

ASTROFILES

Auburn Astronomical Society Newsletter

January 2021 Newsletter Editor — John Wingard — jwin1048@gmail.com

Moon Phases

January 25 — Last Quarter
February 1 — New Moon
February 8 — First Quarter
February 16 — Full Moon
February 23 — Last Quarter
March 2 — New Moon
March 10 — First Quarter
March 18 — Full Moon

News and events

We hope that everyone had a good holiday season in 2021 and is looking forward to a better 2022. It may be a little too early to say for sure, but hopefully the COVID wave will be over soon. We are looking at the possibility of trying to resume having an in-person meeting in late February to coincide with a planned club stargaze at the Heaven Hill site near Alexander City, AL. We would also like to hear from the membership for other suggestions for club meeting locations as well as ideas for meeting programs.

Our scheduled stargaze at Kiesel Park on January 29th was cancelled due to the anticipated low temperatures. We have tentatively rescheduled that event for Friday, March 4, 2022 with an alternate date of Friday, April 8, 2022. The temperatures should be more pleasant by then.

As was noted in the most recent e-mail reminder, the club now has a dedicated Gmail account for use for newsletter distribution and other club-related communications. It is: auburnastro@gmail.com. You can use it to contact me or still use my email address above in the header. I'll get it either way.

Many thanks to those that have already sent in their 2022 dues, but if you have not done so yet it's not too late. An application is always attached at the end of each newsletter along with the information on where to mail it. I am still working on setting up a way to pay club dues online using PayPal.

Stay in touch with us



<http://www.auburnastro.org>



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



The AAS would like to welcome the following new members to our group:

