

ASTROFILES

Auburn Astronomical Society Newsletter

July 2021 *Newsletter Editor — John Wingard — jwin1048@gmail.com*

Moon Phases

- July 17 — First Quarter
- July 23 — Full Moon
- July 31 — Last Quarter
- August 8 — New Moon
- August 15 — First Quarter
- August 22 — Full Moon
- August 30 — Last Quarter
- September 6 — New Moon

Stay in touch with us



<http://www.auburnastro.org>



<https://www.facebook.com/groups/79864233515/>

News and events

After over a year of inactivity due to Covid restrictions, the AAS is finally resuming some of our activities. On Friday, July 16th, we were set to host a stargaze at the beautiful Central Alabama Community College campus in Alexander City, AL. This event was coordinated with a national/international “On The Moon Again” effort on the 52nd anniversary of the Apollo 11 flight which launched on July 16, 1969. Unfortunately, the weather did not cooperate and the event was cancelled, with the hopes that another similar event can be rescheduled in the near future, possibly later this fall. Many thanks to AAS member Mike Lewis who worked closely with the CACC staff to plan what we had hoped to be a fun-filled event for the visiting public. Even so, a lot was learned that can be applied to a future event.

While at the College the AAS was able to hold our first in-person club meeting earlier that afternoon. Again, many thanks to Dr. Jeremy Carr at CACC for arranging a very nice meeting room for us to use. It was great to finally see one another in person and catch up on what everyone has been doing since our last meeting. A number of administrative issues were discussed, one of which is the status of a club meeting location. With the recent passing of long-time member Dr. Rhon Jenkins, we have likely lost our access to a classroom on the AU campus. President Allen Screws mentioned a few possible meeting locations but nothing has been decided. We also have not determined a meeting schedule going forward. In the period before the Covid shutdown, we were meeting just 4 or 5 times per year, not every month.

Another item brought up during the meeting was the unveiling of our redesigned club logo. I have already included it in the new

(Continued on next page)

header at the top of the newsletter. We initially begin discussing a revamping of the club logo last year, primarily because the image files that we had were not conducive to being reproduced in a large size at high resolution. The club has also needed some sort of banner or signage that can be displayed at our outreach events. AAS Mike Lewis volunteered to take on the redesign project. But first, we wanted to try to get in touch with Keith Hudson who actually started the club and designed the original logo back in 1980. After a couple of e-mails, we located Keith and brought him into the discussion on how best to go about the project. Initially, we just wanted to recreate the old design as-is using new graphic design software that would give us an image file that could be reproduced at any desired size. However, after discussing it with Keith, we began to think of ways to make it more attractive and appealing while keeping the basic concept of the original in mind. After several iterations, we finally arrived at a final design. Again, most of the work was done by Mike Lewis in conjunction with a graphic designer. After the logo design was finalized, the club authorized and purchased a large, portable “sandwich” sign board which has the club logo on both sides. It can be displayed wherever we have an outreach event.



AAS President Allen Screws unveils the newly designed club logo at our meeting at the CACC on July 16, 2021.



The “sandwich” display board that the club has purchased featuring the new club logo on both sides. It is portable and can be easily displayed at all of our outreach events.

Other club meeting items

We also had a special guest speaker at our meeting , Dr. John Caldwell from nearby Dadeville, AL. He has done a lot of very interesting research into an article that was published in the November 1987 issue of Sky & Telescope magazine. The article was written by Donald Olson in the Department of Physics at Southwest Texas State University. The article's title was "The Tide at Tarawa." Tarawa is a remote atoll located in the Pacific Ocean about mid-way between Hawaii and Papua New Guinea. It is now part of the Republic of Kiribati.

During WWII it was a critical stepping stone as U.S. forces advanced against the Japanese in that region of the world. The U.S. Marines had planned an amphibious landing on November 20, 1943. Since Tarawa is surrounded by a coral reef just under the surface, the height of the tides at the chosen time were critical to allow the various landing craft to reach the shore. However, due to a somewhat rare phenomenon that was not well understood at the time, the tide levels were not as high as predicted and resulted in many of the landing craft running aground on the reef, forcing the soldiers to leave the vessels and wade towards the shore. This brought them under heavy enemy fire ultimately resulting in the loss of over a thousand men almost before they even reached the shore.

The focus of the S&T article by Donald Olson was his analysis of the tides in that area based on specific characteristics in the Moon's orbit and how they influence the local tides in that particular area. As it turned out, the date that was picked for the initial assault was probably the worst choice they could have made as the tides conspired to thwart the invasion plans.

