ASTROFILES

Auburn Astronomical Society Newsletter

June 2020 *Newsletter Editor — John Wingard — jwin1048@gmail.com*

Moon Phases

June 28 — First Quarter

July 5 — Full Moon

July 12 — Last Quarter

July 20 — New Moon

July 27 — First Quarter

August 3 — Full Moon

August 11 — Last Quarter

August 18 — New Moon

Stay in touch with us

http://www.auburnastro.org

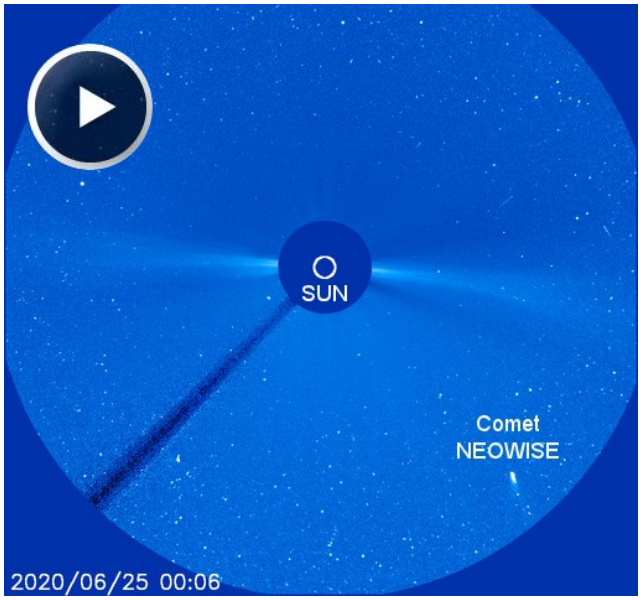
https://www.facebook.com/groups/79864233515/

Latest News and Events

We hope that everyone remains well and healthy as we continue to deal with the COVID-19 pandemic. As a club, we have been limited in our group activities but we do have tentative reservations at the Heaven Hill site near Alexander City, AL on the Saturday nights closest to the new moon. AAS member Mike Lewis has coordinated these dates with the Russell Lands people assuming that they do not have other events scheduled on those nights. Members must have their 2020 Russell Lands vehicle permits and will need to check in with Russell Lands Security by phone at 256-329-1511 upon arrival at the site. AAS members Mike Lewis and Allen Screws visited the site on Saturday, June 20. While there, Mike took this nice shot (below) looking westward towards the setting sun.

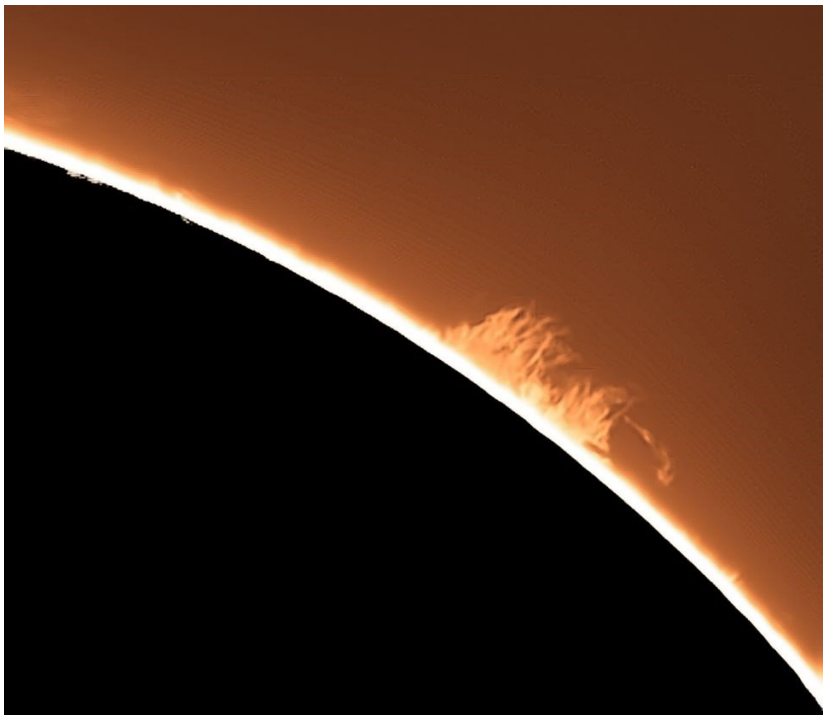
Another Potential Naked-Eye Comet Coming

