ASTROFILES

Auburn Astronomical Society Newsletter

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

Moon Phases

January 20 — First Quarter

January 28 — Full Moon

February 4 — Last Quarter

February 11 — New Moon

February 19 — First Quarter

February 27— Full Moon

March 5 — Last Quarter

March 13 — New Moon

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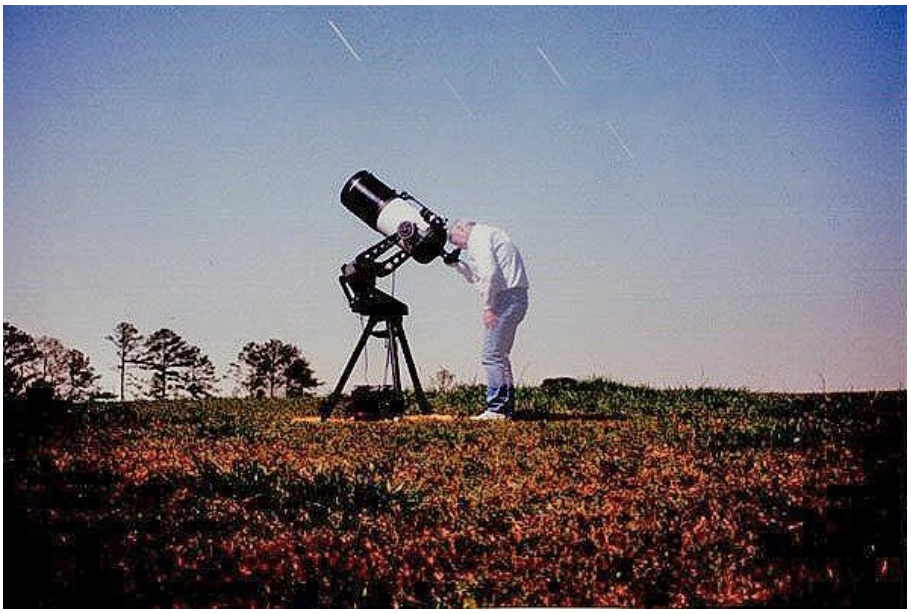
We remember Russell Whigham 1945 — 2021



As we enter into 2021, it has been almost one year ago that we first began to learn about a new virus that had been identified that had the potential to become a serious health threat to our nation. Little did we know at that time how serious that threat would ultimately become. Since then, the COVID-19 virus has totally changed not only our nation, but the entire world. Virtually everyone has either been affected personally by the virus or has friends or family members who have been. Some cases have been mild to moderate with full recoveries while many others have resulted in tragic losses of life. In the early days of 2021 the Auburn Astronomical Society was shocked and saddened to learn that one of our own, long-time member Russell Whigham, had contracted the virus and had ultimately passed away from its complications. For those that may not have known Russell, he was one of the original group that founded

the AAS back in 1980 in Auburn. Through the years since that time, Russell remained as one of the stabilizing and guiding forces in our organization. I think that he probably held every officer position in the club over the years. He also edited the monthly club newsletter *"Astrofiles"* for many years until I took it over a few years ago. Personally, I've only known Russell since I first joined the AAS six or seven years ago. I grew up in Auburn before I moved away to begin my career and I've been involved to some degree with amateur astronomy for 50-60 years now, but for reasons I cannot really explain, I only became involved with the AAS fairly recently. I definitely regret not becoming involved much earlier. Therefore, I feel somewhat unqualified to adequately describe what Russell really meant to the club. Many of you have known Russell far longer and are surely aware of his dedication and willingness to help those that were just starting out with this wonderful hobby. Personally, I began to work closely with Russell when I took over the responsibility of doing this newsletter after he had done it for so many years. Russell and I were also the two primary admins or moderators for the club's Facebook page. As a relative "newbie" to the club, I always valued his advice and guidance whenever I had questions and I will definitely miss that. Russell had a variety of interests beyond astronomy. He was also a member of the British Motoring Club in the Montgomery area and was the webmaster of their website. He often participated in their frequent motoring excursions throughout the area, one objective of which was to find the "perfect barbeque joint." The AAS will certainly miss him.

