

THE FLINT RIVER OBSERVER

July 2024

NEWSLETTER FOR THE FLINT RIVER ASTRONOMY CLUB

An Affiliate of the Astronomical League

Vol. 28 , No 7 July 2024

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Club Calendar:

FRAC Meeting:

Thursday, July 11, 2024 7:30 on Ellis Rd @ the UGA Gardens on Ellis Rd in Griffin and on Zoom. No presentation has been set yet, but please bring at least one of your favorite Astronomy books or guides to show the members.

Public Observing Events:

Friday, July 12 @ 8:45 at Indian Springs, weather permitting and July 13 @ 8:45 as the makeup date

Friday, July 26 @ 8:30pm at Lake Horton, weather permitting and July 27 being the makeup date

August 2 & 3 is the next club observing date for JKWMA . The gate will be lock, so please be sure to lock our combination lock on to the other keyed lock on the chain when the last person leaves for the night.

The lock code is 9321

Please be aware that Deer season opens on September 14th and there may be hunters on the grounds doing early scouting.

FRAC Members:

Last month's club meeting was a huge success. The vast majority of members brought their binoculars to display for the membership and we also had several to bring their Parallelogram mounts on tripods for display. If you are using binoculars for astronomy and especially large and heavy binoculars, a parallelogram can really make your evening much more enjoyable.



Selecting Binoculars:

By Alan Pryor

If it is an adult, and you want high magnification then you can go up to 25X, but you will need a tripod to keep it steady enough for viewing. Plus, they get heavy. Any magnification above 10 will need a tripod of some type.

For the high power binoculars the bigger the objective the better. It gathers more light.

For binoculars at 10X or lower you want an exit pupil of 5mm or more. Larger is better in general.

The exit pupil is equal to the objective size (mm) divided by the magnification.

For instance, 7x50 would have an exit pupil of 7.14mm. A young person can have an exit pupil of 7mm at night while older adults will only open to 4 or 5mm.

If the binocular's exit pupil is bigger than your eye's exit pupil then the extra light is wasted. It does not hurt the image though.

Another item to consider is the eye relief. That is the distance your eye has to be from the eyepiece to see a good image. 16mm is about ideal. Someone with glasses would be able to use the binoculars with their glasses on (usually). The eyepieces need retractable eyepiece cups. You can retract them while wearing glasses. You can have them in the extended position if no glasses are used. That will keep your eye near the eye relief point.

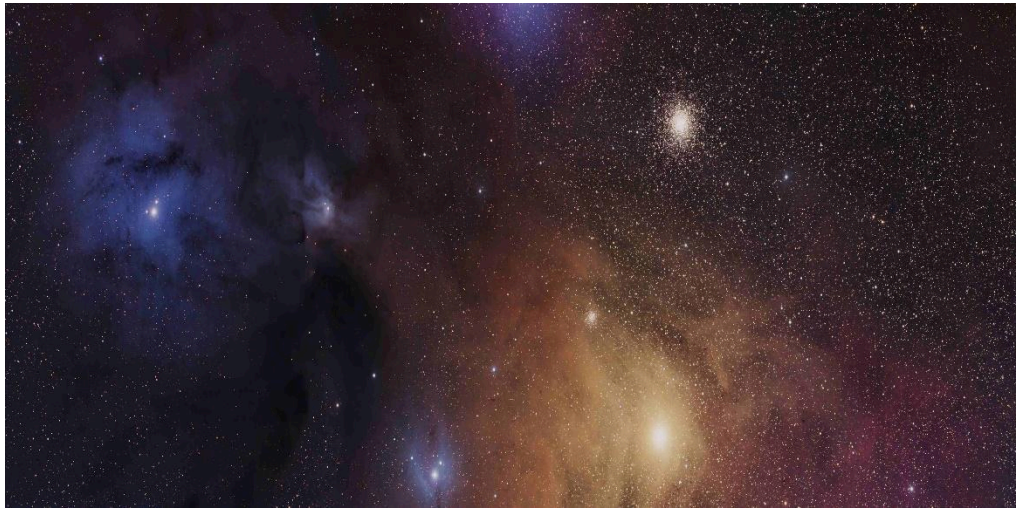
If you are wearing bifocals or progressive lens glasses then I would consider taking them off when the binoculars are in use. Those glasses are difficult to use with binoculars. The part of the image may be blurred on progressive lenses, and you just have to keep the line of bifocals out of the way.

