CAPE FEAR Skies

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

September 2020

President's Message

by Jon Stewart-Taylor

We have filed for 501(c)3 status and now we just have to wait while the wheels at the IRS grind through the process. The average wait for determination before COVID was on the order of 3 months. It will probably take longer now. We can expect a (hopefully positive) determination at the end of this year, or at the beginning of the next. Many Thanks to George Pappayliou for his work on and guidance through the process.

The final disposition of the corporation named Cape Fear Astronomy Club is near. The last-elected officers of the Club must meet to adopt a resolution to disband the club. This should happen in September. After the resolution is adopted, the dissolution will be filed with the NC Secretary of State. We expect the process to be complete by the end of the year.

It will not be news to anyone that the COVID pandemic is still active. Universities opening, then closing immediately due to outbreaks show the severity. As such, our public activities and in-person monthly meetings must still be postponed until it is safe.

Observing sessions can still proceed with proper precautions. Our Zoom meetings are proceeding pretty well, although I'm still learning what can and can't be done. We can still use e-mail, messaging and chat apps to maintain our connections.

We can take this as an opportunity to reconnect with what made us enthusiastic about Astronomy.

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Due to the COVID-19 virus pandemic, we are now under "safer-at-home phase 2" orders. No CFAstro public events are planned. Meetings will be via Zoom. Member observing as noted, with "social distancing".

September 2020

Date – Event - Time

02 Full Moon 05:22 AM UTC , Corn Moon

10 Last Quarter Moon 09:27 AM UTC

10 Club Observing; 07:30 PM; TBD

11 Club Observing; 07:30 PM; TBD

11 Neptune at Opposition 08:00 PM UTC

13 Cape Fear Astro September Meeting, 07:00 PM, Via Zoom

17 New Moon 10:59 AM UTC

18 Club Observing at Starfields; Shiloh Road Ivanhoe NC; 07:30 PM

19 Club Observing at Starfields; Shiloh Road Ivanhoe NC; 07:30 PM

22 September Equinox 01:32 PM UTC

24 First Quarter Moon 01:55 AM UTC

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

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Social Distancing Star Party?

By Jon Stewart-Taylor

I was saddened but not surprised when i heard that the Staunton River Star Party had been canceled. Kathleen and i had been looking forward to it. Going without a star party in the fall is a great disappointment.

Would any of you be interested in a Social Distancing Star Party at Starfields in Pender County?

With a bit more mowing, and some site improvements i plan to make in the next month anyway, Starfields could easily accommodate 10 or more vehicles for a long weekend. There's plenty of room at the observing areas to host15-20 observers, even allowing for the required physical separation. While we wouldn't be able to provide all of the amenities (showers, dining hall etc., we can provide the primitive campground basics: Composting toilet, limited 110 VAC, non-potable water. For everything else "civilization" is only 15-20 minutes away.

Starfields does have the most important requirement: 6th magnitude skies.

If this sounds like something you'd like to do, contact me by e-mail, GroupMe, phone, or the club e-mailing list. I'm currently thinking the new-moon weekend in either October (16, 17, 18, including the Orionid meteor shower) or November (20, 21, 22).

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Astronomical League Update

by Hank Lyon,
Astronomical League Correspondent (ALCor)
hlyon8448@gmail.com

CFAS is a long standing member of the Astronomical League (AL). A portion of your annual dues are used to continue our society membership and affiliation with the AL. If you're not familiar with the AL, the League's objective is to promote the science of astronomy and encourage an interest in astronomy (and especially amateur astronomy) throughout America by:

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

This objective is met in a variety of different ways which include regional and national conventions, observation programs, astronomy related book sales, networking, dissemination of guides and other astronomy related information just to name a few.

As one benefit of our membership in the AL, CFAS members receive the Reflector magazine, the AL's quarterly newsletter which helps keep readers in touch with amateur activities across the nation and provides information on AL news and developments. The Reflector can be issued via US Mail or electronically so if you do not remember recently stating your preference, please let me or one of our officers know your desire so we can update the club roster that is provided each quarter to the AL. Our roster was submitted to the AL in late June so all recipients listed in that submittal will receive their September issue of the Reflector.

There are many other benefits to membership with the AL, which I'll highlight, in subsequent Astronomical League Updates. In the interim, please take the opportunity to visit the AL website (www.astroleague.org) and have a look around.

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What Power Are They?

By Jon Stewart-Taylor

Having purchased astronomical items from web sites, i periodically receive some astronomical spam. Most of the time it's nothing unexpected, but in July i received an ad from Orion for 2 x 54 binoculars. There's no missing zero in that front number: these binoculars magnify only 2 times, despite the 54 mm diameter.

The picture in the ad showed what looked like a pair of short, fat eyepieces connected together.

At first I couldn't figure out why you'd want 2-power binos, or what they'd be useful for. I was skeptical at best.

