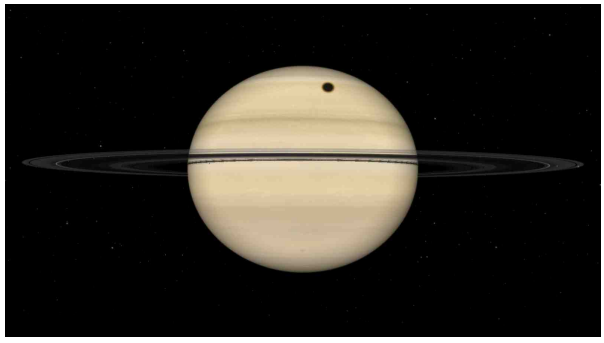
ASTROGATOR

September 2025

Grand Strand Astronomers
An Astronomical Journal of the Grand Strand Astronomers
of the Greater Myrtle Beach Area
GSA Founded on September 24, 2020

Grand Strand Astronomer's Monthly Events:
General Membership Meeting:
Thursday September 4, 2025 @ 7:00 pm
Meeting: VIA Zoom.
Please see email or Facebook for link

Observing Sessions:
Saturday September 20, 2025
Location: Hampton Plantation
Gates open @ 6:00 pm



Saturn - NASA

Grand Strand Astronomer's Social Media

Grand Strand Astronomer's Website

Grand Strand Astronomer's Facebook

GSA Leadership

Executive Officer
Ian Hewitt

Treasurer
John Defreitas

Photograph not available at this time

Secretary
Gerald Drake

Social Media Coordinator
Denise Wright

Photograph not available at this time

Newsletter Coordinator
Tim Kelly

Contents

Picture of the Month

Saturn is the sixth planet from the sun, a gas giant known for its prominent ring system, and it is the least dense planet in the solar system, meaning it could float in water. It has the second-shortest day in the solar system, lasting about 10.7 Earth hours, but takes 29.4 Earth years to orbit the sun. Saturn features a hexagonal storm at its north pole, has a vast system of moons, and is composed mainly of hydrogen and helium.

Call For Volunteers

Tim Kelly

Grand Strand Astronomers are looking for volunteers to help with the social media platforms such as Facebook, YouTube and Twitter if the need arises. Presently Facebook needs a new face lift and be brought up to present time activities. Our website can also use some TLC and someone responsible to keep it updated with club activities and astronomy related items. If anyone would like to help in these categories, please contact Ian Hewitt at the email address below.

We are looking for new and older club members to help contribute articles for the GSA Newsletter. You can be a novice level, medium level, or a experienced level astronomer. Knowledge such as types and location of numerous stars, nebula or galaxies to share with other club members. GSA would like to provide topics for all level of members and non-members that are both hands-on projects and educational sharing. You can either write you own or use one already written and published. See previous articles on older issues for contributions for self written articles. See Tim's contributions for an example of non-written subject matter or from an article written from another person. Please provide the title, name of the originator and website link that the original article can be found. You will not be required to submit articles every month, however every second or third month would be nice and a benefit to all members and non-members. Please send articles to t.m.kelly349@outlook.com

GSA Telescope Loaner Program

Gerald Drake

Did you know our club has telescopes available for loan? They are Dobsonians that were donated to the club when we first started. These are available for club members to use at no charge. All you have to do is take care of them and return them if someone else wants to borrow one. The first one is an Orion XT 8. It's in great shape. It gives beautiful views of the moon, planets, and galaxies. Comes with accessories that include a 2X Barlow, 25mm eyepiece, 9mm eyepiece, and laser collimator tool. The other one is an Orion Skyquest XT 10 with Orion's IntelliScope computerized object locator. It includes more than 14,000 objects in its database so you'll be able to locate those dim galaxies. Should be hours of fun. Accessories are included. Both of these are begging to be used. Send us an email if you're interested in borrowing one.

GSA Monthly Newsletter Articles

Tim Kelly

This is our club and our newsletter. Lets help each topic to continue to grow.