Arnold Nelson—Pensacola, FL

Scott Thompson—Auburn, AL

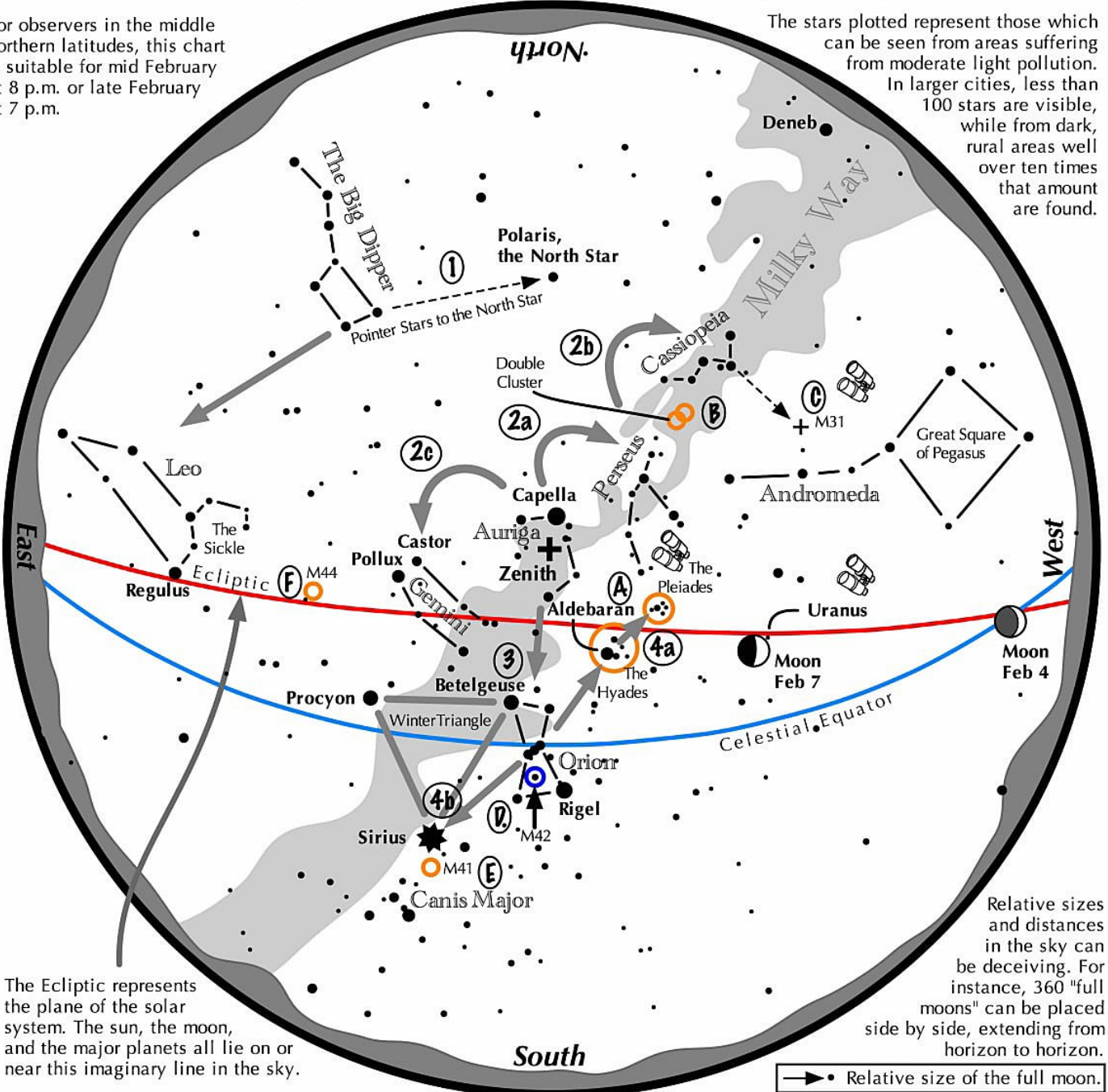
Alice/Randy Smith—Auburn, AL

Mark Kribel—Tallahassee, AL

Navigating the mid February Night Sky

For observers in the middle northern latitudes, this chart is suitable for mid February at 8 p.m. or late February at 7 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 February night sky: Simply start with what you know or with what you can easily find.

- 1 Above the northeast horizon rise the Big Dipper. Draw a line from its two end bowl stars upwards to the North Star.
- 2 Face south. Overhead twinkles the bright star Capella in Auriga. Jump northwestward along the Milky Way first to Perseus, then to the "W" of Cassiopeia. Next jump southeastward from Capella to the twin stars of Castor and Pollux in Gemini.
- 3 Directly south of Capella stands the constellation of Orion with its three Belt stars, its bright red star Betelgeuse, and its bright blue-white star Rigel.
- 4 Use Orion's three Belt stars to point northwest to the red star Aldebaran and the Hyades star cluster, then to the Pleiades star cluster. Travel southeast from the Belt stars to the brightest star in the night sky, Sirius, a member of the Winter Triangle.