One person that has known Russell for many years is Rick Evans, the director of the W.A. Gayle Planetarium in Montgomery. In an eloquent posting on their Facebook page, Rick captured the essence and character of who Russell was and his impact on those in the amateur astronomy community. Here are his comments:

"The Planetarium is mourning the loss of one of its most ardent supporters, friend and colleague Russell Whigham. Russell was one of the original founders of the Auburn Astronomical Society (AAS) in 1980. His passion, knowledge and wit for anything and everything related to astronomy was infectious. Always the first to volunteer, Russell devoted countless hours to share his love of the night sky at an innumerable amount of "Star Parties" and special events. I often wonder how many people bought their first telescope as a result of what they experienced looking through one of Russell's scopes.

I first approached Russell in 1998 about the Planetarium and the AAS jointly hosting an Astronomy Day event at the Planetarium. Within hours of our conversation Russell had dozens of telescopes lined up for the event. Since that time, we have jointly hosted the annual event every year with only two exceptions (one for a tornado, and one for COVID). Russell mentored many young and old alike who had an interest in astronomy with his endless capacity to inspire others and his own enthusiasm about astronomy.

As I reflect on Russell's love of astronomy, I am struck by a remarkable parallel of who Russell was. Perhaps one of the humblest people I have ever met in my life, he shunned attention for his efforts and contributions, and often gave all the credit to others. Maybe that's why Russell loved to work in the dark.

Today my friend, let all who read this post know that all the credit does go to you. The lives you touched, the people you inspired to pursue their interests in science and astronomy will forever be grateful to you. Your legacy will long be remembered by us all."

Rick Evans, Director

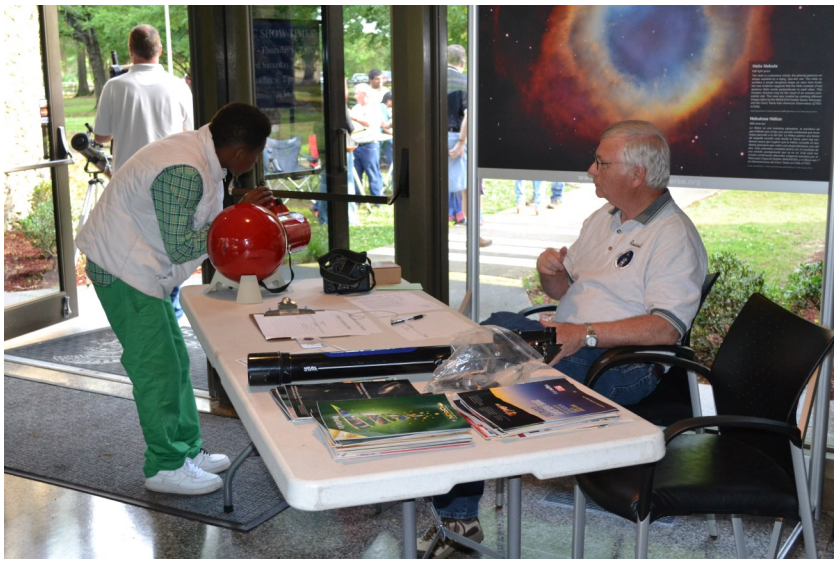
W.A. Gayle Planetarium

Remembering Russell Whigham

Above: Russell Whigham, then President of the AAS, at the dedication ceremony for the club's Moore's Meadow Observatory near Auburn on September 23, 1984. Unfortunately, due to a change in ownership of the property, the observatory had to be dismantled in 1988.