Grand Strand Astronomer's is looking for individuals who would like to participate in submitting newsletter articles dealing with anything astronomy. We can not rely on the same four (4) members to write and send in articles month after month. New thoughts and ideas make for good reading and beneficial growth for the club and the public of the Greater Myrtle Beach area.

One member's simple advancement could just be what a newbie is looking for to get over a hurdle that has been impeding their progress forward. The expertise by many members can be a form of mentoring.

Grand Strand Astronomers - Membership

Grand Strand Astronomer's had no new members for the month of August 2025.

GSA Meeting Recap for August 7, 2025

Ian Hewitt

The meeting was a joint meeting with the Low Country Stargazers. It was their meeting. The following is the meeting notes from the Low County Stargazers:

Minutes of the Meeting on Thursday, August 7, 2025

The following notes are provided from the Lowcountry Stargazers club meeting held both live at Atlantic Aviation and on Zoom on Thursday, August 7, 2025.

Attendance - There were 21 participants, 12 in person, 7 on Zoom, 1 guest in person and 1 guest on Zoom. There was a quorum of club officers and members.

Presentations:

Jay Messeroff gave an excellent presentation entitled Solar Imaging and Post Processing. He walked us through each step of the process: Image setup, Image capture, Processing video to a single image, Initial image sharpening and the Final processing and coloring. Each step had multiple screen shots highlighting the different software packages used in each step in an example taken from the raw data to the final product. Jay then went on to give a live demonstration of the entire post processing flow. It was a great look behind the curtain of how he produces the amazing solar and other images that he posts almost daily.

Cale Shipman informed us of "What's Up in the August Sky?" and on upcoming events:

I just returned from the Stellafane star party in Springfield, Vermont

Lowcountry Stargazers were well represented by Alexander Mallon, Sheila Budd and myself.

Big winner was a "Steampunk" telescope made of household parts

Embroidery Hoops
Chair S
Skeleton Keys
Door Knobs
Pencil Sharpener
Window Latches

Photo Unavailable

It transformed an 8" F6 scope into a fascinating look and fine work of art created by Susan Scott. This was her first telescope entry to Stellafane.

Stellafane is 100 years old. Looking around, the members saw something missing.

Always at Stellafane - Al Nagler.

They challenged all amateur astronomy clubs to do the same with outreach.

They are going to stress getting more young people interested in STEM and perhaps astronomy.

Swap meet for bargains: handmade scopes but mostly a gathering of like-minded crazies

Every star party has its own personality, attend one if you get a chance.

What's Up in the August Sky

-Perseid Meteor Shower peaks this weekend. Look towards the constellation Perseus in the East especially after midnight. Lawn chair, clear skies and reasonably nice horizon is all you need. Although you will have to contend with a Full Moon rising around 9PM.

-By mid-August, Saturn will be back in the night sky and Neptune will be near it. The rings of Saturn are past the edge-on phase but still a little hard to see.

-New Moon August 23rd

-If you have a south horizon, the constellations Scorpius (The Scorpion) and Sagittarius (the Teapot) are full of wonders in August.

We will resume our normal public outreach schedule next month

Wednesdays at Brittlebank Park

• Wednesday September 3rd 7:30PM till whenever.

• We will have a nice quarter Moon to view.

• Late sunsets will be with us until November 2nd when we “fall back”

SECOND Saturdays of the month at Mullet Hall

• About a month from now (September 13th) we will start with public viewing at Mullett Hall. Facebook will remind everyone.

• Setup is around 7 PM with sunset at 7:30 PM. Moonrise at 11:30 PM so quite a dark night.

That’s all I have for August, 2025

Clear Skies to everyone.

The Double Double (Epsilon Lyrae)

High Point Scientific

Here’s a great multiple star for binoculars and telescopic observers. Look just 1.7 degrees northeast of Vega with almost any binoculars and you’ll see a pair of identical white stars. Turn a telescope toward the pair and crank the magnification up to around 125x, and you’ll see each star is again split in two!