Assuming it doesn't break up as it nears the Sun, comet NEOWISE (C/2020 F3) is rapidly approaching and will make it's closest approach to the Sun on July 3rd. It is expected to emerge from the Sun's glare in mid-July. If it survives this close encounter, it could then be visible as a first magnitude object. The comet is currently being tracked by the Solar Heliospheric Observatory (SOHO) satellite. The image below is from the SOHO on July 25, 2020 and shows the comet in the lower right field of view.



Great Image of Solar Prominence

AAS member Jay Hall continues to impress us with his photographs of the Sun. Here is another recent one showing some nice prominences erupting from the eastern limb of the Sun.



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

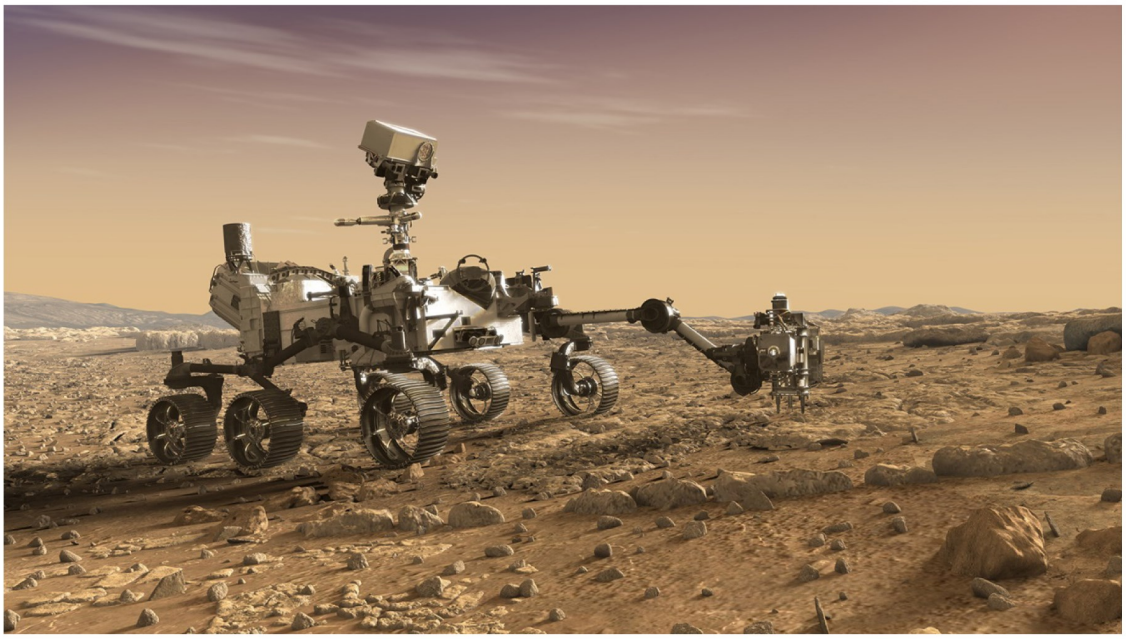
Mars's Latest Visitor: NASA's Perseverance Rover

NASA's latest Mars rover, Perseverance, is launching later this month! This amazing robot explorer will scout the surface of Mars for possible signs of ancient life and collect soil samples for return to Earth by future missions. It will even carry the first off-planet helicopter: Integrity. Not coincidentally, Perseverance will be on its way to the red planet just as Mars dramatically increases in brightness and visibility to eager stargazers as our planets race towards their closest approach in October of this year.