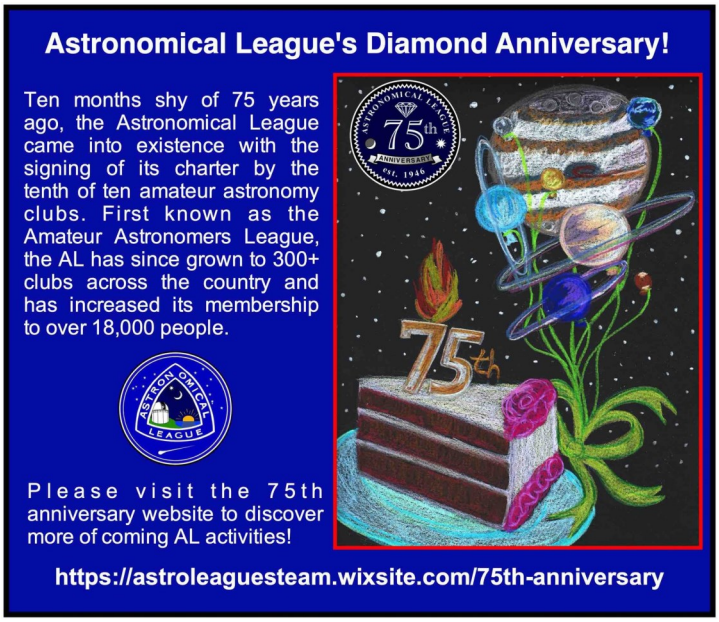
At left: AAS members Russell Whigham and Bob McGwier at the club observatory in 1985 when they were the first in the U.S. to spot the return of Halley's comet in the fall of that year.

Remembering Russell Whigham (Continued)



AAS Featured in local magazine article

AAS members Mike Lewis and Allen Screws were recently contacted by a staff member from Lake Martin Living magazine about providing information about stargazing in and around the Lake Martin area. They were interviewed by the writer of the article and provided information about the club and some of our activities. Mike also provided additional information and photos that he took during the recent conjunction of Jupiter and Saturn as well as Comet Neowise last year. The magazine issue containing the article was just recently published and resulted in some nice publicity for us. The photo below is the introductory photo for the article when Mike Lewis conducted a local star gaze for family and neighbors to view the Jupiter-Saturn conjunction. Thanks to Mike and Allen for helping to make this happen!



The Astronomical League is the national organization that represents amateur astronomy clubs throughout the U.S. The Auburn Astronomical Society is a participating club along with its dues-paying members. AAS members also receive the quarterly publication from the League, *"The Reflector."* They also offer many other benefits , services, and observing programs to amateurs, from beginners all the way to experienced observers. You can go to their website to learn about all of these great benefits and services.

The History of the Auburn Astronomical Society—A Request

While researching some of the history of the AAS and the contributions that Russell Whigham made to the organization, I quickly realized that much of the history of the club is scattered and is in danger of being lost if not collected and organized. Our old club website documented much of the club's early history and fortunately we were able to save most of it before switching over to a new website. However, this information needs to be cleaned up and preserved in a more secure form. As Secretary/Treasurer of the club, I also have some material that was pass on to me from the previous officer, but I would guess that there are other interesting items out there that would be worthy of being included in the club's history. I plan to begin to start doing that in the near future, but I would also like to ask any and all that have anything related to the early history of the club such as articles, photos, etc. to let me know what you have. I will be glad to scan or copy any of these items and return the originals to you or if possible, they can simply be emailed to me. When the project is completed, it can then be put on our new website and also archived properly. You can contact me at my e-mail address on the first page of the newsletter. Thank you!

The Auburn Astronomical Society would like to welcome our latest new member Sylvan Dyer from Auburn, AL.

A Reminder — It's time to renew your annual dues to the club

It's that time once again...time to renew your annual dues to the Auburn Astronomical Society. I've already received several renewals for 2021, so this is just a friendly reminder for everyone else. Our dues cycle runs from January 1 to December 31 and dues are only $20.00 for the year ($10.00 for full-time students). If you have never been a member of the AAS and would like to join, your dues can be prorated based on the month in which you join. Please refer to the membership application at the end of this newsletter to see the monthly prorated rates. Since we are currently not meeting in person, the best way is to fill out the membership application along with your payment to Auburn Astronomical Society and mail it to me at the address listed on the application. We thank everyone for their continued support of the club!

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!

Landing On Mars: A Tricky Feat!