Image credit: View from Earth

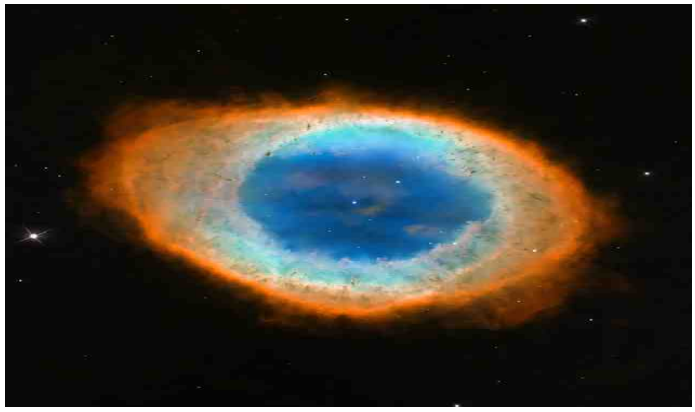


Image credit: NASA, ESA and the Hubble Heritage

Messier 57 - The Ring Nebula

High Point Scientific

M57, the Ring Nebula, is also located in Lyra. It's potentially detectable with binoculars, roughly midway between Sheliak and Sulafat (Beta and Gamma Lyrae, respectively), and resembles a small, gray ring of smoke when observed telescopically at around 100x.

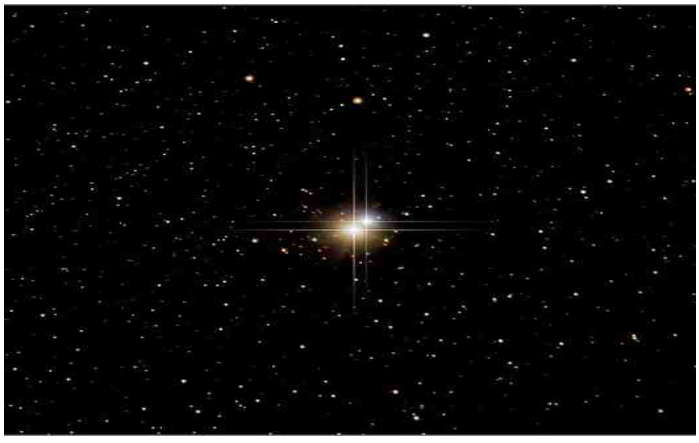


Image credit: Tom Wildoner

Albireo (Beta Cygni)

High Point Scientific

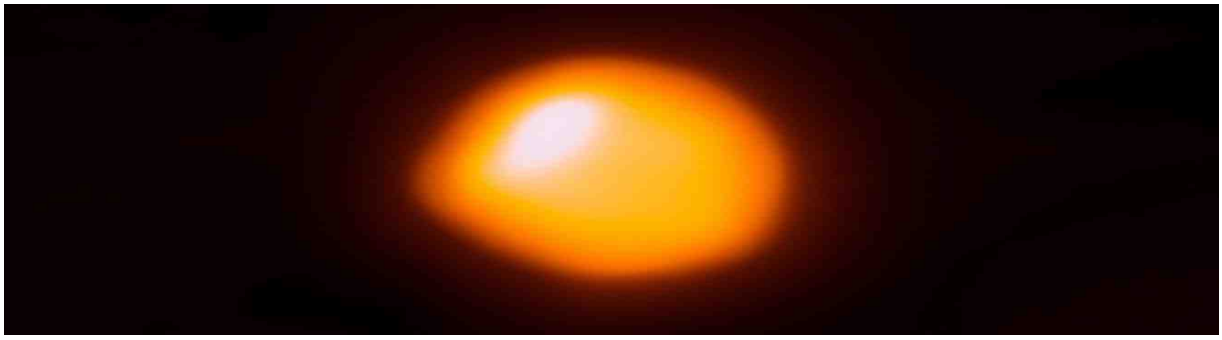
A showcase telescopic double in almost everyone's books, a low magnification will easily split Albireo into a pair of stars. The primary is gold, while the fainter secondary is a wonderful sapphire blue. Not to be missed**!**