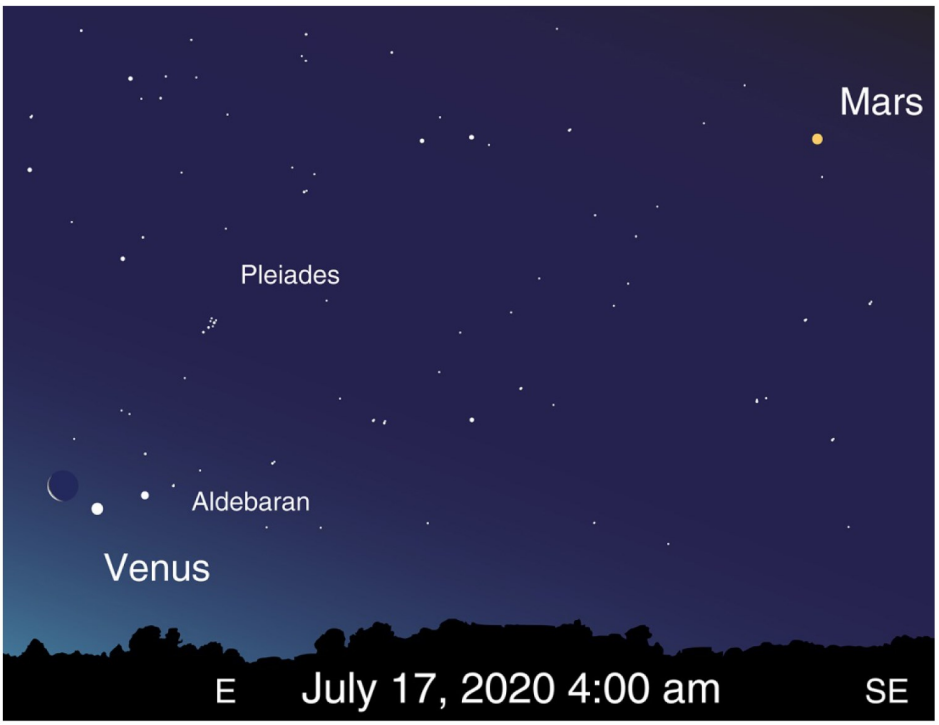
Perseverance's engineers built upon the success of its engineering cousin, Curiosity, and its design features many unique upgrades for a new science mission! In February of 2021, Perseverance will land at the site of an ancient river delta inside of Jezero Crater and ready its suite of seven primary scientific instruments. The rover will search for traces of past life, including possible Martian fossils, with WATSON and SHERLOC, two advanced cameras capable of seeing tiny details. The rover also carries an amazing instrument, SuperCam, to blast rocks and soil outside of the rover's reach with lasers to determine their chemical makeup with its onboard suite of cameras and spectrometers. Perseverance will also take core samples of some of the most promising rocks and soil, storing them for later study with its unique caching system. Future missions will retrieve these samples from the rover and return them for detailed study by scientists on Earth. Perseverance also carries two microphones so we can hear the sounds of Mars and the noises of its instruments at work. It will even launch a small helicopter - Ingenuity - into the Martian atmosphere as a trial for future aerial exploration!

Would you like to contribute to Mars mission science? You can help NASA's rover drivers safely navigate the Martian surface by contributing to the AI4Mars project! Use this tool to label terrain features on photos taken of the Martian surface by NASA missions to help train an artificial intelligence algorithm to better read their surrounding landscape: bit.ly/AI4Mars

The launch of Mars Perseverance is, as of this writing, scheduled for July 20, 2020 at 9:15am EDT. More details, updates, and livestreams of the event are available on NASA's official launch page: bit.ly/Mars2020Launch . Dig deep into the science of the Mars 2020 mission and the Perseverance rover at: mars.nasa.gov/mars2020/ . Find out even more about past, present, and future Mars missions at nasa.gov.

