CAPE FEAR Skies

Monthly Newsletter
Cape Fear Astronomical Society
Serving Wilmington, NC and Surrounding Areas

Cape Fear Astronomical Society is a tax-exempt organization under Section 501(c)(3) of the Internal Revenue Code.

September 2023

President's Message

by Ben Steelman

Thanks to AVP Jon Stewart-Taylor for organizing August's excursion to the Ingram Planetarium in Sunset Beach. In all, we had about 18 members and guest turn out, and docent Marty Sirrah -- whose dad worked for NASA back in the Golden Age -- gave us a fine tour of the night sky.

After Labor Day, the planetarium will be moving to its fall-winter schedule, with dome shows at 11 a.m. and 3 p.m. Thursdays, Fridays and Saturdays. For full details, check out www.museumplanetarium.org

By the way, the planetarium is an affiliate of the Museum of the Coastal Carolinas at Ocean Isle Beach, which is also worth a detour if you're out that way.

The Society has been asked to participate in two public events. The Cape Fear Museum, at 815 Market Street, would like us to help out with International Observe the Moon Night (IOMN) on Oct. 21. As Karl Adlon pointed out that's the same night as our regular observing session at Carolina Beach State Park, which he plans to support. I'll point out that IOMN is an outstanding opportunity to reach out to kids and teens and maybe recruit some new young astronomers.

Similarly, the Air Force Recreation Area at Fort Fisher would like us to join in a Halloween celebration they're holding on Oct. 28. The facility serves the families of Air Force personnel, and as Jon pointed out, we've been there before.

We'll be discussing both events more, but as usual, anyone who can turn out and bring a telescope to share would be helping out tremendously.

Thank you, Mary, for having the above picture taken! - Editor Karl

Calendar

September 2023

Date – Event – Time

06 Last Quarter Moon

08 Club Observing @ Starfields (the Club Observatory); 7:00 PM; 3rd Quarter Moon

09 Club Observing @ Starfields (the Club Observatory); 7:00 PM; 3rd Quarter Moon

10 ★ Cape Fear Astro Monthly Meeting ★

CFAS Monthly Meeting - 7:00pm – 9:00pm

212 DeLoach Hall; UNCW

Also simulcast via Zoom

15 New Moon

15 Club Observing @ Starfields (the Club Observatory); 7:00 PM; New Moon

16 Club Observing @ Starfields (the Club Observatory); 7:00 PM; New Moon

22 First Quarter Moon

23 Equinox; September (northern autumn) equinox

23 Public Observing; 08:00 PM; Public Observing Session; starts at sunset; Carolina Beach State Park

29 Full Moon

Astro phenomena from:
https://www.universalworkshop.com/astronomical-calendar-any-year/

2023 Public Events

Watch this space for 2023 Public Events. If you haven't done one before, try one – you might like it!

September 23 – CBSP

October 21 - International Observe the Moon Night – Location TBD

October 21 – CBSP

CBSP = Carolina Beach State Park

2023 Monthly Meeting Dates *and Presentation*

September 10, 2023
Frank Rich on Eyepieces

October 8, 2023
Dr. Narcisa Pricope, UNCW Earth and Ocean Sciences; topic TBD

November 12. 2023
Cape Fear Astro History

December 10, 2023 (Date and time may change for Holiday Celebration)
Holiday Celebration (and annual meeting?)

Special Interest Groups (SIGs)

Usual meeting dates – watch emails for exceptions

Phenomena:	First Wednesday
Both Eyes:	Second Tuesday
Telescope Usage:	Third Tuesday
New Astronomer:	Third Wednesday
Outreach:	Fourth Tuesday

Observing in August

by Jon Stewart-Taylor

Good observing weather is hard to come by in SE NC, especially in summer. So we were very fortunate to get two nights in a row on our club-scheduled observing nights at Starfields. The forecast was for much better conditions on Saturday than on Friday. But, when Friday arrived, conditions looked pretty good.

I went to the observatory to do a little work, and to observe. First thing I tried was to mount the Atlas GEM mount on the cinder block piers. Apparently we need a how-to class, because I was not able to get the beast securely attached. I managed to get the pier to mount adapter in place, but

could not seat the mount so that it could be snugged down. I gave up and put the mount back in the shed.

One reason I wanted to get the Atlas in place was because we'd recently received the 1000 Oaks dew controller and two dew bands. I wanted to make sure they worked to keep the mount dry in humid conditions. Since I couldn't mount the Atlas, I pulled out one of the Orion 8" dobs. I put one of the bands on the focuser, and the other on the base with the eyepiece I wasn't using wrapped in it to keep them dry. I set the channels to 25% to see if that was enough to keep things dry. Spoiler: it was, and the eyepieces did not fog all night.