Betelgeuse Hidden Companion Revealed

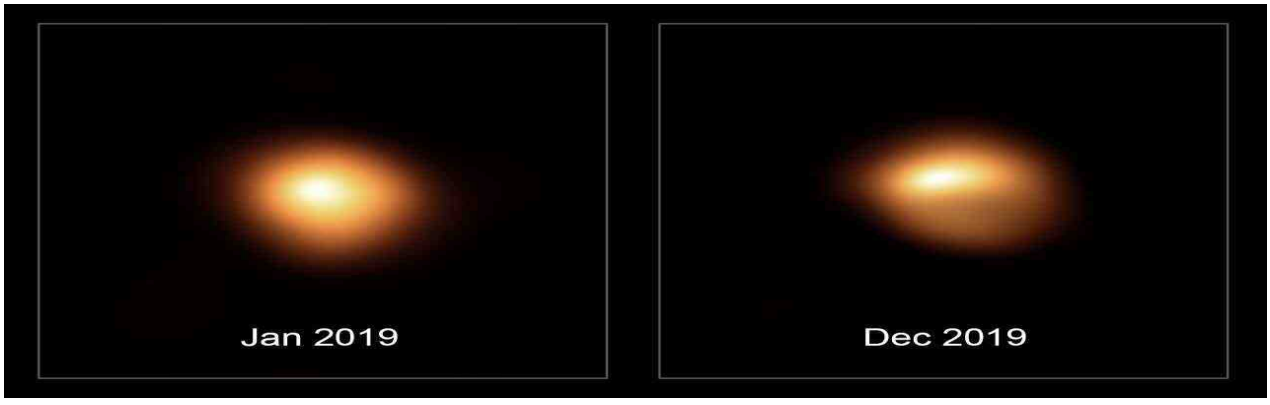
High Point Scientific

Betelgeuse, Betelgeuse, Betelgeuse! One of the most well-known stars in the night sky has a hidden companion, according to recent observations made by the 'Alopeke instrument with the Gemini North Observatory. This companion may explain some of Betelgeuse's irregular dimming events, which cannot be fully understood by the star's natural pulsing.

Astronomers used the Gemini North Observatory's telescopes to take clearer images of Betelgeuse during the highly unusual 2020 dimming event and again in 2024. In 2020, during Betelgeuse's "Great Dimming," the companion wasn't visible because it was likely hidden behind Betelgeuse. In 2024, just after the companion was predicted to be farthest from Betelgeuse, they spotted a faint object about 6 times dimmer than Betelgeuse, located at the expected distance and angle. While the detection isn't 100% certain, it matches predictions about the companion's position, brightness, and mass, supporting the idea that Betelgeuse has a stellar partner.



Betelgeuse's brightness is known to vary and is what is known as a "variable" star, but in late 2019 and early 2020, it underwent an event known as the "Great Dimming," when its brightness dropped by about 1 magnitude, or roughly 60%, making Betelgeuse appear much fainter to the naked eye. This resulted in a massive wave of excitement and was arguably one of the most talked-about celestial events of the 2020s thus far. Betelgeuse is typically one of the brightest stars in the night sky, making up the "armpit" of Orion, and is noticeably reddish-orange. During the Great Dimming, Betelgeuse's apparent magnitude dropped a full magnitude, or a 60% reduction in luminosity, as seen by observers here on Earth. This transformed the appearance of the constellation of Orion, and it looked less striking without its famous orange star.



Later, NASA's Hubble Space Telescope observed Betelgeuse and detected a massive ejection of hot plasma from a large convective cell on Betelgeuse's surface. Importantly, observations during this period, including the 2020 Gemini North data, showed no companion star, consistent with it being hidden behind Betelgeuse. One hypothesis was that Betelgeuse's unusual and dramatic event was also partially caused by an as-of-yet unknown companion star. Evidence for this goes back to 1968, placing a potential companion within the chromosphere of Betelgeuse. However, no concrete evidence was found due to the low resolution at the time.