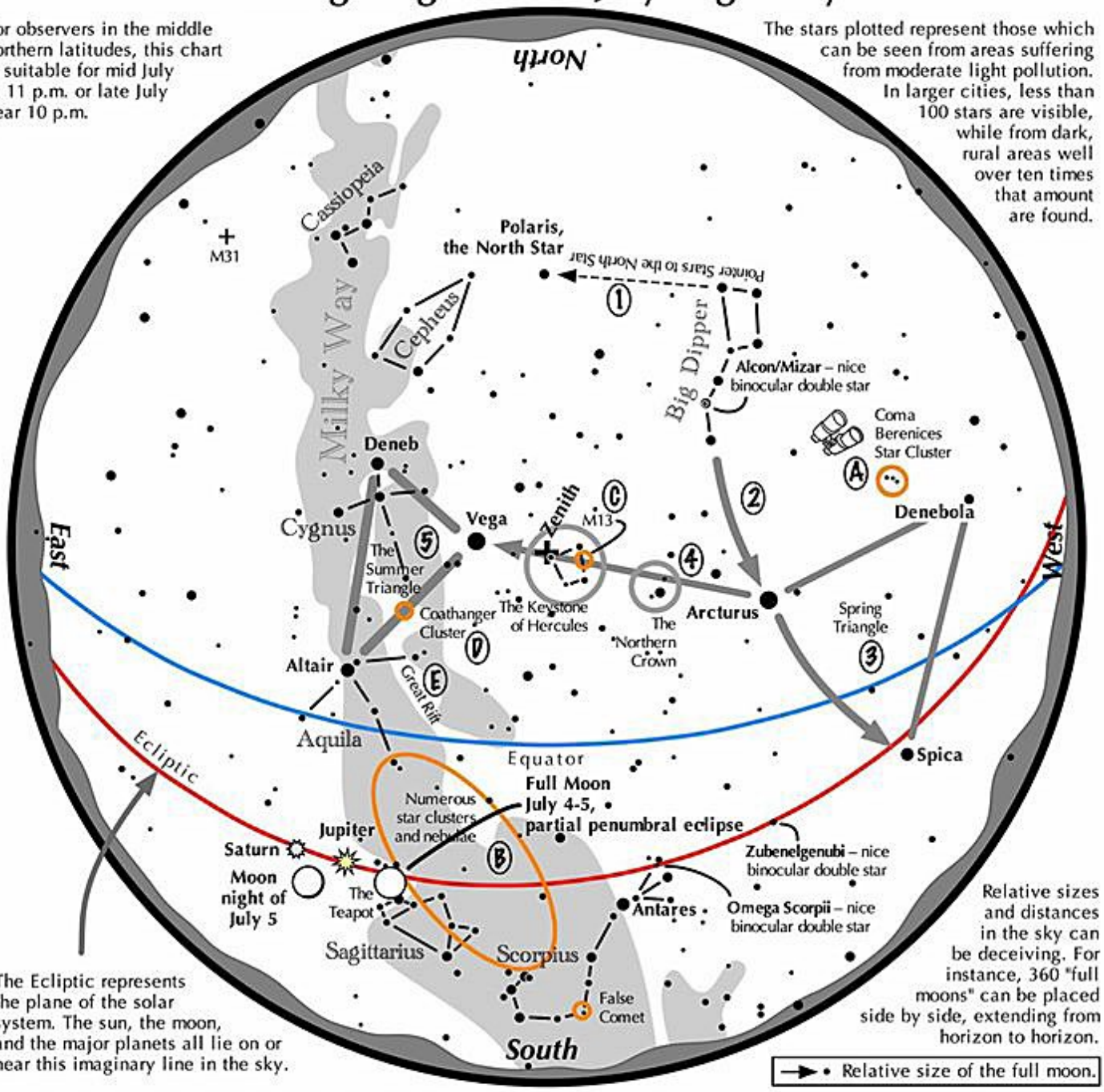


Perseverance inspects a cluster of interesting Martian rocks with its instruments in this artist rendering by NASA JPL/Caltech



Observe Mars yourself over the next few months! Mars can be found in early morning skies throughout July, and by the end of the month will rise before midnight. Mars gradually brightens every night until the close approach of Mars in October. The pre-dawn skies of July 17 present an especially nice view, as the waning crescent Moon will appear near Venus and Aldebaran.