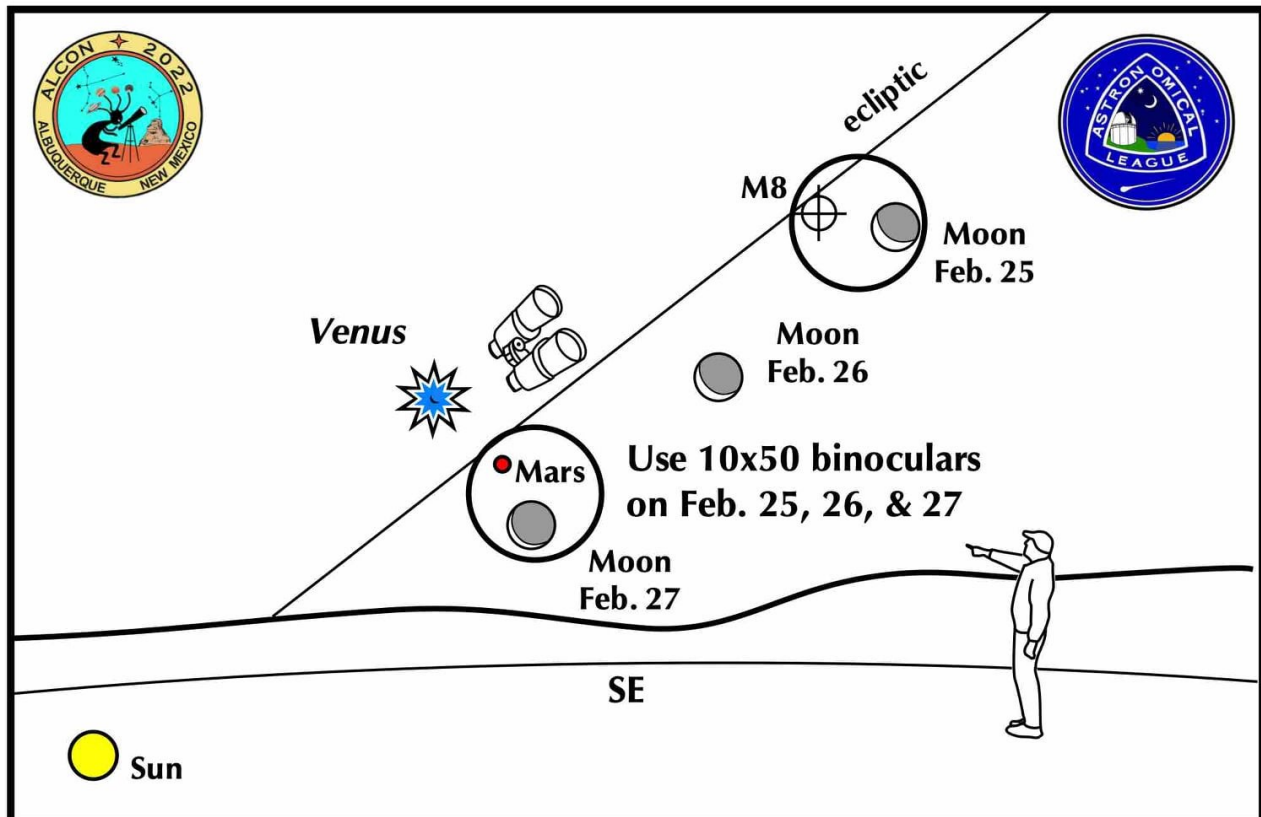
Binocular Highlights

- A: Examine the stars of two naked eye star clusters, the Pleiades and the Hyades.
- B: Between the "W" of Cassiopeia and Perseus lies the Double Cluster.
- C: The three westernmost stars of Cassiopeia's "W" point south to M31, the Andromeda Galaxy, a "fuzzy" oval.
- D: M42 in Orion is a star forming nebula. E: Look south of Sirius for the star cluster M41. F: M44, a star cluster barely visible to the naked eye, lies southeast of Pollux.



Astronomical League www.astroleague.org/outreach; duplication is allowed and encouraged for all free distribution.

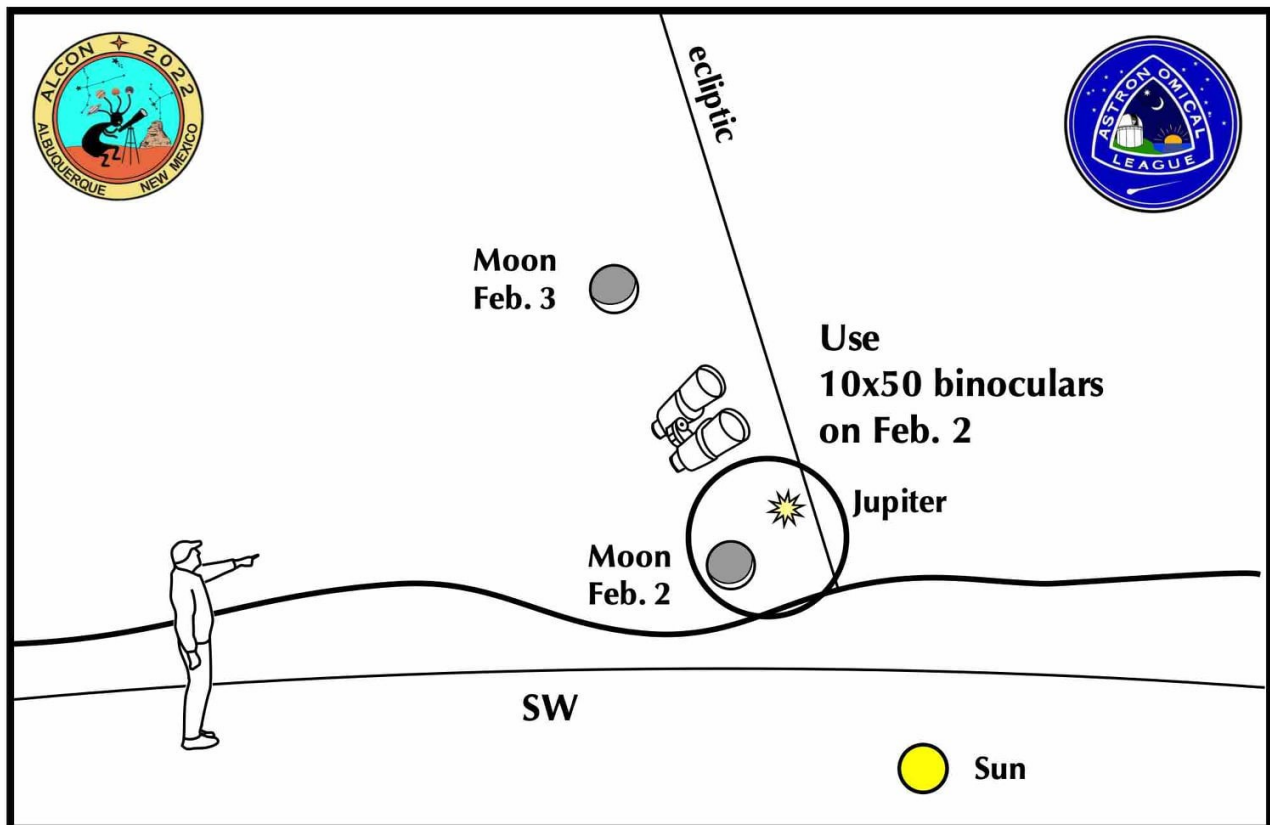
If you can see only one celestial event in the morning this February, see this one.