The binoculars should have a diopter on one eyepiece that gives enough range so both eyes can be focused while looking through the binoculars while at close range and at far range.

I prefer binoculars that are sealed and filled with an inert gas. That will keep the binoculars from fogging internally if the weather is really cold.

If you buy a pair of binoculars it is best to look through them before you buy. If you buy them online then do the look through test and inspection immediately after receiving them. You can see if they will have the needed eye relief for your glasses. You test that the binoculars can be adjust their width to fit your eyes. Also, I have found that even the popular brands have been shipping some binoculars that were so out of collimation that you would see double regardless of who looked through them. If there is a problem then return them immediately.

I hope this helps.



Rho Ophiuchi Molecular Cloud by Alan Pryor

This is a photo of the Rho Ophiuchi cloud complex along with Antares. The complex is easy to find. Just look at the bright star Antares in Scorpius. The cloud complex extends northeast of Antares and into the constellation of Ophiuchus. On the left side of the photo is the reflection nebula, IC 4603. Moving to the right is a dark nebula. As you look farther to the right there is a small globular cluster, NGC6144. Above NGC 6144 and to the right is Messier 4, a larger globular cluster. Then below you see Antares, which is illuminating a portion of the Rho Ophiuchi cloud complex. Antares is a red supergiant. It is an irregular variable star with a diameter that is over 600 times the diameter of the sun. It is about 550 light-years from Earth. The Rho Ophiuchi cloud complex is in the foreground, and it is only about 450 light-years from Earth.

A full size image of this complex can be seen at [Rho_Ophiuchi](#)

Club observers at JKWMA for June were:

Joe Kurz June 7th and 8th:

The members that showed up on Friday night were Nelson Stevenson, Kathy Stevenson, Wade Simmons, George Ruff, Carlos Flores, Rosanne Stone and David Stone.

On Saturday night club members that showed were Carlos Flores, Wade Simmons, and David Stone.

Solar System Observing –July 2024

All month – Two easy-to-spot star clusters – M7, aka Ptolemy's Cluster, and M6, the Butterfly Cluster – are both located about 5 degrees east of the the bright stars that mark the "stinger" end of the scorpion's tail. They reach their highest point in the sky around 10 or 11 pm local time.

🌑 **July 2 & 3** – The crescent Moon will join Jupiter and Mars in the east before sunrise. Looking for them before the sky starts to brighten, you'll also find the Pleiades star cluster above Jupiter, and bright stars Capella and Aldebaran nearby.