Navigating the mid July Night Sky



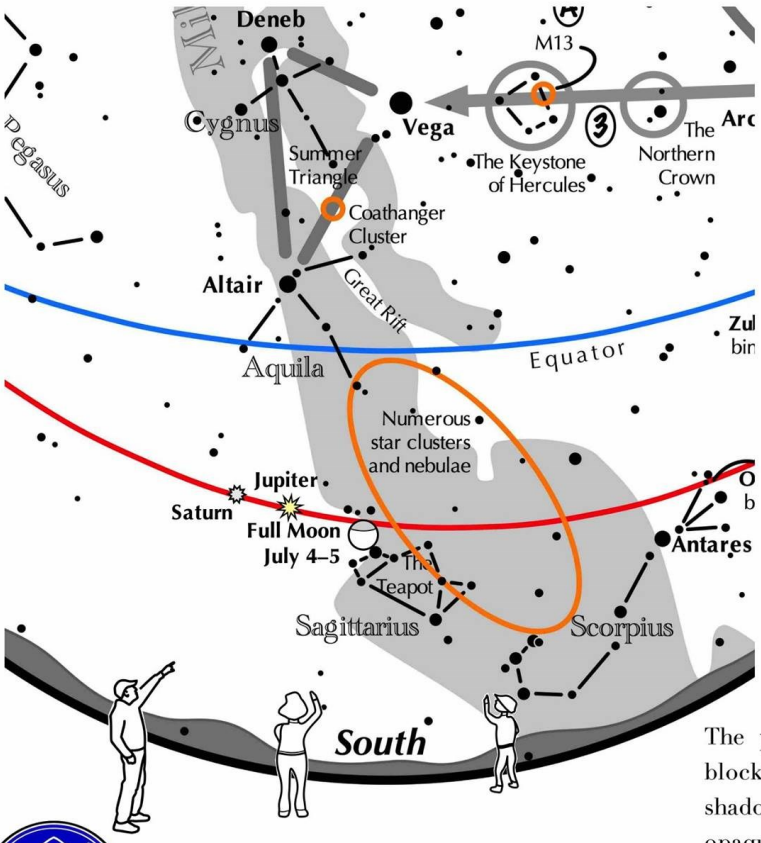
Navigating the mid July night sky: Simply start with what you know or with what you can easily find.

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 first intersects Arcturus, the brightest star in the July evening sky, then continues to Spica.
3. Arcturus, Spica, and Denebola form the Spring Triangle, a large equilateral triangle.
4. To the northeast of Arcturus shines another star of similar 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.
5. High in the East lies the Summer Triangle stars of Vega, Altair, and Deneb.

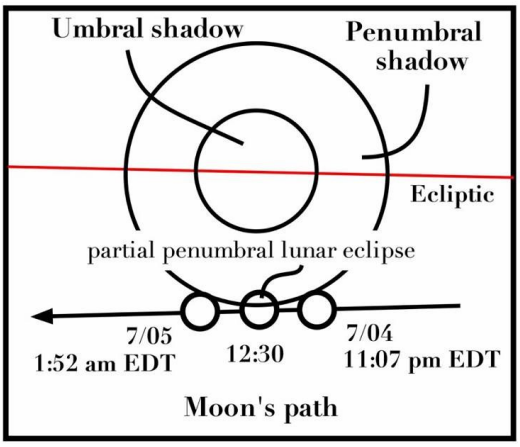
Binocular Highlights

A: Between Denebola and the tip of the Big Dipper's handle, lie the stars of the Coma Berenices Star Cluster.
B: Between the bright stars Antares and Altair, hides an area containing many star clusters and nebulae.
C: On the western side of the Keystone glows the Great Hercules Cluster, containing nearly 1 million stars.
D: 40% of the way between Altair and Vega, twinkles the "Coathanger," a group of stars outlining a coathanger.
E: Sweep along the Milky Way for an astounding number of faint glows and dark bays, including the Great Rift.

If you have a clear southern horizon on the night of July 4, try this challenge:



View to the south from July 4 at 11 pm through July 5 at 2 am EDT



The Moon slides through a partial penumbral eclipse

Two weeks after a solar eclipse, a lunar eclipse often occurs. June 20 saw a partial solar eclipse and on the night of July 4, a lunar eclipse follows. But it will be an unusual event in that it will be a partial penumbral eclipse.

The penumbral shadow is caused by an opaque body not blocking all the light from an illuminating body. As a result, the shadow isn't completely dark, only partially so. In this case, the opaque body is the Earth, the illuminating source is the sun.

On July 5 at 12:30 a.m. EDT, the penumbral shadow covers only the northern 1/3 of the lunar disk. It may not be an obvious sight. Can you spot it?

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.

If you are a NEW member joining after the first of the year, refer to the prorated 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!