

The Bays Mountain Astronomy Club Newsletter

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Cosmic Reflections

Greg Penner - BMAC Chair



reetings BMACer's!

October is here with cooler weather, fall colors and hopefully some clear nights for stargazing! Our

September meeting was very educational as Dr. Gary Henson from ETSU gave a presentation showing how the Earth-Sun system has influenced many of our annual holiday traditions.

We had a young club member show us a model he made of a black hole with accretion disk and explained the science behind black holes. Another club member showed us some information about the development of light sail technology by NASA. We also used the planetarium to look at the night sky to make sure everyone knew where to find the constellation Corona Borealis so we can keep watching for the eruption of the nova T Coronae Borealis. As of mid-September there is still no sign of the nova, so keep watching!

StarFest is fast approaching, so if you are planning to attend but have not registered yet, please do so. Registration closes on October 13, 2024 at 11:59 p.m. I'm really looking forward to hanging out with fellow astronomy enthusiasts, eating great

food and hearing from our speakers about all things

"Moonstruck!"

October also means we have StarWatch again at the Bays Mountain Park Observatory every Saturday night through November. If you are interested in volunteering at these events you can go through a simple and painless application process to be an official park volunteer. I highly encourage it if you are someone who has a desire to help the public learn about the celestial wonders in the night sky!

At our October 4th monthly meeting we will have Trina L. Ray, Europa Clipper Deputy Science Manager and REASON Investigation Scientist, giving us a presentation related to her fascinating work. Some of our club members will be able to give a report on a club field trip to an observatory in the North Carolina mountains. And of course, we always want to hear and see any other show and tell reports from any club members. Remember, we can all learn from each other, so we should all be ready to share our ideas and discoveries at club meetings.

Looking forward to October, Clear Skies!



Alden Wentzel's father, Nate relates: Alden is in sixth grade at Ashley Academy, but he did this project last spring for the astronomy unit in fifth grade science with Mrs. Lisa Ferrell. The students were each assigned a space topic to research, make a poster or a model, write a report, and prepare a presentation for their class. Alden has been wanting to share this at a club meeting since he made it. Image by Greg Penner.

BMAC Notes



Jon Peters 7/29/78 - 9/14/24



It is with a sad note to share the passing of past BMACer Jon Peters. He was quite active in our club for many years. Club members were always impressed with his amazing talent in electronics, mechanics and more and applying it to the hobby of astronomy. For those that knew him, he will be missed.



Bays Mountain StarFest 2024 - Reminder



ou have until October 13, 2024, 11:59p to register for our amazing event. It is being held on November 1-3, 2024. Registration is necessary to attend. Sorry, no walk-ins.

The theme of this year's event is "Moonstruck." Each of our four keynote speakers will focus on the Moon or moons of our Solar System. We think you'll really enjoy this year's topic and speakers!



Keynote Speakers:

**Dr. Amy L. Fagan - Associate Professor of Geology,
Geosciences and Natural Resources Department
Head - Western Carolina University**

*Visiting a Piece of Home: Why it is important to go to the Moon
and how it can tell us about Earth's Early History*



Dr. Amy L. Fagan



Dr. Erika Grundstrom

**Dr. Erika Grundstrom - Director of Astronomy Labs -
Vanderbilt University**

Amazing Moons!

Dr. Sarah Milkovich - Planetary Geologist and Spacecraft Engineer

Ocean Moons: The Distant Worlds of Europa and Enceladus



Dr. Sarah Milkovich



Dr. Caitlin Ahrens

Dr. Caitlin Ahrens - Planetary Geologist - Center for Research and Exploration in Space Science and Technology II at NASA Goddard Space Flight Center

Unlocking the Moon: Exciting Opportunities in Lunar Exploration and Sample Return Missions

This year includes four distinctive keynote speakers, five great meals, a commemorative T-shirt with one-of-a-kind artwork, door prizes, the ever popular swap shop and telescope viewing. Registration includes everything. There are also three levels of student discounts available. The student discounts are quite generous to continue our long-term support of student involvement.

All the info and link to register can be found [HERE](#).

Adam Thanz - StarFest 2024 Chair

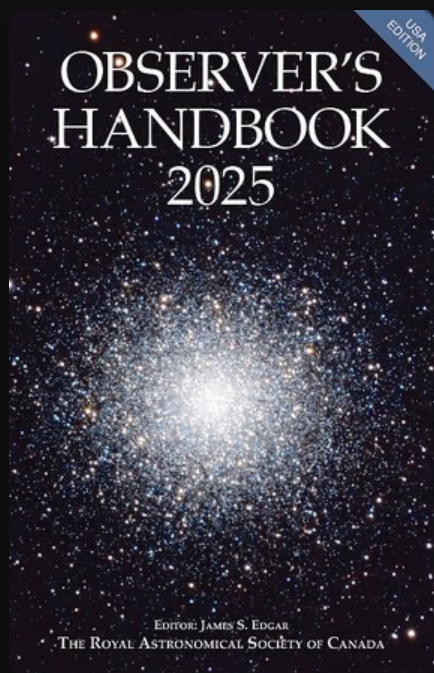


StarFest 2024 T-Shirt Design

RASC 2025 Observer's Handbooks (USA) and Calendars Now Available on League Sales Web Store



The RASC 2025 Observer's Handbooks (USA version) and Calendars are available for PRE-ORDER on the League Sales web store [HERE](#)



RASC 2025 Observer's Handbook (USA)



RASC 2025 Calendar

League Sales sells these items each fall at a great price with our members in mind. Stock usually arrives in November and ships in December in time for the holidays. We suggest ordering early to ensure availability. We order a limited number of these items and once they are sold we won't get any more.

If your club wants to place a group order, you will find versions of the RASC Calendar for 6+ units and for the RASC Handbook for 10+ units, both on the League Sales web store. Be sure to look for the different items on our web store -- the single-copy item and the bulk-quantity item (10+ Handbooks or 6+ Calendars). Those will save you a bit on the per unit cost and you'll get free shipping on the order! Another bonus is that ordering from the Astronomical League saves you from paying import fees and shipping costs from Canada.

Star Party @ the Gazebo at Natural Tunnel State Park



Here's a note about a star party that BMAcCers are invited to attend. Ray O'Connor is hosting this viewing at Natural Tunnel State Park on September 28, 2024. It will be at the Gazebo and start at sunset. Feel free to bring your observing equipment for a night of stargazing.