No other club members came that night. I slipped my phone into one of the arm-band-style holders and wrapped it around the Telrad. That allowed me to use AstroHopper. The holder kept the phone screen dry. The only thing which dewed up was the Telrad itself, but Telrads are like that. We will need a Telrad heater.

The night was very successful. AstroHopper led me to all the summer Tourist Traps, plus some objects I hadn't knowingly seen before. It wasn't flawless, loosing alignment now and then, but it was pretty easy to regain. One thing I did learn was that you can find stars which aren't visible on the screen by using the "-" button to zoom out, then once you're aligned you can zoom back in with the "+".

On Saturday the conditions weren't quite as good as the previous night, but still very good for August. This night I had company: club member Vikas Kongwad brought out much of his family. They stayed until nearly midnight. It was interesting talking with them about the differences between Carolina skies and Indian skies, and to hear a little about the Indian sky culture.

Just to be different, I pulled out the other Orion dob, which has only a red-dot rather than a Telrad. Without the Telrad, there turned out to be no good way to attach a cell phone to this scope. So, I did without. We'll need to figure out something so people can attach their phones in the near future. I missed the convenience of the AstroHopper push-to guidance, but managed to find most of the stuff I was looking for.

Bands of clouds came and went, but it was mostly clear until we were ready to give up for the night. I hope those who weren't able to come had a chance to get out no see the skies, even if they couldn't join us at the observatory. Good nights like those two are rare enough we need to take advantage of them when they come.

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Public Observing 8/26/23

by Steve Hilliard

The session started off a little dysfunctional, as I arrived about 7:50 after waiting out a downburst that traveled over my neighborhood. We had a small group of 6 people there as the park ranger had brought out the 85mm spotting scope for some observation of the moon (He commented on the conversation Jon had with him concerning some dark sky amendments to the lighting on the front of the visitors center).

I brought my TV 102 and 100mm binos for observation and set up a table with a moon map, and using a red flashlight, mimicked the illuminated portion that was present on the moon's surface. This allowed the public to identify the craters and maria that they were looking at. We concentrated on the moon until the sky started to unveil some of the brighter stars.

Moving over to the red giant Antares, there was some discussion about the occultation with the moon and Antares a couple of days ago. I was surprised about the level of knowledge about that event, although it wasn't about the specifics, just that they had seen a red object very close to the moon that night. I gave a small explanation of what took place and pointed out the main characters.

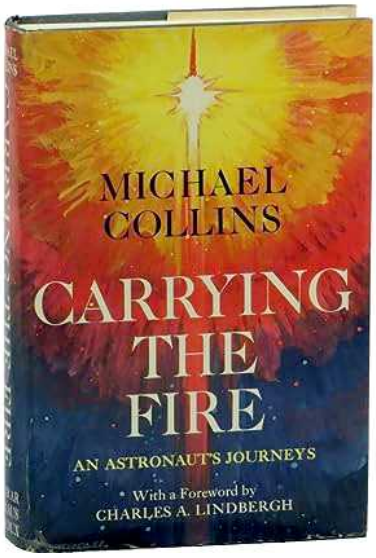
Thin clouds and the moon's luminosity prevented views of M4, M57 and M13. Several younger adults had joined later in the session (the Ranger had to leave to respond to a call at the marina) and we just continued to focus on the moon and the ID of the specific features, since the veil of clouds prevented any meaningful viewing of DSOs.

A discussion ensued about planet and solar observation, and the night ended with a discussion about the Carrington event, which will have an anniversary this week.

(Double stars Alcor and Mizar and Albireo are possible targets under below average skies. -Editor)

Whifferdill

by Karl Adlon



A long time ago, I read Michael Collins' book, "Carrying the Fire: An Astronaut's Journeys". Beginning on page 187, he writes about simulator use for rendezvous and docking of the Gemini capsule to an Agena. With radar, inertial platform and computer, they went well. Without one of them, it became much more difficult and sometimes they ran out of fuel in the "attempt". Each simulation resulted in a paper plot of the test and these were reviewed and suggestions made.

> *"The most ridiculous-looking plot on the paper was what we called a "whifferdill", a helix-shaped approach which found the Gemini making ever smaller circles around the Agena before catching it. In addition to looking strange, the whifferdill used a lot of gas, and John <Young> and I were to discover later that the simulator was quite accurate in its prediction of this fact.*

Later, after Gemini X rendezvoused with its target with a whifferdill approach (unaware that Gemini's platform was slightly misaligned), they found they had only 36% of their fuel remaining instead of the predicted 60%!