🌑 **July 5** – New moon

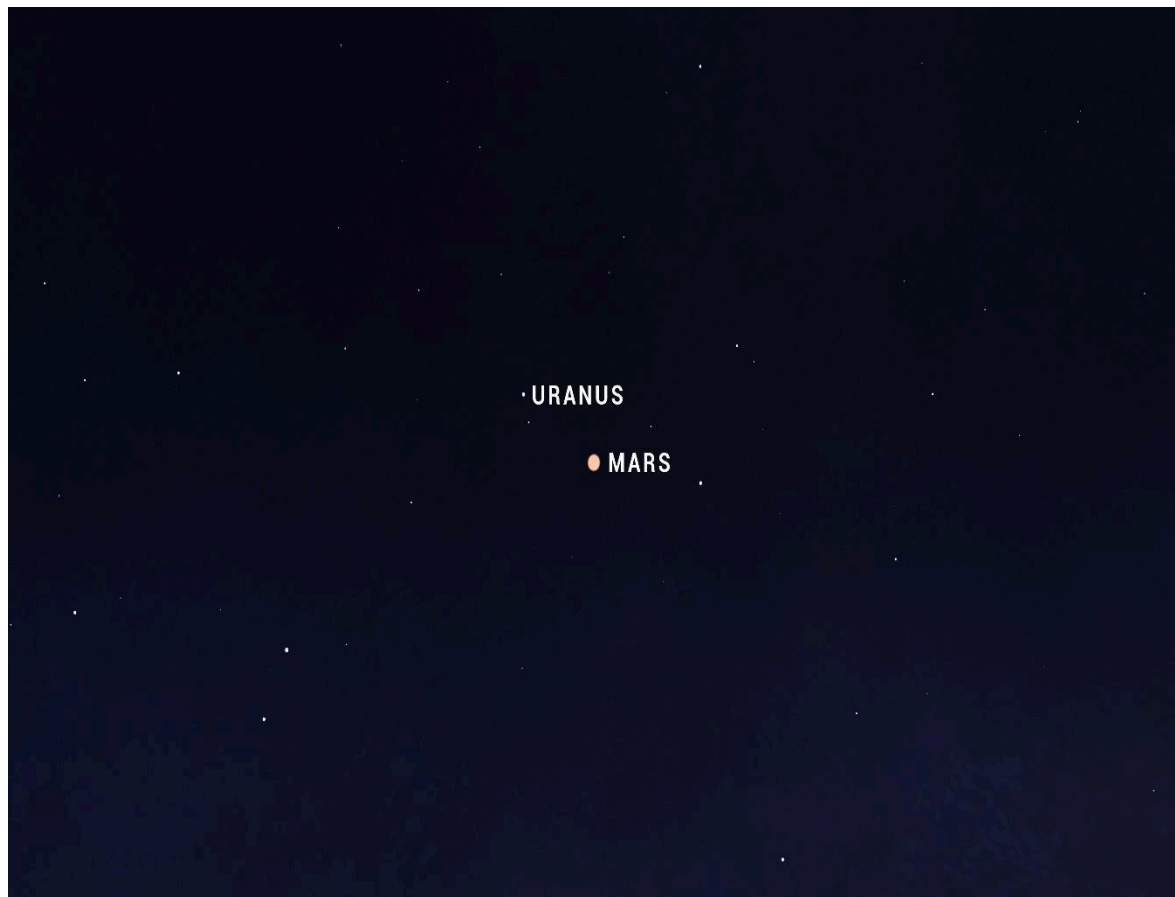
🌑 **July 7 & 8** – Those with an unobstructed view of the western horizon can spot Mercury shining brightly, low in the sky with a slim crescent Moon. Look for them starting 30 to 45 minutes after the Sun sets.

🌑 **July 13** – For the first few hours after dark, look to the southwest to find the first-quarter Moon snuggled up to bright bluish-white star Spica. For much of the lower 48 U.S. and most of Mexico, the Moon will appear to pass in front of Spica – an event called an occultation. Check your favorite skywatching app for the view from your location.

🌑 **July 14-16** – Grab your binoculars and have a look at Mars in the early morning before the sky starts to brighten, and you'll find the distant planet Uranus quite close by.

🌑 **July 21** – Full moon

🌑 **July 30** – Look for a close gathering of Jupiter, Mars, and the Moon with the bright stars of the constellation Taurus in the a.m. sky before dawn.