Contact Ray O'Connor for more information. 276-248-1712

Sky News from the Astronomical League

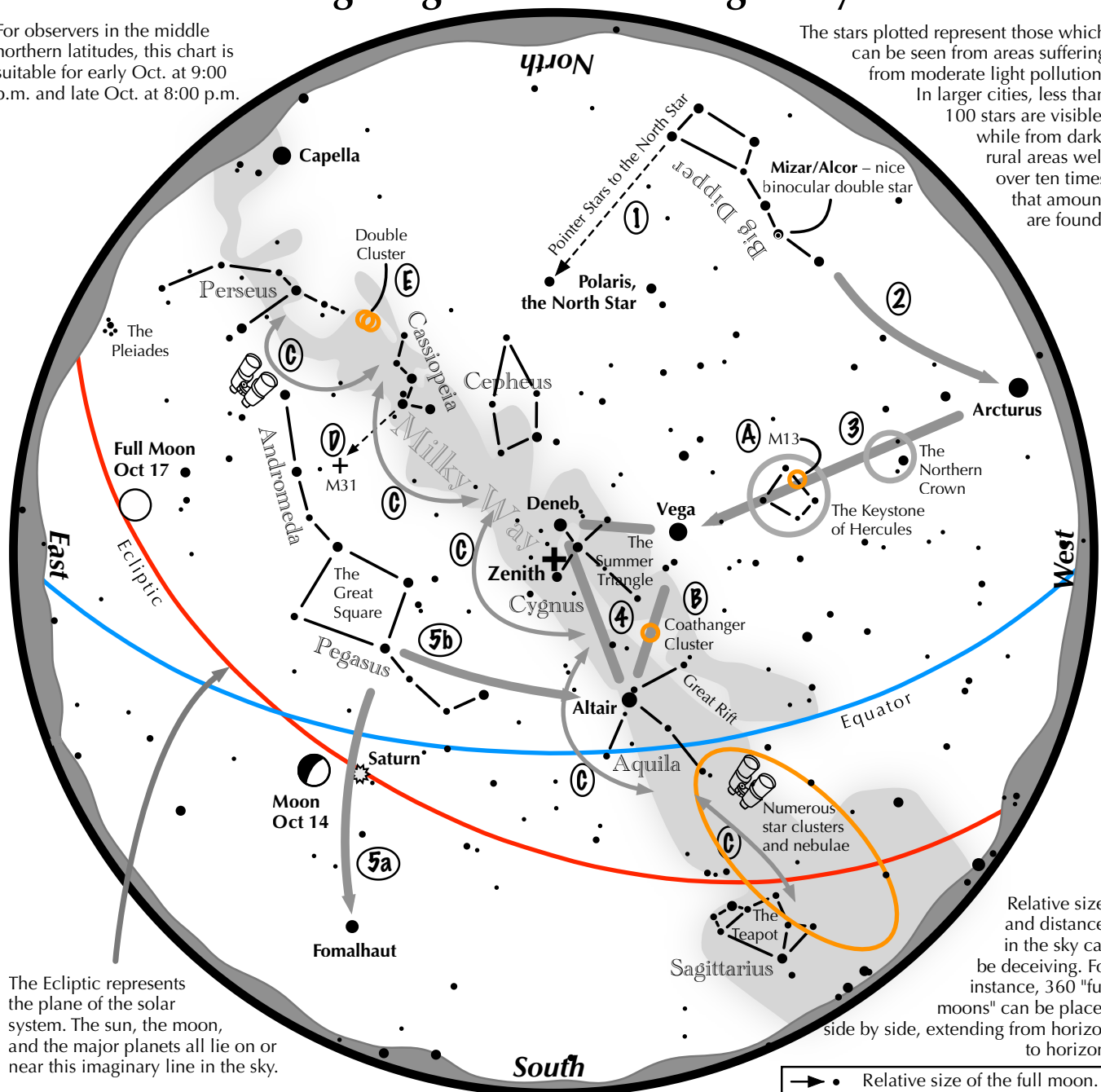


he Astronomical League has a plethora of educational content to help you learn and enjoy the night sky more. The following inserts are just a tiny bit of what they provide.

Navigating the October Night Sky

For observers in the middle northern latitudes, this chart is suitable for early Oct. at 9:00 p.m. and late Oct. at 8:00 p.m.

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



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

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

→ • Relative size of the full moon.

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

- 1 Extend a line north from the two stars at the tip of the Big Dipper's bowl. It passes by Polaris, the North Star.
- 2 Follow the arc of the Dipper's handle. It intersects Arcturus, the brightest star in the early October evening sky.
- 3 To the northeast of Arcturus shines another star of the same brightness, Vega. Draw a line from Arcturus to Vega. It first meets "The Northern Crown," then the "Keystone of Hercules." A dark sky is needed to see these two dim stellar configurations.
- 4 Nearly overhead lie the summer triangle stars of Vega, Altair, and Deneb.
- 5 High in the east are the four moderately bright stars of the Great Square. Its two southern stars point west to Altair. Its two western stars point south to Fomalhaut.

Binocular Highlights

A: On the western side of the Keystone glows the Great Hercules Cluster, a ball of 500,000 stars. **B:** 40% of the way between Altair and Vega, twinkles the "Coathanger," a group of stars outlining a coathanger. **C:** Sweep along the Milky Way for an astounding number of fuzzy star clusters and nebulae amid many faint glows and dark bays, including the Great Rift. **D:** The three westernmost stars of Cassiopeia's "W" point south to M31, the Andromeda Galaxy, a "fuzzy" oval. **E:** Between the "W" of Cassiopeia and Perseus lies the Double Cluster.