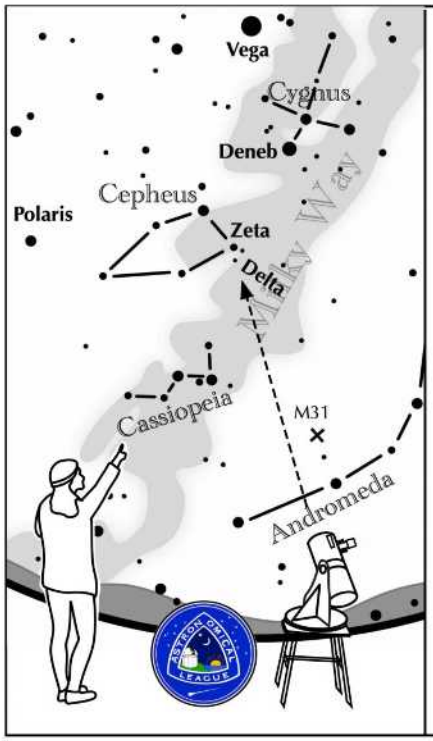
If you think of this as spiraling in on your target, then you would understand why this reminds me of my telescope build and rebuilds. The first build, I measured the distance from the front of the mirror to the focuser center on the used scope I bought. Then I lost the measurement and couldn't remember if it was 68.5" or 69.5". I decided to go with 69.5" – I could always shorten the tubes if needed. IT WAS! So I disassembled the truss assembly, cut 1" off of each of the 8 tubes and reassembled it.

The scope was intended for visual use. Now I wanted to try imaging through it. Darn, now I need to cut *another* 1" off of the eight tubes. Disassembled the assembly again, cut 1" off and reassembled it again!

I'm thinking of naming the scope "**Whifferdill**"!

Astronomical League Information

ASTRONOMICAL LEAGUE Double Star Activity



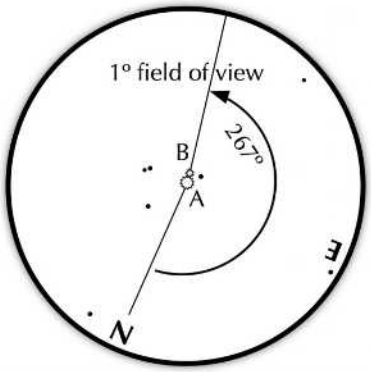
Other Suns: Delta Cephei

How to find Delta Cephei on a September evening

Face northeast and find bright Deneb, the northernmost star of Cygnus. It is nearly overhead. Between Deneb and the "W" shaped Cassiopeia lies the house-shaped constellation Cepheus. Find Zeta, the lower left star of the "house." Dimmer Delta shines just below it.

Suggested magnification: >20x
Suggested aperture: >2 inches

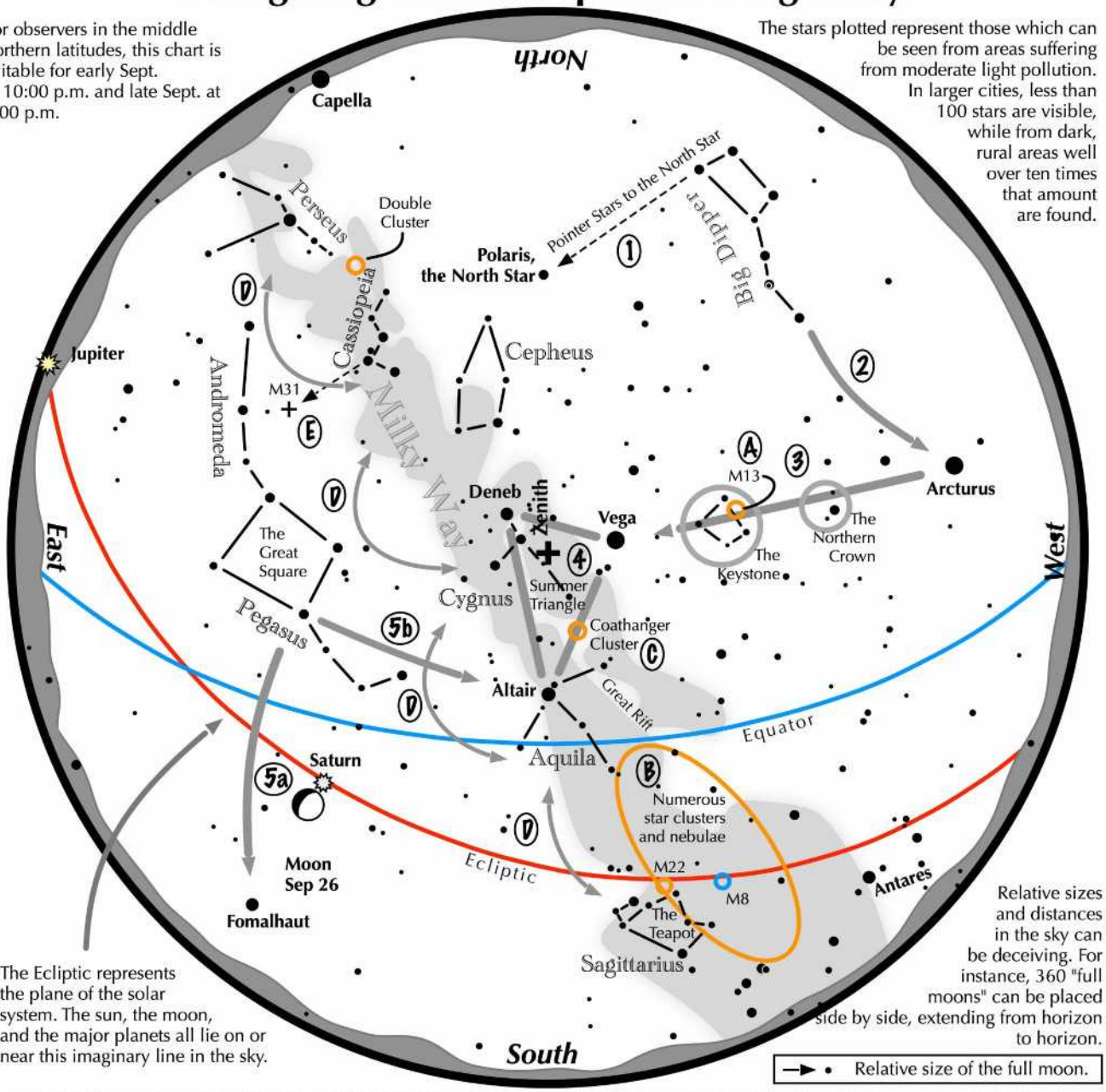
Beta Capricorni
A-B separation: 41 sec
A magnitude: 4.2
B magnitude: 6.1
Position Angle: 191°
A & B colors:
yellow, blue



