January 22, 2024, 7:30 PM

“NASA’s Webb Telescope – The First Year”

Presented by

Christopher Britt, PhD
Space Telescope Science Institute



Christopher Britt
Education and Outreach
Scientist, STScI Office of
Public Outreach

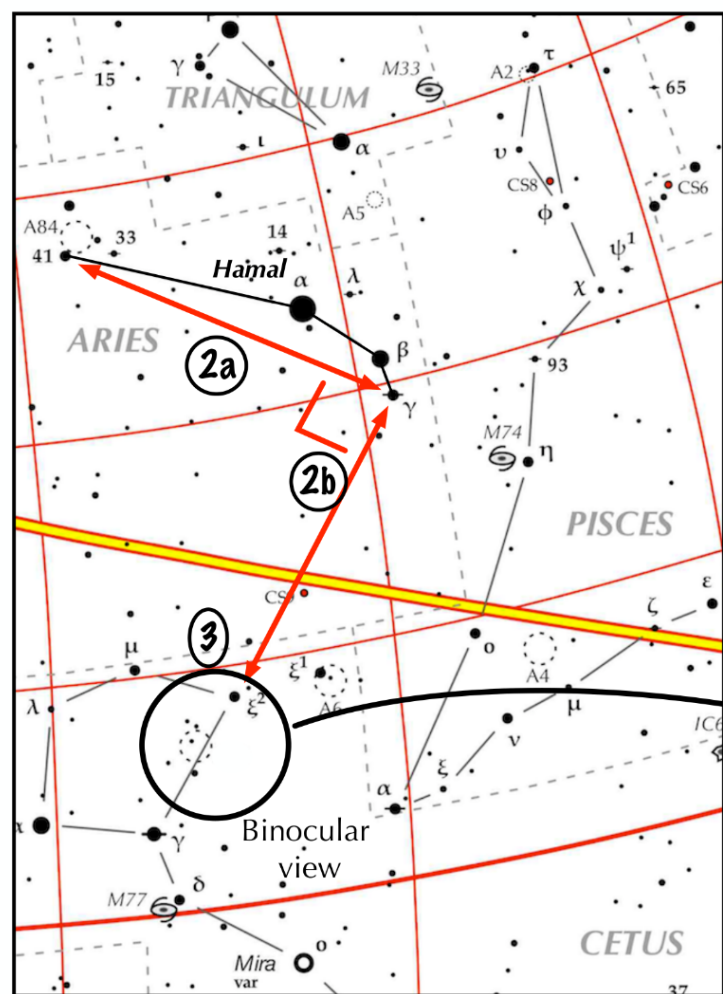
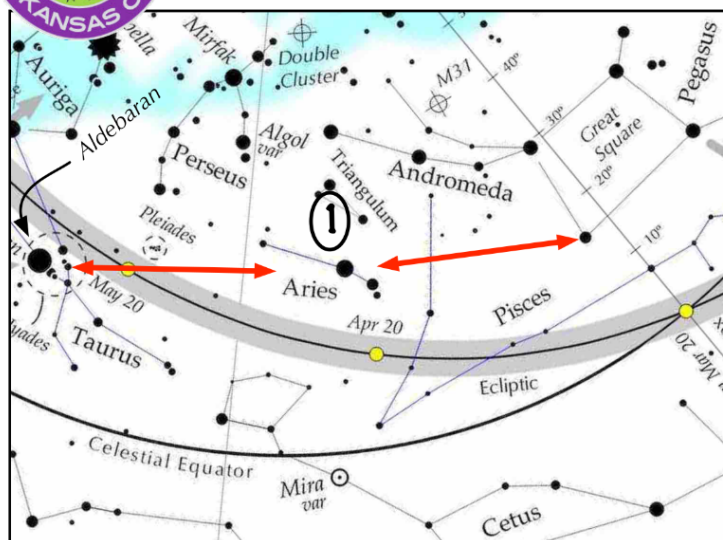
The James Webb Space Telescope is NASA’s most complex and ambitious space telescope project, undertaken in partnership with the European and Canadian space agencies and a multitude of other organizations. Launched Christmas Day in 2021, Webb became fully operation in July 2022. Over the course of its first year, the world has been captivated by the stunning images it has returned, the scientific data it has obtained and the questions these have posed to our prior understandings. Dr. Christopher Britt spoke to the Society in June 2022 and returns (via Zoom) as our January featured speaker to provide an overview on the first year of science and any latest Webb science news. Be sure to join us for the January meeting and Dr. Britt’s talk.

Dr. Britt serves as the STScI Scientist for Webb News on the news team. He earned his PhD from Louisiana State University in 2013, followed by postdoctoral positions at Texas Tech University and Michigan State University, where he used ground- and space-based observatories to study accretion onto the compact remnants of dead stars. He has been at STScI since 2018, where he works with the Hubble and Webb missions as well as NASA’s Universe of Learning to deliver accurate and engaging science to diverse communities around the country.