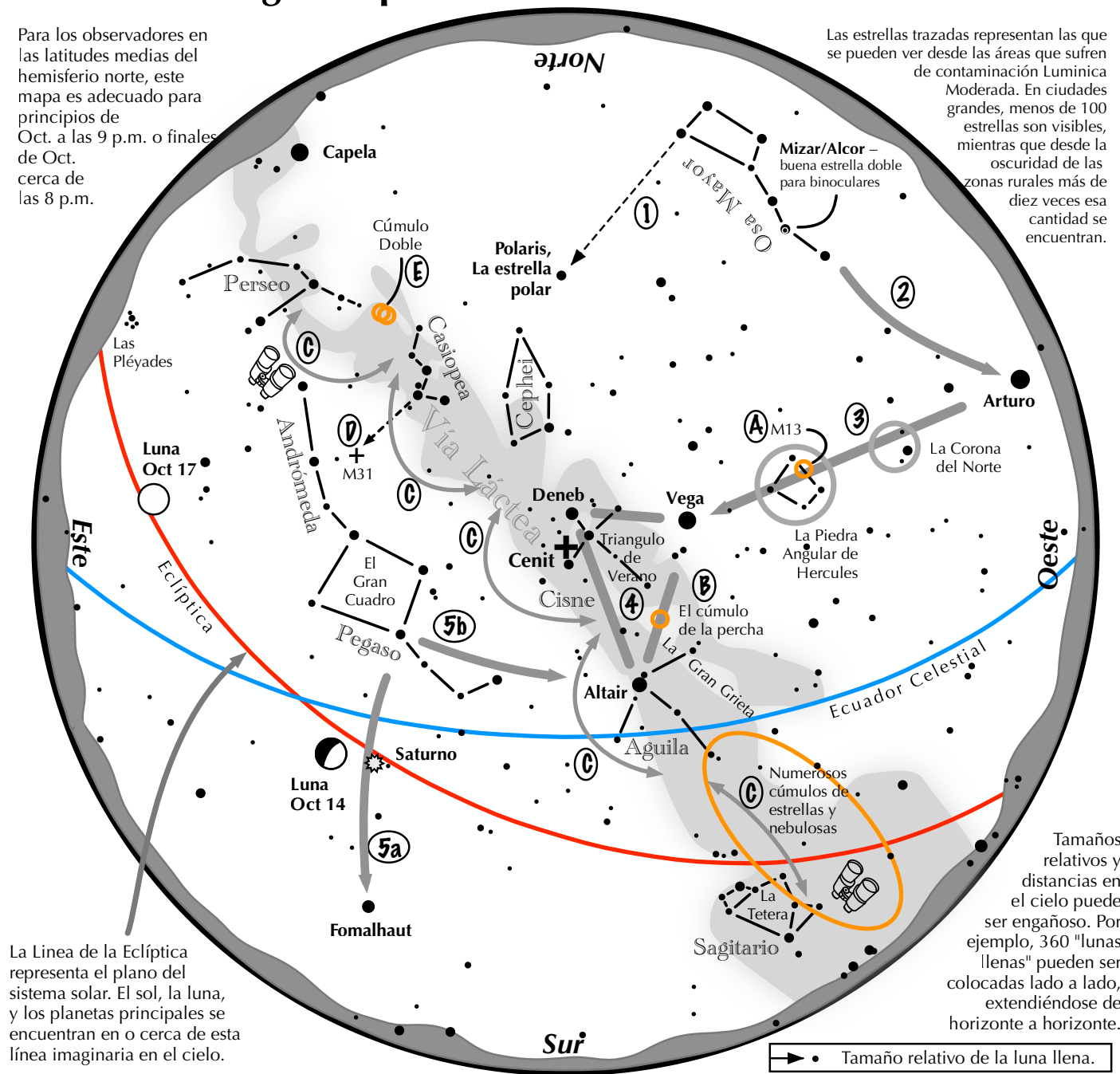
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Navegando por el cielo nocturno de Octubre

Para los observadores en las latitudes medias del hemisferio norte, este mapa es adecuado para principios de Oct. a las 9 p.m. o finales de Oct. cerca de las 8 p.m.

Las estrellas trazadas representan las que se pueden ver desde las áreas que sufren de contaminación Luminica Moderada. En ciudades grandes, menos de 100 estrellas son visibles, mientras que desde la oscuridad de las zonas rurales más de diez veces esa cantidad se encuentran.



La Línea de la Eclíptica representa el plano del sistema solar. El sol, la luna, y los planetas principales se encuentran en o cerca de esta línea imaginaria en el cielo.

Tamaños relativos y distancias en el cielo puede ser engañoso. Por ejemplo, 360 "lunas llenas" pueden ser colocadas lado a lado, extendiéndose de horizonte a horizonte.

→ • Tamaño relativo de la luna llena.

Navegando por el cielo nocturno: simplemente comience con lo que sabe o con lo que puede encontrar fácilmente.

- 1 Haz una línea hacia el norte desde las dos estrellas en la punta de la Osa Mayor. Pasa por Polaris, la estrella polar.
- 2 Siga el arco del mango de la Osa Mayor. Se cruza con Arturo, la estrella más brillante en el cielo de la noche de octubre.
- 3 Dibuja una línea desde Arturo a Vega. Un tercio del camino se encuentra "La Corona del Norte". Dos tercios de esa distancia llevan a la "piedra angular de Hércules." Se necesita un cielo oscuro para ver estas dos configuraciones estelares tenues.
- 4 Las estrellas del Triángulo de verano, Vega, Altair y Deneb, brillan en el Cenit.
- 5 En lo alto del Este se encuentran las cuatro estrellas brillantes de la Gran Cuadro de Pegasus. (5a) Sus dos estrellas occidentales apuntan al Sur hacia Fomalhaut. (5b) Sus dos estrellas meridionales apuntan al Oeste hacia Altair.

Puntos destacados con binoculares

- A: En el lado occidental de la Piedra Angular brilla el Gran Cúmulo de Hércules, un círculo borroso de 500,000 estrellas.
- B: Casi a la mitad de la distancia entre Altair y Vega, Brilla la "Percha," un grupo de estrellas que describe un perchero.
- C: Recorre la Vía Láctea en busca de un número asombroso de destellos tenues y bahías oscuras, incluido La Gran Grieta.
- D: Las tres estrellas más occidentales de las "W" de Casiopea apuntan hacia el sur hasta M31, la Galaxia de Andromeda, un óvalo "borroso."
- E: Entre la "W" de Casiopea y Perseo se encuentra el Doble Cúmulo.

Traducción al español por Dr. Salvador Aguirre

www.astroleague.org/outreach; Duplicación permitida y fomentada para toda distribución gratuita.

Liga Astronómica





Scan the area with binoculars for asterisms and stellar groupings



Between the First Point of Aries and the Water Jar

The **First Point of Aries** marks the intersection of the celestial equator and the ascending ecliptic which defines the location of 0 hrs Right Ascension.