Astronomers utilized high-resolution optical speckle imaging using the 8.1-meter Gemini North telescope in 2020 and 2024 to investigate this further. Speckle imaging is a technique that mitigates atmospheric distortion to achieve diffraction-limited resolution, allowing for the detection of faint objects close to bright stars like Betelgeuse. The 2020 observations coincided with Betelgeuse's "Great Dimming" event. In contrast, the 2024 observations were taken three days after the predicted maximum elongation (quadrature), when the companion was expected to be at its greatest angular separation from Betelgeuse.

The 2020 data showed no evidence of a companion, consistent with the prediction that it was obscured by Betelgeuse's brightness. However, the 2024 data revealed a faint object with an angular separation of 52 milliarcseconds (mas) from Betelgeuse and a position angle of 115° east of north. This matched closely with dynamical predictions based on the long-hypothesized orbit. The companion appears approximately 6 magnitudes fainter than Betelgeuse at a wavelength of 466 nanometers (blue light), meaning it is roughly 250 times dimmer. The detection has a statistical significance of 1.5σ, indicating it is not conclusive, but still the strongest evidence yet for this unseen companion. Further observations will be required to confirm this exciting discovery beyond a shadow of a doubt!

So why exactly does this matter to us?
The potential discovery of a stellar companion orbiting Betelgeuse is important because it could reshape our understanding of this iconic red supergiant, one of the closest and best-studied massive stars to Earth. Betelgeuse has long been used as a reference star when it comes to understanding how stars end their lives. Confirming a companion would provide new and exciting insights into the gravitational dynamics affecting the dying primary star. This finding could refine models of Betelgeuse's evolution, as the presence of a companion might influence its mass loss, rotation, or eventual path toward a supernova. Additionally, studying such a companion offers a rare opportunity to explore binary star interactions in the context of a supergiant, a phase of stellar evolution that is critical for understanding the life cycles of massive stars!

Beginner's Guide to Using a Telescope

High Point Scientific/Tim Kelly

Each month a new topic such as eye pieces, telescope finders, telescope mounts, telescope accessories, how to find objects in the sky and when and where to observe from. Lets us start!

UNDERSTANDING TELESCOPE EYEPIECES & BARLOWS LENSES

Now that you have practiced moving your telescope, its time to take a look at some of the accessories that came with it. Regardless of the telescope you purchased, you should have received at least one eyepiece, and it is the most important accessory in the box. A telescope's job is to gather and concentrate the light emitted by celestial objects into a point. An eyepiece's job is to take that concentrated light and display the resulting image for you to enjoy. Just like telescopes, eyepieces come in a wide range of styles, sizes, and focal lengths.

For the purposes of this guide, you need to understand just one thing about your eyepiece: What the Numbers Etched on the Eyepiece Mean?

Officially, the numbers represent the "focal length" of the eyepiece. For the moment, all we care about is what that translates to as far as magnification goes. In other words, how do you choose the eyepiece that will give you a higher or lower power view?

The rule of thumb is the opposite from what you'd think…the higher the number on the eyepiece, the lower the resulting power, or magnification, you will achieve on your telescope. For instance, let's say you have two eyepieces, and their focal lengths are 25 mm and 10 mm. If I asked you to pick your lowest power eyepiece for a task, you should know right away that I am talking about your 25 mm eyepiece. There are lots of things one can learn about eyepieces to heighten your enjoyment of astronomy, but for right now, that's all you need to know:

High numbers = low powers
Low numbers = high powers

What's A Barlow Lens

Some telescope packages come with a Barlow lens, or you may have purchased one as an accessory for your telescope. A Barlow (capitalized because it's inventor is Peter Barlow) does not work on its own, but works in conjunction with an eyepiece to multiply the magnification of that eyepiece by a factor of 2 or more times. Most Barlows on the market today multiply by 2X, and it will be marked on the barrel of the Barlow just like the focal length is marked on an eyepiece. This means that if you have an eyepiece that provides 100X magnification through your telescope, that same eyepiece in the Barlow would magnify an object by 200X

Barlows are a super economical way to increase the number of magnifications you have available. For instance, three eyepieces and a Barlow lens would give you six different magnifications. To use a Barlow, insert it into your focuser or diagonal just as you would an eyepiece, and then insert your choice of eyepiece into the open end of the Barlow and tighten the thumbscrew.

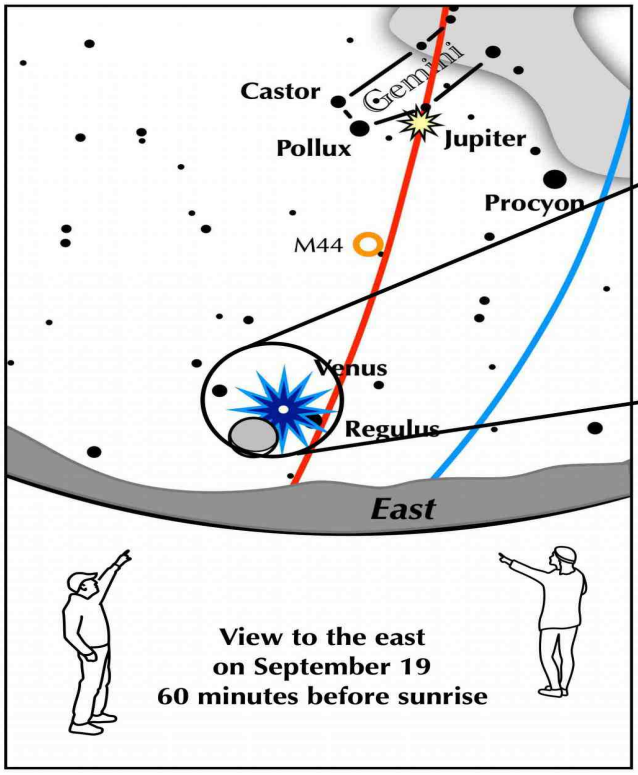
The best Barlow lens at the lowest price are available from Apertura!

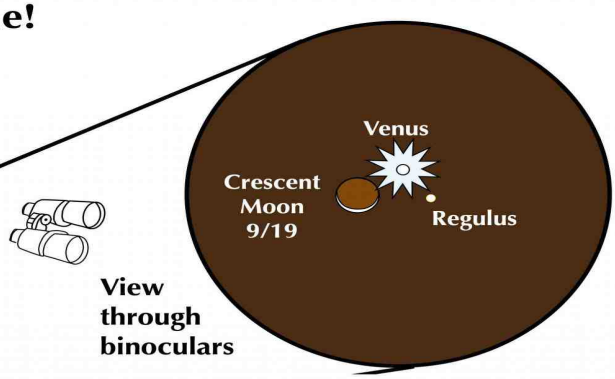
Nest Month

Next month the topic will be “Aligning and Using Your Finder Scope”.

September 19 Crescent Moon Meets Venus and Star Regulus 60 minutes before Sun Rise

If you can see only one celestial event in the morning this September, see this one!