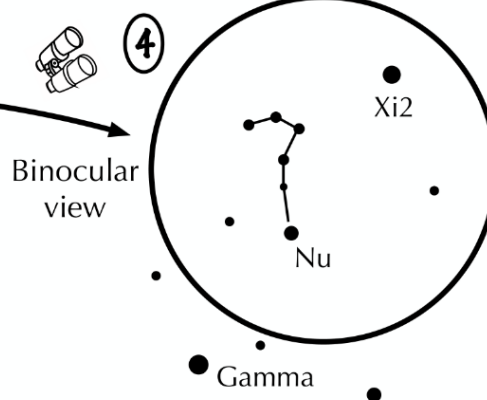
The Questionmark, an asterism for binoculars

On the Astronomical League's Asterism list



How to find ...







1. Find Aries, which sits mid way between the Great Square in Pegasus and bright star Aldebaran in Taurus. Moderately bright Hamal (Alpha Arietis) is easy to spot, lying near the mid way point. Find the dimmer stars Gamma and 41 Arietis.
2. Draw a line from Gamma to 41 and make another line of similar length extending 90° to the south-southeast.
3. That line ends near Xi2. It occupies the northwestern vertex of the pentagon of Cetus' head.
4. Place Xi2 at the northwestern edge of the binocular field. The stars of the Questionmark are near the center of the field. These stars are arranged by chance, they are nowhere near each other in three-dimensional space.







The RVAS Astro-photographers

DECEMBER 2023

Ctrl- Click on the picture see the source file and additional information

	<p>TOM CERUL IC342 The Hidden Galaxy, in the constellation Camelopardalis.</p>
	<p>TOM CERUL M104 Sombrero Galaxy, 31 million light years away from the Milky Way Galaxy</p>
	<p>TOM CERUL NGC 1333 the Embryo Nebula - sometimes referred to as the Phantoms Tiara.</p>
	<p>ED DIXON These are a few images from the Geminids meteor shower</p>
	<p>CLEM ELECHI This is the Pacman Nebula, NGC 281, in Cassiopeia.</p>
	<p>MICHAEL GOOD Jupiter</p>

	<p>HARRY KESSLER Messier 78 or M78, also known as NGC 2068, is a reflection nebula in the constellation Orion. It was discovered by Pierre Méchain in 1780 and included by Charles Messier in his catalog of comet-like objects that same year</p>
	<p>BILL KRAUSE The Orion Nebula is a diffuse nebula situated in the Milky Way, being south of Orion's Belt in the constellation of Orion, and is known as the middle "star" in the "sword" of Orion. It is one of the brightest nebulae and is visible to the naked eye in the night sky with apparent magnitude 4.0.</p>
	<p>DAVE THOMAS The waning Crescent Moon</p>
	<p>DAVE THOMAS The waning Crescent Moon and Venus at 5:30 am today, December 9, 2023. Photos made using a Canon 850D DSLR with a zoom lens at 300 and 75 mm.</p>

Monthly Calendar

RVAS Monthly Meeting: Monday, January 22nd (Note Date Change), 7:30 p.m. (Informal “Celestial Café” chat session begins at 7:00 p.m.) Natural Science Center, Virginia Western Community College, Colonial Avenue, Roanoke, VA. This month we welcome (via Zoom) the return of Dr. Christopher Britt as our special guest speaker. Dr. Britt is Education and Outreach Scientist at the Space Telescope Science Institute’s Office of Public Outreach. He’ll be sharing an overview of the James Webb Space Telescope’s first year of operation and the latest news about this extraordinary instrument. See elsewhere in this issue for additional information. And watch for the Zoom invitation email in the days prior to the meeting.

Weekend Observing Opportunities: The following information on Fridays and Saturdays that may be suitable for observing is provided as a courtesy to RVAS members and other readers. The RVAS assumes no responsibility for the health or safety of anyone venturing out to stargaze, and cautions all who may do so to observe appropriate health and safety precautions.

- **Friday and Saturday, January 5th & 6th.** Sunset is at 5:17 p.m. Astronomical twilight ends at 6:50 p.m. The Moon rises at 2:37 and 3:44 a.m., respectively.
- **Friday and Saturday, January 12th & 13th.** Sunset is at 5:24 p.m. Astronomical twilight ends at 6:56 p.m. The Moon sets at 6:49 and 8:06 p.m., respectively.
- **Future Weekend Observing Opportunities: February 2nd & 3rd; 9th & 10th.**

Astro-Quiz

Today's 88 officially recognized constellations include 48 known to the ancient world that the Egyptian astronomer Claudius Ptolemaeus (Ptolemy) listed around 140 A.D. in his book *Syntaxis*. However, his list excluded a constellation well known to the Ancients that's among today's 88. Which constellation did he exclude: Caelum; Coma Bernices; Lacerta; or Pyxis?

Answer to Last Month's Quiz: Last month we asked what the three components of a comet are. Comets have three parts: the nucleus, the coma and the tails. The nucleus (or "core") is the solid center component made of ice, gas and rocky debris. The coma is the gas and dust atmosphere around the nucleus, which results when the Sun warms the surface so that gas and dust spew forth in all directions. The tails are formed when energy from the Sun turns the coma so that it flows around the nucleus and forms a fanned out tail behind it extending millions of miles through space. Congratulations to member and former president Dan Chrisman for correctly answering last month's quiz. Have an answer to this month's quiz (or a future quiz question and answer to suggest)? E-mail it to astroquiz@rvasclub.org!