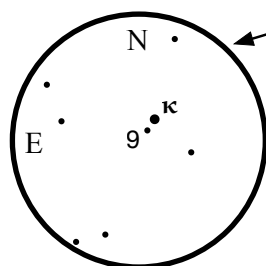
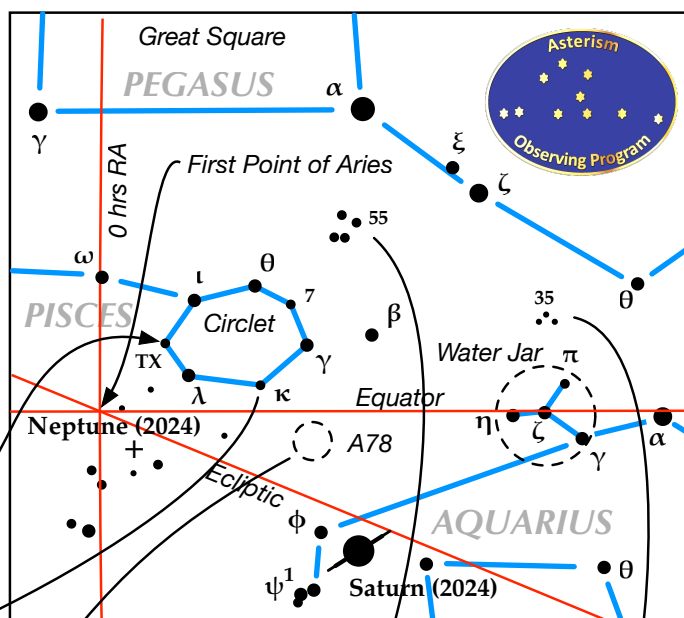
Naked eye and binocular sights

Circlet. These six, maybe seven depending on sky clarity and visual acuity, 4th and 5th magnitude stars trace a squashed circle at the far southwestern corner of Pisces.

It lies 10° below the southern edge of the asterism the **Great Square** in Pegasus, and less than 15° east of another asterism, the four 4th & 5th magnitude stars of the **Water Jar** in Aquarius.

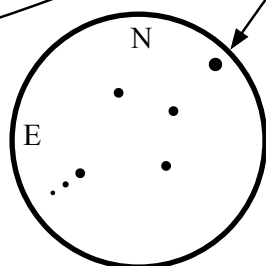
These features are subtle, not bright.
Best seen from a dark location with a transparent sky.

Binoculars users enjoy studying **TX Piscium**. The star varies between 4.8 and 5.2 magnitude, a noticeable amount to the careful observer. It appears as a distinct orange-red hue and its period is irregular, but averages around 224 days.



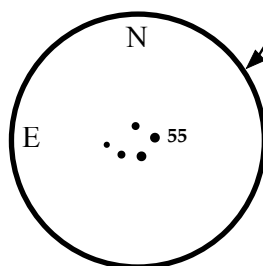
6° Field

Binocular Double
4.9 mag. Kappa Psc
6.2 mag. 9 Piscium
Separation: 9 min



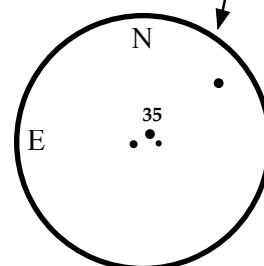
1° Field

Asterism A78
7 stars of 7-8 mag.
tracing the outline
of a "rocketship"



6° Field

Binocular sight
A stellar quintet
Four 5th mag stars
& one 6th mag star.

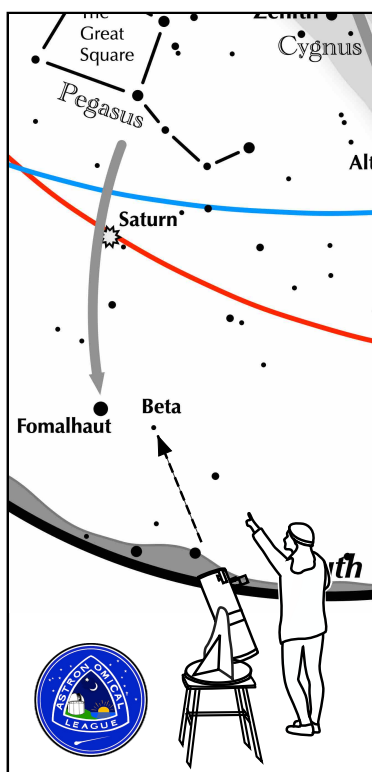


6° Field

Binocular sight
A stellar trio
One 5th mag. star &
two 6th mag. stars.

In 2024, Saturn lies 10° southwest of the Circlet and Neptune hides just 5° to its southeast.

ASTRONOMICAL LEAGUE Double Star Activity



Other Suns: Beta Piscis Austrini

How to find Beta Piscis Austrini on an October evening

The two western stars of the Great Square point southward to the bright star Fomalhaut. One binocular field west lies 4.3 magnitude Beta Piscis Austrini.

Beta Piscis Austrini

A-B separation: 30 sec

A magnitude: 4.3

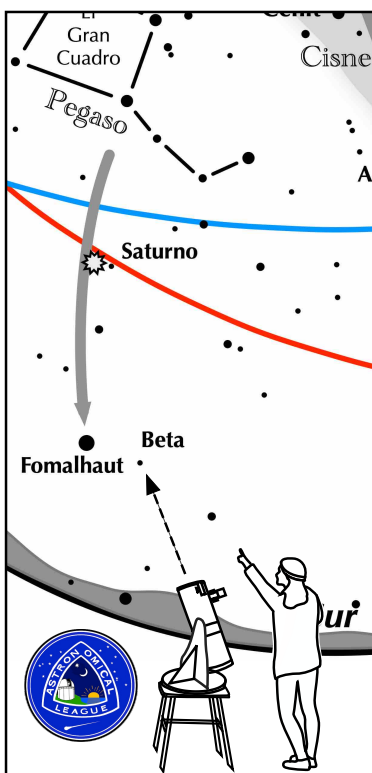
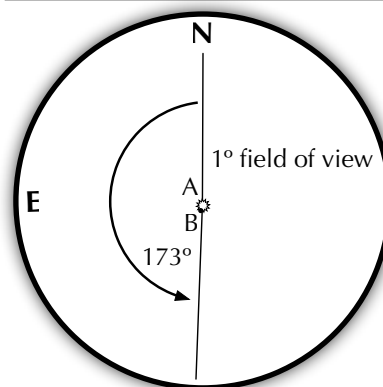
B magnitude: 7.1

Position Angle: 173°

A & B colors:

white, white

Suggested magnification: >20x
Suggested aperture: >2 inches



Otros Soles: Beta Piscis Austrini

Cómo encontrar Beta Piscis Austrini en una tarde de Octubre

Las dos estrellas occidentales del Gran Cuadro apuntan hacia el sur, hacia la brillante estrella Fomalhaut. Un campo binocular al oeste se encuentra Beta Piscis Austrini, de magnitud 4,3.