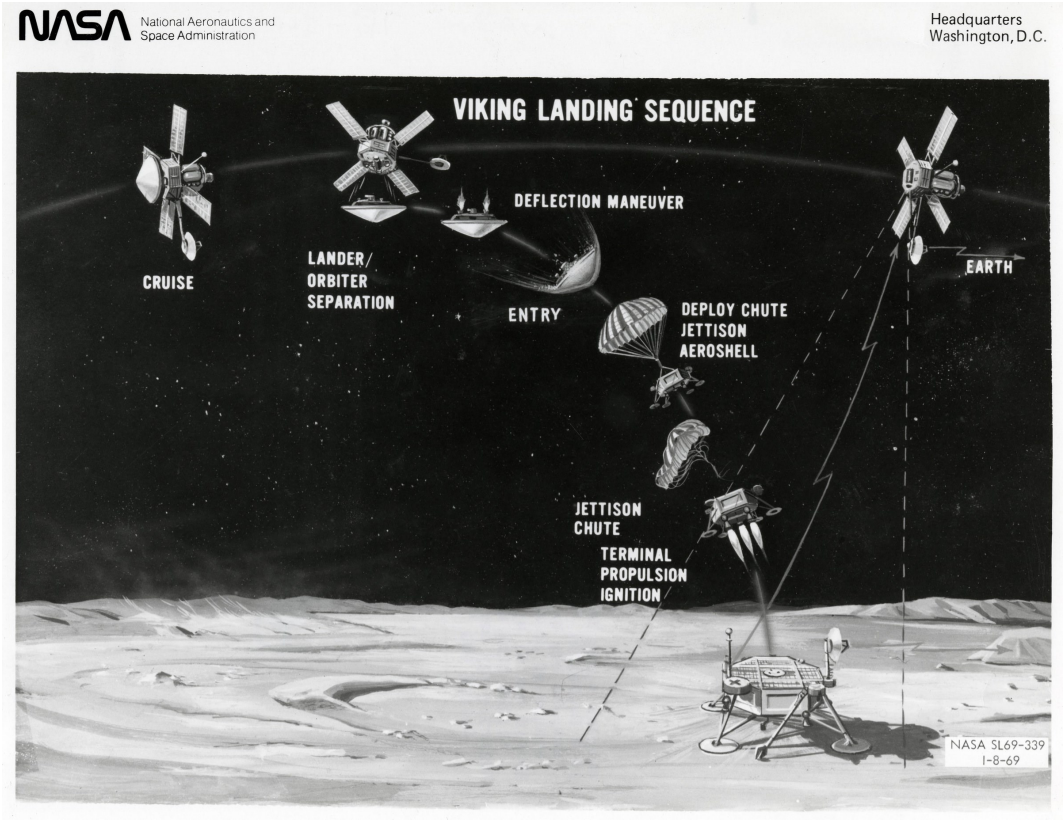
David Prosper

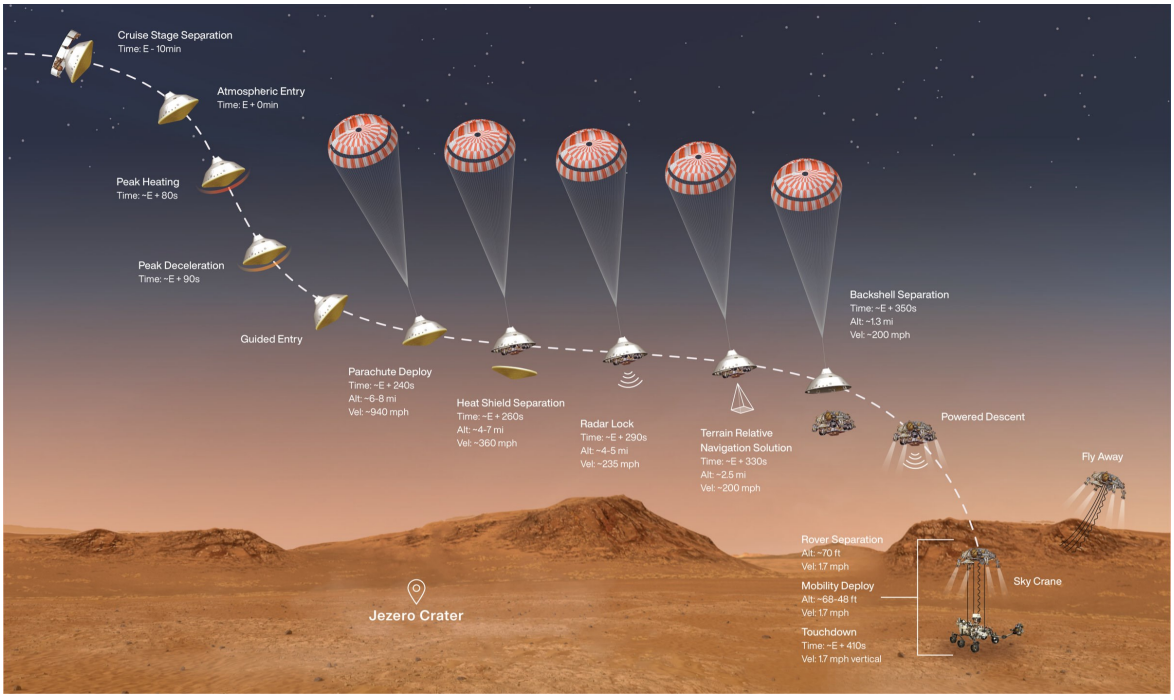
The Perseverance rover and Ingenuity helicopter will land in Mars's Jezero crater on February 18, 2021, NASA's latest mission to explore the red planet. Landing on Mars is an incredibly difficult feat that has challenged engineers for decades: while missions like Curiosity have succeeded, its surface is littered with the wreckage of many failures as well. Why is landing on Mars so difficult?

Mars presents a unique problem to potential landers as it possesses a relatively large mass and a thin, but not insubstantial, atmosphere. The atmosphere is thick enough that spacecraft are stuffed inside a streamlined aeroshell sporting a protective heat shield to prevent burning up upon entry - but that same atmosphere is not thick enough to rely on parachutes alone for a safe landing, since they can't catch sufficient air to slow down quickly enough. This is even worse for larger explorers like Perseverance, weighing in at 2,260 lbs (1,025 kg). Fortunately, engineers have crafted some ingenious landing methods over the decades to allow their spacecraft to survive what is called *Entry, Descent, and Landing (EDL)*.

The Viking landers touched down on Mars in 1976 using heat shields, parachutes, and retrorockets. Despite using large parachutes, the large Viking landers fired retrorockets at the end to land at a safe speed. This complex combination has been followed by almost every mission since, but subsequent missions have innovated