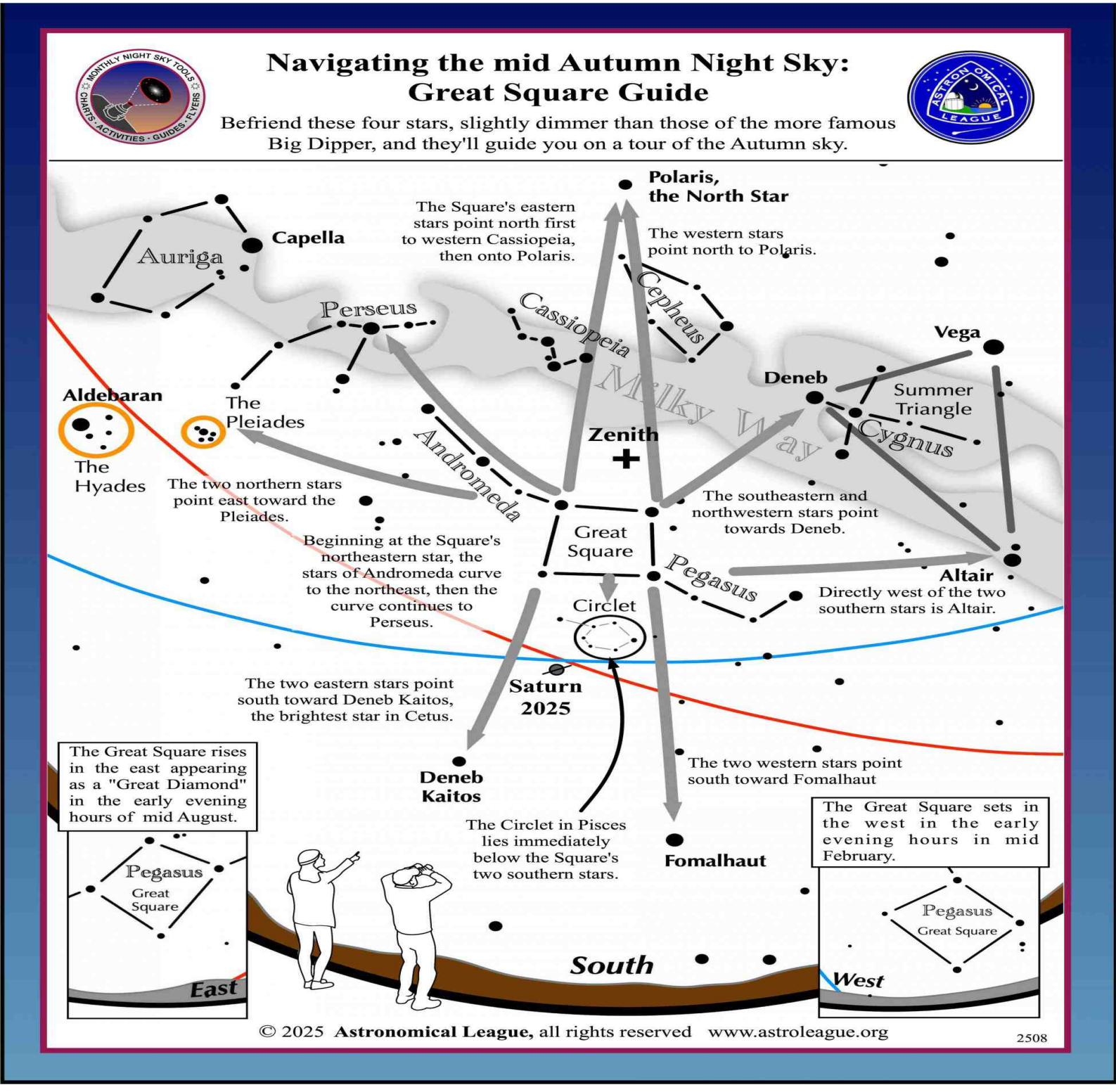
Crescent moon meets brilliant Venus and the star Regulus

On the morning of September 19, the crescent moon, full with earthshine, joins brilliant Venus and the brightest star in Leo, Regulus, for a dramatic sight. Look low in the east-northeast 60 minutes before sunrise.

Be sure to use binoculars to cleanly separate this celestial trio!