Beta Piscis Austrini

A-B separación: 30 sec

A magnitud: 4.3

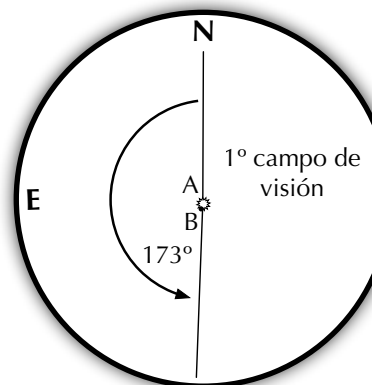
B magnitud: 7.1

PA: 173°

A & B color:

blanca, blanca

Ampliación sugerida: >20x,
Apertura sugerida: >50 mm



BMACers Capture Partial Lunar Eclipse



A couple of BMACers have sent in their astrophotos of the recent partial lunar eclipse that occurred on September 17, 2024. If you have an image you'd like to share, of the eclipse or anything astro-related, please send it to the editor.



Dale Wentzel writes: I used my Canon T6 DSLR, zoomed to the maximum 300mm with my zoom lens, with the exposure settings of 1/1000 sec., f/8 at ISO 3200. I didn't use a tripod, so I needed to use that high of an ISO to allow me to use a safe hand held shutter speed. I also resized it to a lower resolution.



Robin Byrne submitted this image. Lots of clouds, but sucker holes worked to our advantage! Image taken with an iPhone 15 Pro.

Stellar Observations

Greg Penner



Floating in Aquarius



he constellation Aquarius is not a very distinctive pattern of stars such as more familiar patterns as Orion the hunter or Leo the lion. This October, exploring around Aquarius the water bearer would be well worth the effort. Aquarius is one of the oldest constellations, recorded by the ancient Greek astronomer Claudius Ptolemy in the second century. To the Greeks, Aquarius represented a water bearer holding a vase with water pouring out down toward the bright star Fomalhaut (which is the "eye" of the fish Piscis Austrinus). Aquarius is located near other water related constellations, such as Pisces the fish and Cetus the whale. Appropriately, this year we find "floating" in the waters in this part of the sky the beautiful ringed gas-giant planet Saturn! Why is it appropriate that Saturn is amongst the waters of these constellations? An interesting fact about Saturn is that its density is less than water, so if you could find a large enough body of water to set it in, it would float! Navigating around Aquarius can be a challenge because of the lack of very bright

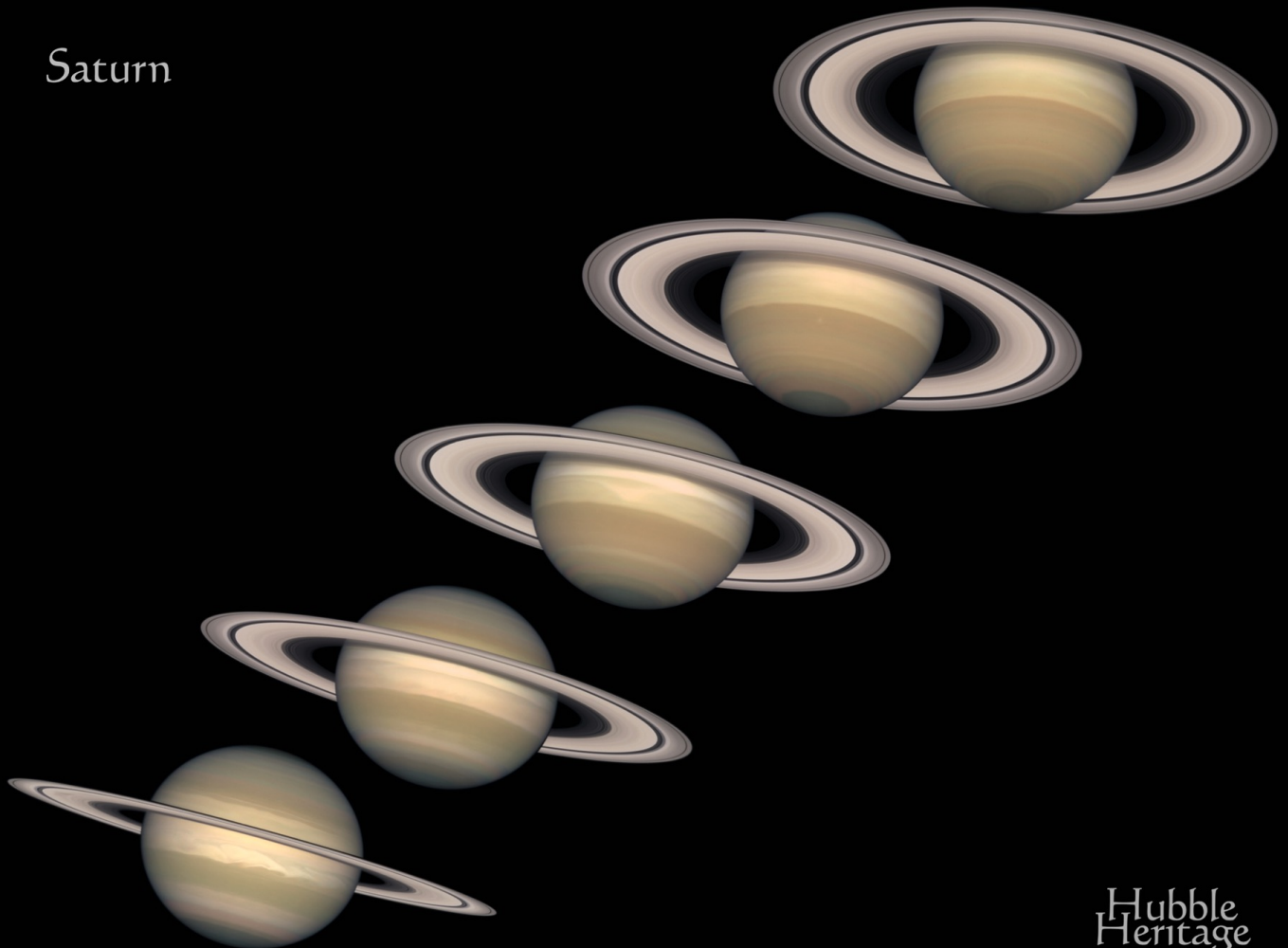
stars or recognizable patterns. In addition to Saturn, some other fine telescopic objects will be "floating in the waters" around Aquarius if you are up to the challenge to find them.



Saturn in Aquarius - from Stellarium

Saturn is, of course, best known and most appreciated for its beautiful ring system. Seeing in a telescope the 3D effect of the rings wrapping around the giant planet is an experience that never gets old. In this year's appearance of Saturn you will notice that the rings are getting very close to edge-on. Over the years, as the orientation between Earth and Saturn changes, the angle of the rings relative to our view gradually opens and closes. By mid to late March of 2025, they will virtually disappear as they become exactly edge-on. The jumbled mass of ice chunks and rocks that make up the rings span up to about 175,000 miles, but are only about 1 km thick at their thickest point. With Saturn's great distance from Earth, over 800 million miles, it's not difficult to understand the impossibility of seeing only a 1 km thick "line" when edge-on from our perspective. Unfortunately, we will not be able to witness the ring disappearance because by that time Saturn will be lost in the glare of the Sun from our viewpoint. Our next chance to see the rings disappear will be in 2039.