Crescent Moon passes Venus and Mars

- Look in the southeast beginning 60 minutes before sunrise on February 25-27.
- On Feb. 25 & 26, Venus shines brightly low above the southeastern horizon with the crescent moon glowing to its right.
- On Feb. 27, the very thin crescent moon lies to the lower right of Venus and the much dimmer Mars lies between them.
- Try spotting the star forming nebula M8 with binoculars. On the 25th, the moon and M8 are positioned on opposite sides of binocular field.

If you can see only one celestial event in the evening this February, see this one.



- Look in the southwest beginning 30 minutes after sunset on February 2.
- Jupiter shines low above the horizon with the very thin crescent moon glowing immediately to its lower left.
- The moon is 1.7 days past new for East Coast viewers, and 1.9 days for West Coast observers.
- This is a good opportunity to observe the moon and fulfill the "young moon" requirement for the Astronomical League's Lunar Observing Program.



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!

Hang Out with the Twins of Gemini

David Prosper

The night skies of February are filled with beautiful star patterns, and so this month we take a closer look at another famous constellation, now rising high in the east after sunset: Gemini, the Twins!

If you're observing Orion, as discussed in last month's article, then Gemini is easy to find: just look above Orion's "head" to find Gemini's "feet." Or, make a line from brilliant blue-white Rigel in the foot of Orion, through its distinct "Belt," and then on through orange Betelgeuse. Keep going and you will end up in between the bright stars Castor and Pollux, the "heads" of the Gemini Twins. While not actually related – these stars aren't bound to each other, and are almost a magnitude apart in brightness – they do pair up nicely when compared to their surrounding stars. Take note: more than one stargazer has confused Gemini with its next-door neighbor constellation, Auriga. The stars of Auriga rise before Gemini's, and its brightest star, Capella, doesn't pair up as strikingly with its second most brilliant star as Castor and Pollux do. Star-hop to Gemini from Orion using the trick above if you aren't sure which constellation you're looking at.

Pollux is the brighter of Gemini's two "head" stars - imagine it has the head of the "left twin" - and located about 34 light-years away from our Solar System. Pollux even possesses a planet, Pollux b, over twice the mass of Jupiter. Castor - the head of the "right twin" - by contrast, lies about 51 light-years distant and is slightly dimmer. While no planets have been detected, there is still plenty of company as Castor is actually a six-star system! There are several great deep-sky objects to observe as well. You may be able to spot one with your unaided eyes, if you have dark skies and sharp eyes: M35, a large open cluster near the "right foot" of Gemini, about 3,870 light-years away. It's almost the size of a full Moon in our skies! Optical aid like binoculars or a telescope reveals the cluster's brilliant member stars. Once you spot M35, look around to see if you can spot another open cluster, NGC 2158, much smaller and more distant than M35 at 9,000 light-years away. Another notable object is NGC 2392, a planetary nebula created from the remains of a dying star, located about 6,500 light-years distant. You'll want to use a telescope to find this intriguing faint fuzzy, located near the "left hip" star Wasat.

Gemini's stars are referenced quite often in cultures around the world, and even in the history of space exploration. NASA's famed Gemini program took its name from these stars, as do the appropriately named twin Gemini North and South Observatories in Hawaii and Chile. You can discover more about Gemini's namesakes along with the latest observations of its stars and related celestial objects at nasa.gov.



Castor and Pollux are Gemini's most prominent stars, and often referred to as the "heads" of the eponymous twins from Greek myth. In Chinese astronomy, these stars make up two separate patterns: the Vermillion Bird of the South and the White Tiger of the North. What do you see? The Night Sky Network's "Legends in the Sky" activity includes downloadable "Create Your Own Constellation" handouts so you can draw your own star stories: bit.ly/legendsinthesky

Image created with assistance from Stellarium.



Montage of Gemini North, located on Mauna Kea in Hawaii, and Gemini South, located on Cerro Pachón in Chile. These “twin” telescopes work together as the Gemini Observatory to observe the entire sky.

Image Credit: NOIRLab Source: <https://www.gemini.edu/gallery/media/gemini-northsouth-montage>



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
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