Navigating the mid September Night Sky

For observers in the middle northern latitudes, this chart is suitable for early Sept. at 10:00 p.m. and late Sept. at 9:00 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 September 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 September evening sky.
3. Nearly overhead shines a star of similar brightness as Arcturus, 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. The stars of the summer triangle, Vega, Altair, and Deneb, shine overhead.
5. The westernmost two stars of the Great Square, which lies high in the east, point south to Fomalhaut. The southernmost two stars point west to Altair.

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.

Get to Know YOUR Astronomical League

The Astronomical League (Astroleague or AL) is one of the largest amateur astronomical organizations in the world. The organization serves to encourage an interest in astronomy (especially amateur astronomy) and promote the science of astronomy by:

- ✓ fostering astronomical education;
- ✓ providing incentives for astronomical observation and research;
- ✓ assisting communication among amateur astronomical societies.

CFAS is one of over 300 member societies affiliated with the Astroleague. Your membership in CFAS allows you take full advantage of this relationship so periodically review the information below to see how the Astroleague can support your astronomical interests and endeavors.

Astroleague Home Page *New Website!*	www.astroleague.org
AL Observing Programs *(Alphabetical Listing)*	https://www.astroleague.org/alphabeticobserving/
Navigating the Night Sky *(Monthly Guides and Links)*	https://www.astroleague.org/navigating-the-night-sky-guides/
AL Member Society Aids	https://www.astroleague.org/aid-for-member-societies-of-the-astronomical-league/
Current and Past Issues of *Reflector Magazine*	https://www.astroleague.org/reflector/
Additional AL News, Information and Reminders	Happy with your *Reflector* magazine delivery preferences (digital or snail mail)? If not, please let your ALCor know your preference. Your current CFAS ALCor is Hank Lyon, hlyon8448@gmail.com.

The Astroleague Correspondent (or ALCor) is your link between CFAS and the Astroleague. Don't hesitate to contact your ALCor if you need assistance with anything Astroleague related whether its general information or detailed coordination of observing program completions for certification. Check back each month to see any new links, postings or reminders.

CFAS Correspondence:

Please contact the society at: CFAS, P.O. Box 7685, Wilmington, NC 28406

Members are welcome and encouraged to submit articles or other input for *"CAPE FEAR SKIES"*. Submit any and all interesting items for publication to Karl Adlon, Editor (email kmja79@yahoo.com).

Cape Fear Astronomical Society is a tax-exempt organization under Section 501(c)(3) of the Internal Revenue Code.

CFAS Officers:

President:	Ben Steelman
Vice-Pres:	Brendan O'Byrne
Associate VP	Jon Stewart-Taylor
Secretary:	George Pappayliou
Treasurer:	Bill Cooper
ALCor	Hank Lyon

Dues: Dues for 2023 are $25 for Individual and $32 for Family Membership. Students dues are $5 per year.

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