Saturn

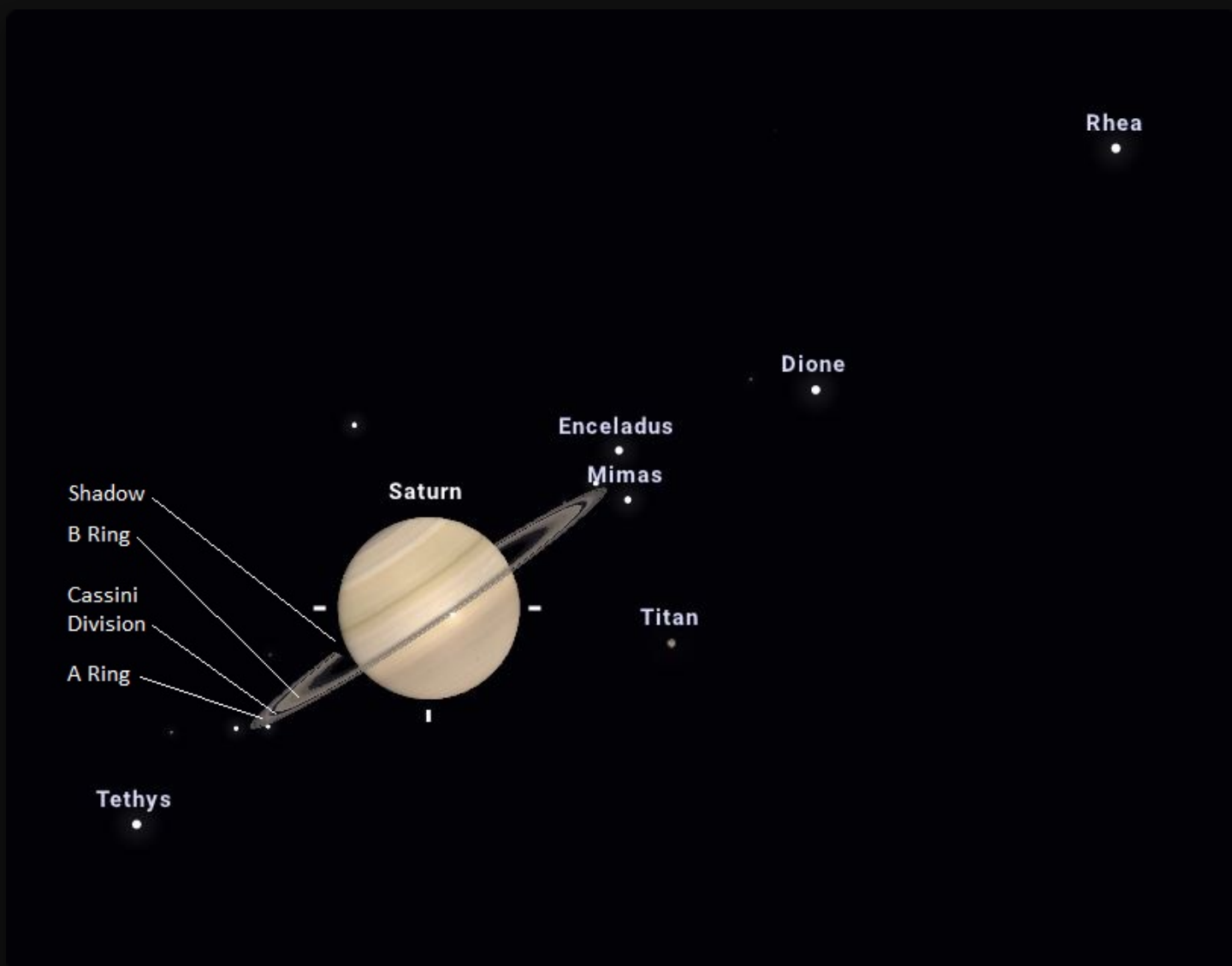


Hubble
Heritage

NASA and The Hubble Heritage Team (STScI/AURA) • Hubble Space Telescope WFPC2 • STScI-PRC01-15

Saturn rings transition from open to closed - Hubble Space Telescope

Looking at Saturn's rings at any time is a treat. The view through a telescope on a night of steady seeing might show you the shadow of the planet being cast onto the rings, which really enhances the 3D effect. Also, look for the Cassini division, which is the gap between the A ring and the B ring. Saturn's largest Moon, Titan, is easily visible through a small telescope, being the second largest Moon in the Solar System. Other Moons such as Iapetus, Tethys, Rhea and Dione, all at magnitude 10-11 might be visible in a 4 inch or larger telescope in a dark sky. An 8" or larger reflector or SCT should give you a chance of seeing some of the cloud banding on the surface of Saturn and more details in the ring system. A colored filter, especially a #80A blue filter, can help you see fine detail near the poles and in the cloud bands of the planet.



Saturn ring features and moons - from Stellarium annotated by Greg Penner

While Saturn will be at the eastern side of Aquarius, over on the western side of the constellation is a unique "Saturn pretender" called NGC 7009, otherwise known as the Saturn Nebula. Actually a planetary nebula (a dying star that has produced a gas shell), this object doesn't have rings. In a telescope with enough aperture and magnification, it has the appearance of projections called ansae going outward from the sides so that it looks like an out-of-focus image of Saturn. The ansae are actually gas that the dying star has ejected in opposite directions. Also noticeable will be a greenish color to the nebula. An 8-inch or larger telescope at 200x magnification will best bring out these details. Like most planetary nebulae, the unique appearance of this nebula really comes out in long exposure photographs. This 8th magnitude nebula was discovered by William Herschel in 1782.



Saturn Nebula (NGC 7009) - Fort Lewis College Observatory

Globular clusters M72 and M2 are two other fine objects residing in Aquarius. M72 is only about 2 degrees west of the Saturn Nebula and is the fainter of the two clusters at 9th magnitude and a distance of 62,000 light years. Viewing it through a small telescope will only give an image of a dim, fuzzy nebulosity. Larger reflectors will resolve stars around the edge of the cluster. By far the superior globular cluster to view through a telescope is M2. At magnitude 6.5 and a distance of 55,000 light years, this cluster is a beautiful sight through telescopes 4" diameter and up. With telescopes at the smaller end of the scale, M2 will look like a bright comet. As telescope apertures go up to 8" - 12", more and more stars are resolved until it gives the appearance of a mass of fine sand over a disk about a third the diameter of the Moon.