Dr. Caldwell discussed some very interesting work that has been done on Tarawa to retrieve the remains of many of the Marines that were hastily buried on the island during the assault.



Dr. John Caldwell presenting his research into the Battle of Tarawa and the analysis done by Donald Olson in his article in Sky & Telescope magazine.

More exciting news...

We were contacted recently by Rick Evans, the director of the W. A. Gayle Planetarium in Montgomery regarding a possible event that might be of interest to the AAS. A group from Maxwell AFB in Montgomery is interested in having a stargaze event on Friday, August 27, 2021. They would like for the AAS to come and participate. As it turns out, Maxwell AFB has a camp or retreat on Lake Martin and that is where they would like to hold the stargaze. As an incentive for us to come, they have offered overnight lodging for any AAS members so that they would not have to drive back home late at night at the conclusion of the event. We discussed this offer at our club meeting on Friday, July 16th and decided to accept their offer. Obviously there are details to be worked out and more complete information will be provided to AAS members as soon as they are known. The AAS has already done quite a few stargazes in the Lake Martin area the past few years so this will add to our list of events in that area.

If you can observe only one celestial event this month, consider this one:

**Southwest
75-90 minutes after sunset
on August 14**




**View through
10x50 binoculars**

**The Scene:
First quarter Moon
approaches a wide double star**

Look to the southwest 75-90 minutes after sunset on August 14.

- The almost first quarter Moon will be found hanging in the darkening twilight.
- People with good eyesight should be able to spot Alpha Librae – Zubenelgenubi – to the Moon's immediate lower left.
- Aim binoculars at the Moon. Zuben will be seen as being a double star with its dimmer component slightly closer to the Moon than the brighter one.

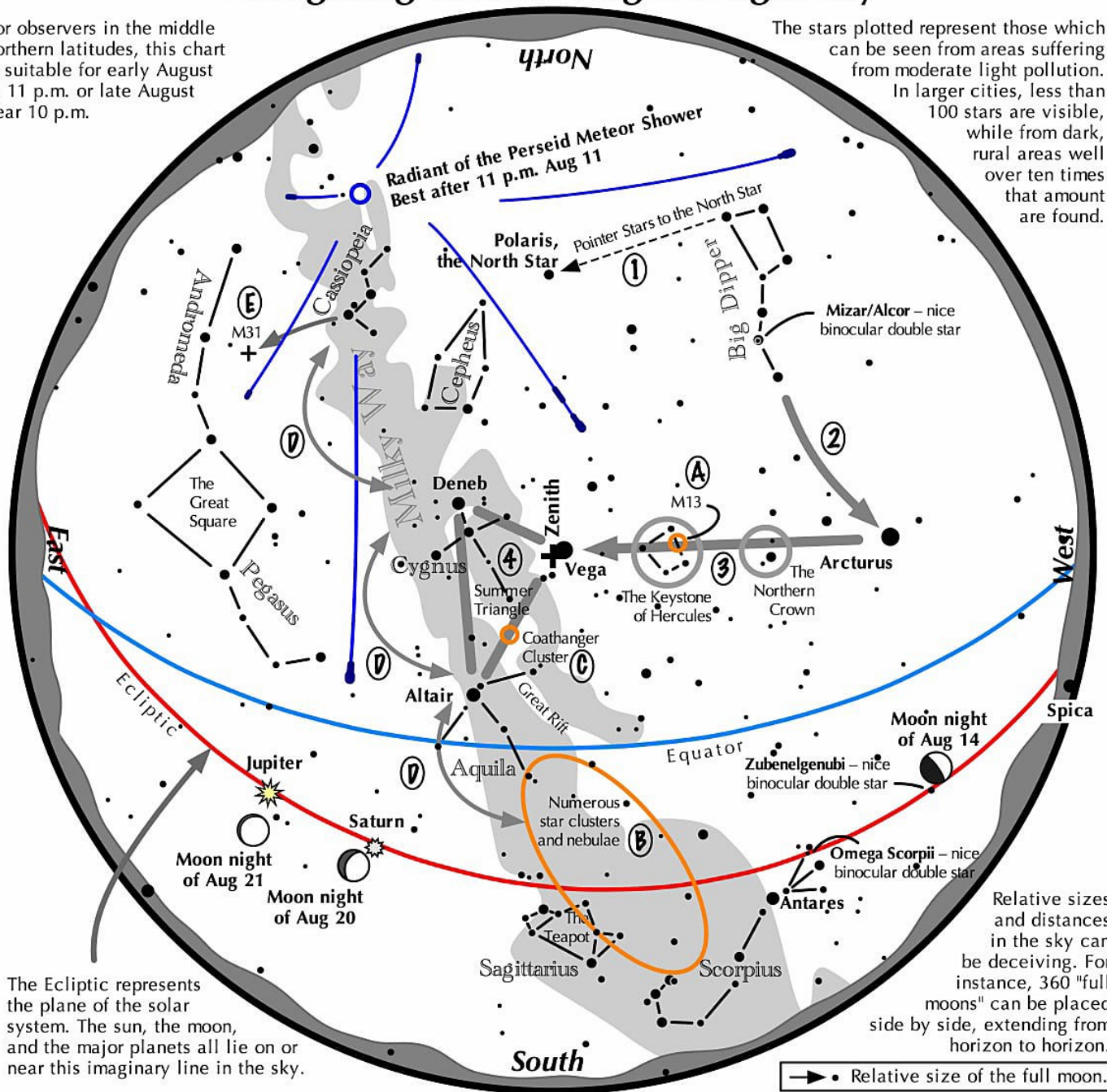
Zubenelgenubi? Practice saying it:
Zube - en - el - gen - ubi