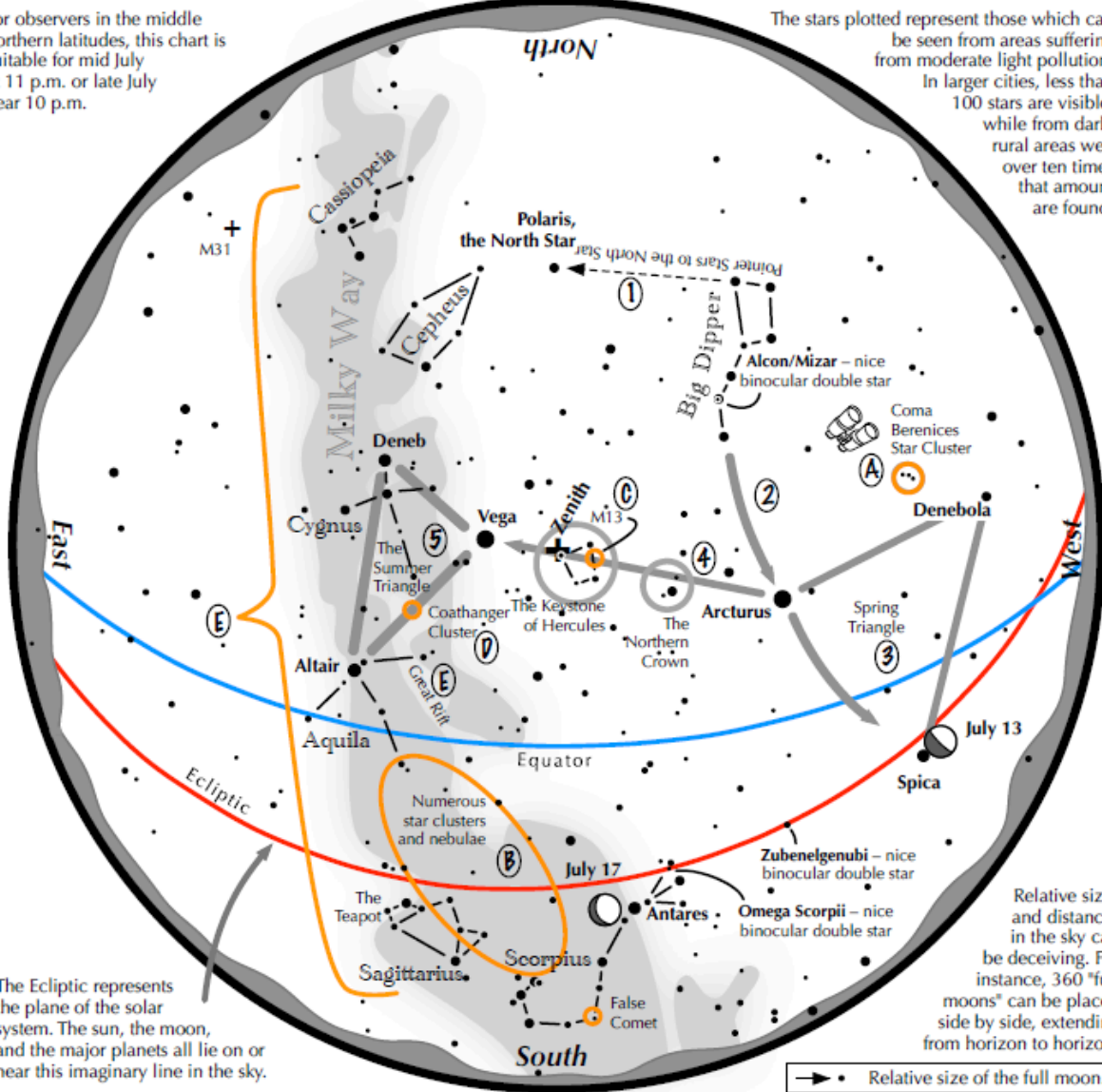




Navigating the mid July Night Sky

For observers in the middle northern latitudes, this chart is suitable for mid July at 11 p.m. or late July 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 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. Arcturus, Spica, and Denebola form the Spring Triangle, a large equilateral triangle.
- 3 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.
- 4 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.