M72 - Hubble Space Telescope



M2 - Hubble Space Telescope

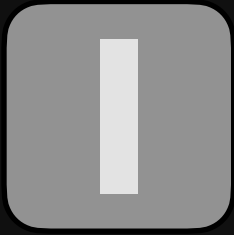
If you're going out on a clear October night to do some stargazing, I encourage you to explore the waters around Aquarius. If you can find these celestial treasures, you won't be disappointed!

The Queen Speaks

Robin Byrne



Book Review: *Mythos*



If you are like me, when you hear the name Stephen Fry, you think of one or more of the television shows he has appeared in (A Bit of Fry and Laurie, Jeeves and Wooster, Black Adder, QI, ...), but he is also an accomplished writer as well. *Mythos: The Greek Myths Reimagined* is a collection of the Greek tales, but told in a style that is unmistakably that of Stephen Fry.

You may be thinking, "That's all very well, but what has this got to do with astronomy?" I'm so glad you asked! While not every story has an astronomical connection, many of the myths do, in fact, relate to the astronomical world. In some cases, it may be the source of a name we're familiar with, such as an asteroid or Moon. Other tales have a more direct link. We learn the myths associated with why we have seasons, and why the Earth has different climate zones. Of course, there are tales that relate to the creation of certain constellations, including some that are

less familiar, such as the origin of Corvus, and the tale behind Ophiuchus.

STEPHEN FRÝ



MÝTHOS

The Greek Myths Reimagined

The myths seem to have a handful of purposes and recurring themes. Like the stories of why we have seasons and climate zones, many of the myths relate to explaining the origin of various natural phenomena, ranging from lightning to people to spiders, and all points in between. Other myths revolve around various love stories, most of which end tragically. Some are cautionary tales about why you should never make a god angry, and the horrible consequences that will ensue. And several warn, in a variety of ways, about how "pride goeth before the fall." Stephen Fry's wit, and the clever dialog he attributes to the cast of characters, leave the reader highly amused on every page.

In addition to the myths, Fry's prodigious use of footnotes add another level to the book. In many cases, we learn the connection between names of the mythological characters and words we use to this day. He also includes notes about places mentioned in the stories and where they are found in relation to a modern-day map. Other footnotes may be his own personal

thoughts about a topic, or which of the different versions of a story he prefers.

To provide a visual representation of the myths, Fry made use of classical works of art that depict moments from the tales. Many of the works are well known, but seeing the artwork in context with the myth upon which they are based adds another dimension to both the myth and the work of art.

Mythos: The Greek Myths Reimagined was a thoroughly delightful book to read, and I highly recommend it. Mythos is the first in a three-part series, with the remaining two books being Heroes, and Troy. I have not yet read those two, but after reading Mythos, I most definitely will be, and you should, too.

References:

Mythos: The Greek Myths Reimagined by Stephen Fry; Chronicle Books, 2017.



The Space Place - NASA Night Sky Network

Dave Prosper, Updated by Kat Troche

October's Night Sky Notes: Catch Andromeda Rising!



If you're thinking of a galaxy, the image in your head is probably the Andromeda Galaxy! Studies of this massive neighboring galaxy, also called M31, have played an incredibly important role in shaping modern astronomy. As a bonus for stargazers, the Andromeda Galaxy is also a beautiful sight.



Spot the Andromeda Galaxy! M31's more common name comes from its parent constellation, which becomes prominent as autumn arrives in the Northern Hemisphere. Surprising amounts of detail can be observed with unaided eyes when seen from dark sky sites. Hints of it can even be made out from light polluted areas. Use the Great Square of Pegasus or the Cassiopeia constellation as guides to find it. Credit: Stellarium Web

Have you heard that all the stars you see at night are part of our Milky Way galaxy? While that is mostly true, one star-like object located near the border between the constellations of Andromeda and Cassiopeia appears fuzzy to unaided eyes. That's because it's not a star, but the Andromeda Galaxy, its trillion stars appear to our eyes as a 3.4 magnitude patch of haze. Why so dim? Distance! It's outside our galaxy, around 2.5 million light years distant - so far away that the light you see left M31's stars when our earliest ancestors figured out stone tools. Binoculars show more detail: M31's bright core stands out, along with a bit of its wispy, saucer-shaped disk. Telescopes bring out greater detail but often can't view the entire galaxy at once. Depending on the quality of your skies and your magnification, you may be able to make out individual globular clusters, structure and at least two of its orbiting dwarf galaxies: M110 and M32. Light pollution and thin clouds, smoke or haze will severely hamper observing fainter detail, as they will for any "faint fuzzy." Surprisingly, persistent stargazers can

still spot M31's core from areas of moderate light pollution as long as skies are otherwise clear.



Generated version of the Andromeda Galaxy and its companion galaxies M32 and M110. Credit: Stellarium Web

Modern astronomy was greatly shaped by studies of the Andromeda Galaxy. A hundred years ago, the idea that there were other galaxies beside our own was not widely accepted and so M31 was called the "Andromeda Nebula." Increasingly detailed observations of M31 caused astronomers to question its place in our Universe - was M31 its own "island universe," and not part of our Milky Way? Harlow Shapley and Heber Curtis engaged in the "Great Debate" of 1920 over its nature. Curtis argued forcefully from his observations of dimmer than expected nova, dust lanes and other oddities that the "nebula" was in fact an entirely different galaxy from our own. A few years later, Edwin Hubble, building on Henrietta Leavitt's work on Cepheid variable stars as a "standard candle" for distance measurement, concluded that M31 was indeed another galaxy after he observed Cepheids in photos of Andromeda and estimated M31's distance as far outside our galaxy's boundaries. And so, the Andromeda Nebula became known as the Andromeda Galaxy.

HUBBLE MAPS THE HALO AROUND THE ANDROMEDA GALAXY



While M31's disk appears larger than you might expect (about 3 Moon-widths wide), its "galactic halo" of scattered stars and gas is much, much larger – as you can see here. In fact, it is suspected that its halo is so huge that it may already mingle with our Milky Way's own halo, which makes sense since our galaxies are expected to merge sometime in the next few billion years! The dots are quasars, objects located behind the halo, which are the very energetic cores of distant galaxies powered by black holes at their center. The Hubble team studied the composition of M31's halo by measuring how the quasars' light was absorbed by the halo's material. Credits: NASA, ESA, and E. Wheatley (STScI)

These discoveries inspire astronomers to this day, who continue to observe M31 and many other galaxies for hints about the nature of our Universe. One of the Hubble Space Telescope's longest-running observing campaigns was a study of M31: the Panchromatic Hubble Andromeda Treasury (PHAT). Dig into NASA's latest discoveries about the Andromeda Galaxy, on their [Messier 31](#) page.