Navigating the mid August Night Sky

For observers in the middle northern latitudes, this chart is suitable for early August at 11 p.m. or late August near 10 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 mid August 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 June 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 High in the East lies the summer triangle stars of Vega, Altair, and Deneb.

Binocular Highlights

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





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 night-sky.jpl.nasa.gov to find local clubs, events, and more!

Corner the Great Square of Pegasus

David Prosper

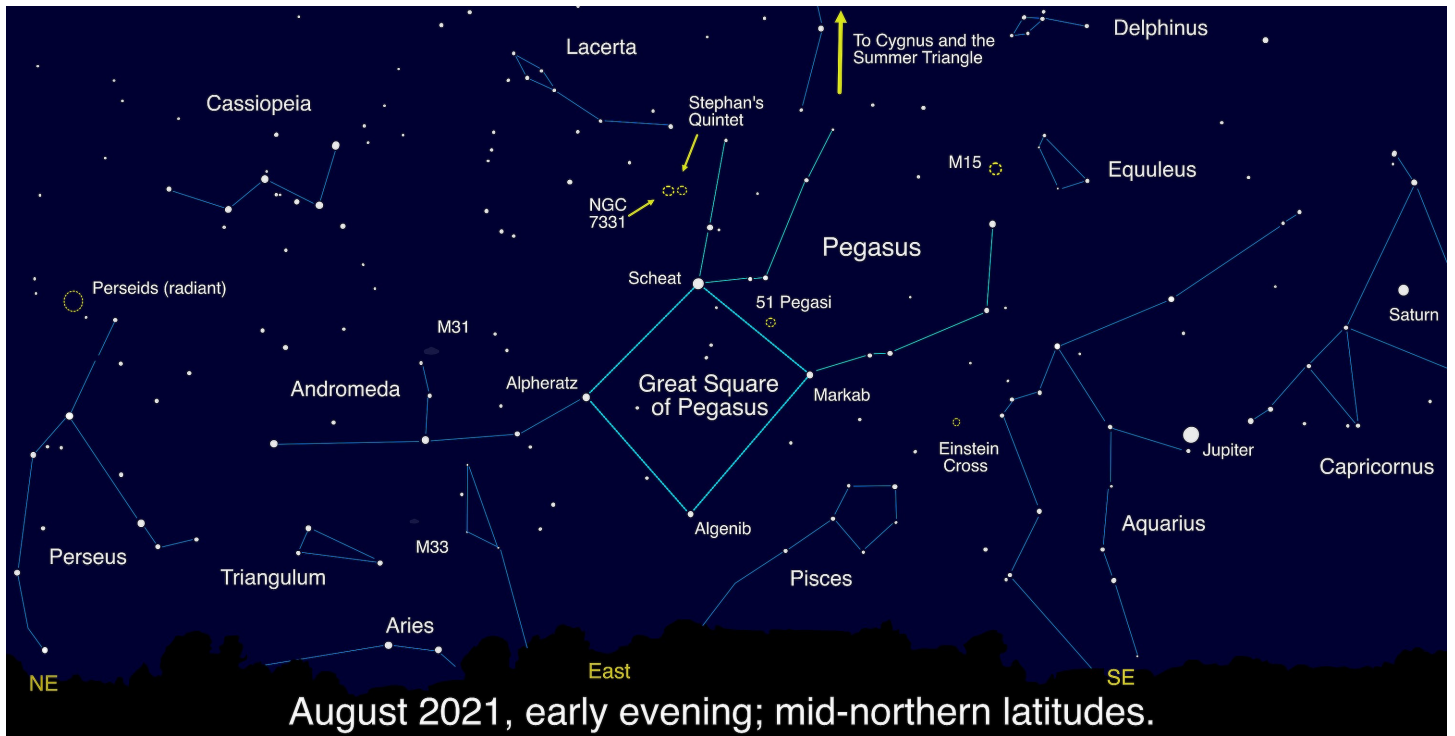
The Summer Triangle may be the most famous seasonal star pattern, but during early August evenings another geometrically-themed asterism rises: the Great Square of Pegasus. This asterism's name is a bit misleading: while three of its stars - Scheat, Markab, and Algenib - are indeed found in the constellation of the winged horse Pegasus, its fourth star, Alpheratz, is the brightest star in the constellation Andromeda!