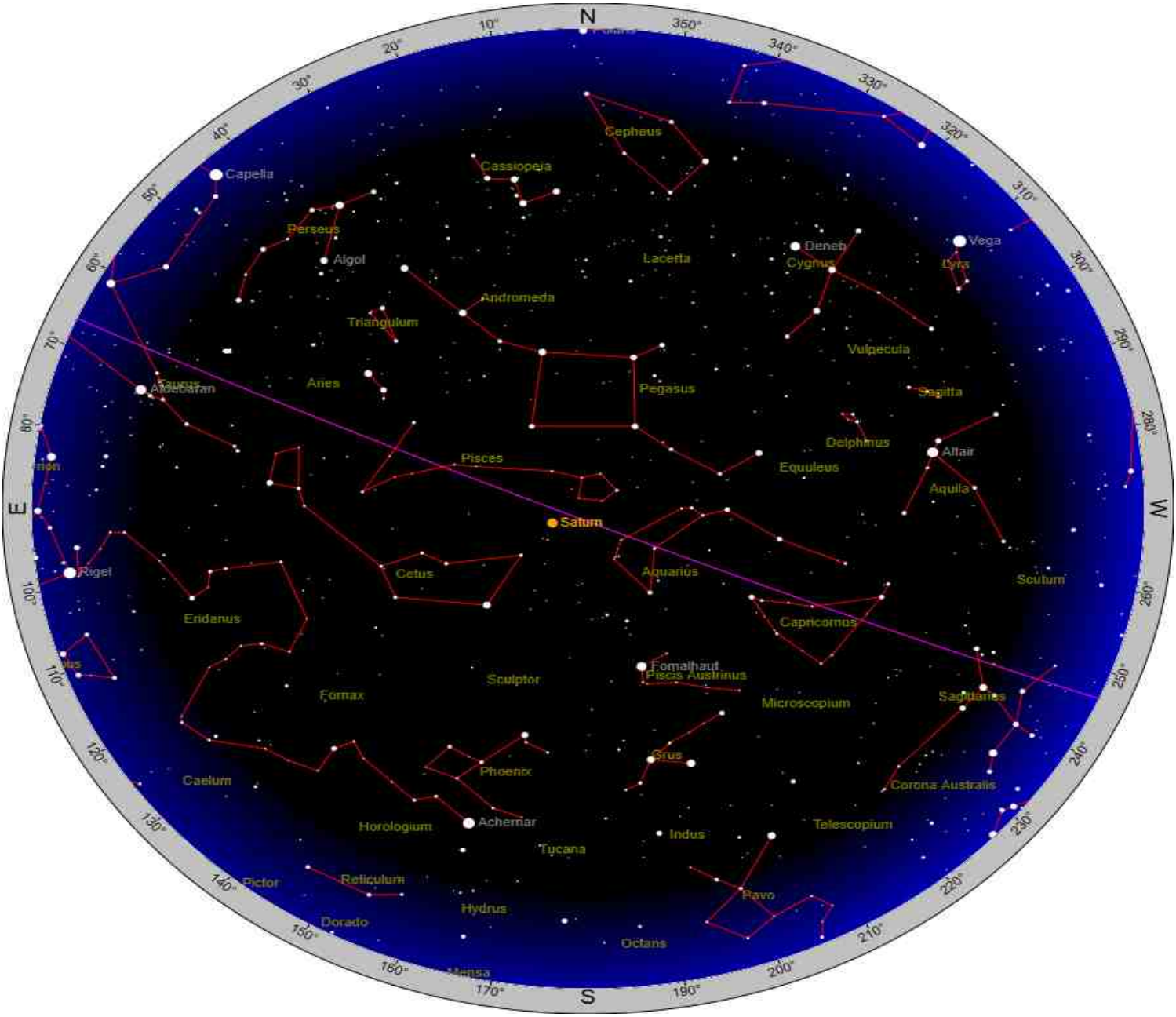
Above them all shines bright Jupiter, itself forming an attractive isosceles triangle with the twin stars of Gemini, Castor and Pollux. To their lower right shines the bright star Procyon.

The Great Square Guide



Sky Chart

Year: 2025 **Month:** September **Day:**15 **Hour:** 00 **Minute:** 00



Until next Month

Remember to always look up!