- Originally posted by Dave Prosper: September 2021
- Last Updated by Kat Troche: September 2024

This article is distributed by NASA Night Sky Network

The Night Sky Network program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit [nightsky](#) to find local clubs, events, and more!

BMAC Calendar & More



Calendar:



MAC Meetings:

- Friday, October 4, 2024 - 7p - Trina L. Ray, Europa Clipper Deputy Science Manager and REASON Investigation Scientist, will present. Topic TBA.
- Friday, December 6, 2024 - 7p - BMAcEr's Observing Night.
- Friday, February 7, 2025 - 7p - Topic TBA.
- Friday, March 7, 2025 - 7p - Topic TBA.
- Friday, April 4, 2025 - 7p - Topic TBA.
- Friday, May 2, 2025 - 7p - Topic TBA.
- Friday, June 6, 2025 - 7p - Topic TBA.
- Friday, August 1, 2025 - 7p - Topic TBA.
- Friday, September 5, 2025 - 7p - Topic TBA.
- Friday, October 3, 2025 - 7p - Topic TBA.
- Friday, December 5, 2025 - 7p - Topic TBA.



unWatch:

- Every clear Saturday & Sunday - 3p-3:30p - March-October - By the Dam
- View the Sun safely with a white-light view if clear.; Free.
- You must have completed the Park Volunteer Program in order to help with the public program. If you have, and have been trained, please show up at least 30 minutes prior to the official start time.



tarWatch:

- October 5 & 12, 2024 - 7:30p
- October 19, 26 & November 2, 2024 - 7p
- November 9, 16, 23 & 30, 2024 - 6p
- View the night sky with large telescopes at the observatories. If poor weather, an alternate live tour of the night sky will be held in the planetarium theater. Free.
- You must have completed the Park Volunteer Program in order to help with the public program. If you have, and have been trained, please show up at least 30 minutes prior to the official start time.



Special Events:

- **StarFest 2024 - November 1-3, 2024**

- Our 39th annual astronomy convention / star gathering for the Southeast United States. Three days of astronomy fun, 5 meals, 4 keynote speakers, unique T-shirt and more!
- **Pre-registration by Oct. 13, 2024 with full payment is mandatory for attendance. Sorry, no walk-ins nor "visits."**
- [Link for all the StarFest info including registration and hotel reservation links.](#)

- **BMAC Dinner - January 2025**

- This event is for members and their families. Look for an e-mail in January with all the information.

- **Astronomy Day - ?, 2025 - 12p-3p; 8:30p-9:30p**

- Come help share the fun of astronomy with the public. There will be tables with different themed topics plus solar and night viewing.

- **Annual Club Picnic - July 2025**

- Date and site location will be sent directly to full BMAC members. BMACers and their families are welcome to enjoy an evening of astronomy-themed games and activities along with a potluck dinner and observing.

Regular Contributors:



Greg Penner



Robin Byrne



Adam Thanz

Greg Penner is a semi-retired architect living in the Tri-Cities area since 2018. He has enjoyed astronomy since childhood when he received a “department store telescope” and viewed Saturn for the first time. He has been a member since 2018.

Robin Byrne has been writing the science history column since 1992 and was chair in 1997. She is an Associate Professor of Astronomy & Physics at Northeast State Community College (NSCC).

Adam Thanz has been the BMAC Newsletter Editor for all but a small number of issues since 1992. He is the Planetarium Director at Bays Mountain Park and an astronomy adjunct instructor at NSCC since 2000.

Connection:

Bays Mountain Astronomy Club:

- 853 Bays Mountain Park Road; Kingsport, TN 37650
- (423) 229-9447 - [Park Site](#) - [Club Site](#)
- Newsletter edited by [Adam Thanz](#)

Dues:

- Dues are highly supplemented by the Bays Mountain Park Association and volunteerism by the club. As such, our dues are kept at an extremely low cost.
- \$16 / person / year
- \$6 / each additional family member
- Note: if you are a Park Member (which incurs a separate, additional fee), then a 50% reduction in BMAC dues are applied.
- Dues can be paid in many ways. The easiest way is to pay via the CivicRec online portal. If you are a current member, please log in with your e-mail address and reset your password if you have not already done so. You can then update your membership. Here's the direct [link](#). If you want to add family members, then add them via the internal link. You can also pay at the gift shop, by mail or over the phone.

Chapter Background Image Credits:

- **Cover image of Southern Milky Way by Adam Thanz.**
 - *Sony A7ii with Zeiss Batis 2.8/18 lens, f/2.8, 8 sec., ISO 6,400, August 9, 2020.*
- **Table of Contents image of Comet NEOWISE (C/2020 F3) by Adam Thanz**
 - *Sony A7ii with Sony FE 2.8/90 Macro G OSS lens, f/2.8, 8 sec., ISO 4,000, July 15, 2020.*
- **Cosmic Reflections image of the Summer Triangle area of the Milky Way by William Troxel.**
 - *Image captured July 23, 2016.*
- **BMAC Notes painting of the Moon with moon glow by Christa Cartwright.**
 - *Painting based on a photograph of the Moon Christa captured July 2020.*
- **Stellar Observations image of Crescent Nebula by David Reagan.**
 - *This image was taken with a 140mm refractor in his suburban backyard using an AstroPhysics 900 mount, 8.7 hours of 5 minute Ha and OIII subexposures, combined in AstroPixelProcessor as an HOO image and processed in Lightroom and Photoshop. Image captured in 2022.*
- **The Queen Speaks image of a solar halo by Robin Byrne.**
 - *iPhone 7, June 8, 2020.*
- **The Space Place - NASA Night Sky Network image of the Rho Ophiuchi cloud complex by Brandon Stroupe.**
 - *Canon 6D with Canon 2.8/70-200mm lens, f/2.8 @200mm, 20 x 120 sec. exposures, ISO 1,000, stacked in Deepsky Stacker, processed in Adobe Photoshop CC, Skywatcher Star Adventure mount, September 19, 2015.*
- **BMAC Calendar & More image of the Moon by Greg Penner.**
 - *iPhone shooting through a 9mm eyepiece and 12.5" Truss Tube Dobsonian @212x.*
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