August evenings are an excellent time to look for the Great Square, as it will be rising in the east after sunset. If not obvious at first, wait for this star pattern to rise a bit above the murky air, and remember that depending on your point of view, it may appear more like a diamond than a square. Look for it below the Summer Triangle, or to the southeast of nearby Cassiopeia at this time. As the Great Square rises in prominence during autumn evenings, it becomes a handy guidepost to finding more constellations, including some of the dimmer members of the Zodiac: Aries, Pisces, Aquarius, and Capricornus. Like the Summer Triangle, the Great Square of Pegasus is also huge, but Pegasus itself is even larger; out of the 88 constellations, Pegasus is 7th in size, and feels larger as the stars in its neighboring constellations are much dimmer.

There are many notable deep-sky objects found within the stars of Pegasus - ranging from easily spotted to expert level targets - making it a great constellation to revisit as your observing skills improve. Notable objects include the densely-packed stars of globular cluster M15, a great first target. The potential "Milky Way look-alike" galaxy NGC 7331 is a fun target for more advanced observers, and expert observers can hop nearby to try to tease out the much dimmer interacting galaxies of Stephan's Quintet. A fascinating (but extremely difficult to observe) object is a gravitationally-lensed quasar famously known as the Einstein Cross. Pegasus has quite a storied history in the field of exoplanet research: 51 Pegasi was the first Sun-like star discovered to be host to a planet outside our solar system, now officially named Dimidium.

While observing Pegasus and its surroundings, keep your eyes relaxed and ready to catch some Perseids, too! August 2021 promises an excellent showing of this annual meteor shower. The crescent Moon sets early on the evening of the shower's peak on August 11-12, but you can spot stray Perseids most of the month. If you trace the path of these meteors, you'll find they originate from one point in Perseus - their radiant. Giant planets Jupiter and Saturn will be up all evening as well. Look south - they easily stand out as the brightest objects in the faint constellations Aquarius and Capricornus.

Pegasus truly holds some fantastic astronomical treasures! Continue your exploration of the stars of Pegasus and beyond with NASA at nasa.gov.



While the stars of the Great Square of Pegasus are not as bright as those of the Summer Triangle, they still stand out compared to their neighbors, and make a great foundation for exploring this area of the night sky. Note that the brightness of the stars near the horizon is exaggerated in this picture.



Stephan's Quintet is one of the most famous deep-sky objects in Pegasus. First discovered in 1877, it contains the first galaxy group discovered (which includes 4 of the 5 galaxies making up the Quintet) – and has been studied extensively ever since. One day this group will merge into one supergalaxy! While famous, these galaxies are hard to spot in all but the largest backyard telescopes – but are a favorite target of astrophotographers. Take a virtual flyby of these galaxies with a tour created from Hubble data at: bit.ly/quintet_flyby



Auburn Astronomical Society Membership Application Form

Name:

Address:

City: _____ State: _____ Zip: _____

Phone: _____ Date of Application* ____/____/____

E-mail:

Telescope(s):

Area(s) of special interest:

Enclose: \$20.00 for regular membership, payable in January. *Full-Time* student membership is half the Regular rate.

* For NEW members joining after January, refer to the prorated Dues Table below:

Jan \$20.00	Feb \$18.33	Mar \$16.66	Apr \$14.99	May \$13.33	Jun \$11.66
Jul \$10.00	Aug \$8.33	Sep \$6.66	Oct \$4.99	Nov \$2.33	Dec \$1.66

Make checks payable to: Auburn Astronomical Society and return this application to:

Auburn Astronomical Society
c/o John Wingard, Secretary/Treasurer
#5 Wexton Court
Columbus, GA 31907

For questions about your dues or membership status, contact: jwin1048@gmail.com

Thank you for supporting the Auburn Astronomical Society