in the landing segment. The 1997 Mars Pathfinder mission added airbags in conjunction with parachutes and retrorockets to safely bounce its way to a landing on the Martian surface. Then three sturdy "petals" ensured the lander was pushed into an upright position after landing on an ancient floodplain. The Opportunity and Spirit missions used a very similar method to place their rovers on the Martian surface in 2004. Phoenix (2008) and Insight (2018) actually utilized Viking-style landings. The large and heavy Curiosity rover required extra power at the end to safely land the car-sized rover, and so the daring "Sky Crane" deployment system was successfully used in 2012. After an initial descent using a massive heat shield and parachute, powerful retrorockets finished slowing down the spacecraft to about 2 miles per hour. The Sky Crane then safely lowered the rover down to the Martian surface using a strong cable. Its job done, the Sky Crane then flew off and crash-landed a safe distance away. Having proved the efficacy of the Sky Crane system, NASA will use this same method to attempt a safe landing for Perseverance this month!

You can watch coverage of the Mars Perseverance landing starting at 11:00 AM PST (2:00 PM EST) on February 18 at nasa.gov/nasalive. Touchdown is expected around 12:55 PM PST (3:55 PM EST). NASA has great resources about the Perseverance Rover and accompanying Ingenuity helicopter on mars.nasa.gov/mars2020 . And of course, find out how we plan to land on many different worlds at nasa.gov.



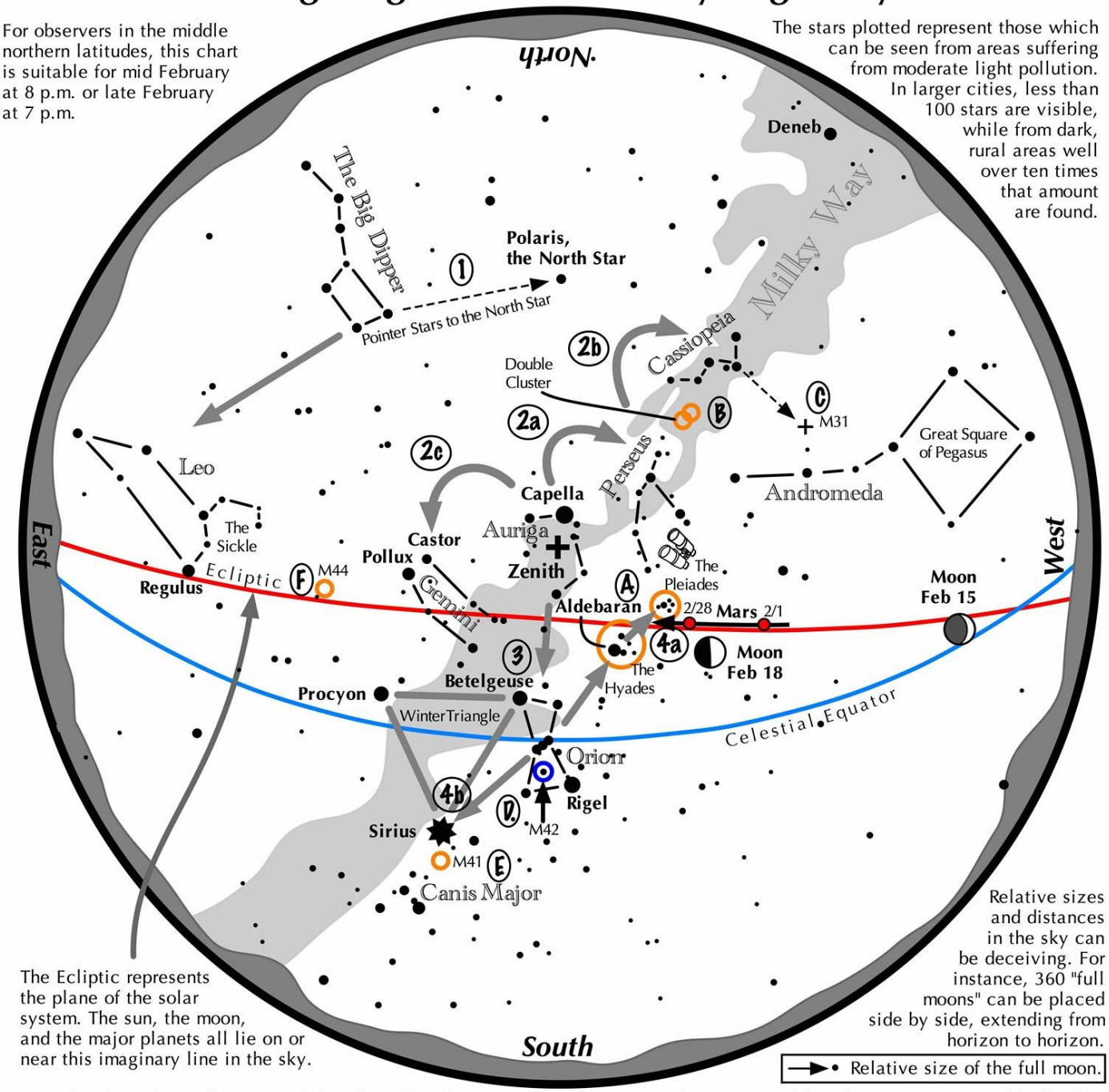


Illustrations of the Entry, Descent, and Landing (EDL) sequences for Viking in 1976, and Perseverance in 2021. Despite the wide gap between these missions in terms of technology, they both performed their landing maneuvers automatically, since our planets are too far apart to allow Earth-based engineers to control them in real time! (NASA/JPL/Caltech)

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 rises 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.

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!