A quick web search turned up some articles at Cloudy Nights which clarified things. Although they only magnify 2 times, they claim to have a field of view (FOV) of 36 degrees, and the 54mm objectives gather quite a bit of light. Many of the posters called them “constellation binoculars”.

https://www.cloudynights.com/topic/694307-finally-the-2x54-ultimate-sky-roamer/

Apparently, even in moderately light polluted skies, the wide angle and aperture allow one to see all the stars in a constellation well past the usual unaided-eye magnitude limit. They also enhance the Milky Way, and make some clusters and nebulae which are large but not bright more visible.

Vixen apparently makes a similar product, but at twice the price, with smaller aperture and about 2/3s of the FOV. Several people said that the Orions actually had better clarity at the edges of the field. $150 was sounding like a bargain for a new piece of equipment with high potential.

Another oddity is the Galilean design. They have no real eye relief, in the sense that they’ll come to focus at almost any distance between the eyepiece and your eyes. The FOV narrows the further back you move your eye. If you need glasses to correct for astigmatism, you’ll lose some of the wide field which makes these so attractive.

I ordered a set from Orion in late July. They were listed as backordered, with delivery August 8th. Apparently this was after new policies at the Post Office were beginning to affect the mail, because the ship-by date slipped to August 8th, then the 14th as they waited for new supplies to arrive. I finally got notice they were shipped on the 12th (before the updated target of the 14th), but the shipment tracking was stuck on “Label printed but not in system”. On the 22nd, a box appeared in the mailbox unannounced. They’d arrived!

My first impression was that these are surprisingly heavy. They weigh about the same as a pair of inexpensive Celestron 7x50 “Comet Catchers”. They are solid, with smooth motion of the inter-pupil adjustment and the focusers. Because they’re so short front to back, you have to be careful to keep your fingers out of the view when hand-holding. They do not appear to have a tripod socket.

I tried them on distant objects during the day, mostly to try out the focusing. The two sides are independently focused, so I used the old trick of covering one side with an end-cap while focusing the other side. Switched back and forth a couple times, and the focus was pretty much set.

Of course, the Cloud Curse of New Equipment immediately set in. The rule is one day per inch of aperture for telescopes, and for binoculars it’s aperture / 25 * 2. For the next 4 days, only a brief glimpse of the 1st-quarter moon was available.

The moon looked pretty good through these. The extra light gathering didn’t matter much given how bright the moon is already, but the 2x magnification made it easier to make out details of the mare and other large features. “Real” binoculars will give more detail, of course: 2x won’t show as much detail as 7x, 10x, or higher binos. The 2x54s give an “unaided eye feel”, while making the features clearer.

Wednesday the 26th was the first somewhat clear night: MeteoBlue was predicting the bottom layers would be cloudless, but the top layer would be up to 50%, meaning low transparency. While not ideal, it would at least give an idea of the difference between unaided-eye and the 2x54s.

Actual conditions were worse than forecast. About half of the sky was covered by bright streaks of cloud illuminated by the moon. I was looking at the sky through sucker holes or even thin clouds. Conditions in the backyard are never much better than LM 5.0, and that night were much worse- probably about LM 3.5 or 4. The 2x54s did make it possible to see stars which were invisible to unaided eyes.

As an example, the Teapot was completely drowned out by the moon. The 2x54s made it visible despite the conditions. It wasn’t outstanding, but it was clear. At one point I was looking at the Little Dipper. Unaided eye, 3 stars: Polaris, Achab, Kochab. With the 2x54s, I could see not only all 7 stars in the dipper proper, but some of the other stars in Ursa Minor. Comparing against Bright Star Atlas 2000, it looks like the 2x54s gave about 2.5 magnitudes deeper.

Another example, with the bottom of Pegasus only about 20 above the horizon, with hazy skies, I was able to find the “Circlet” of Pisces. I’ve rarely been able to see that asterism from the backyard under good conditions. Pisces has always been a nemesis because it’s so dim. I’m hoping the 2x54s will help me conquer it in the future.

I hopped around the sucker holes looking at the summer and fall constellations. The FOV is much less than 36 degrees. It is still quite wide. I was able to fit Cygnus from Deneb to Alberio. Cassiopeia fit with about 1/3 of the FOV left over. The entire Big Dipper barely fit. I’d guesstimate that the actual FOV for me is a bit over 20 degrees. That’s still impressive compared to the 6 or 7 degrees of most binoculars. The clarity was quite good until very nearly the edge of the field.

The longer I used them, the more aware I became of an unexpected bonus: my arms weren’t getting tired. Because the 2x54s are so short, all the weight

is nicely supported close to your eyes. This also helped keep the image steady.

So, are these worth the $150, especially compared to what you could get in a 8x40 or 10x50 bino? I'm not sure yet. They do seem to fit the title "constellation binoculars". They're so small one can take them basically anywhere.

I do know I'm looking forward to taking these out under dark skies with good conditions to try them out on big deep-sky objects, the summer Milky Way, and constellations which never rise high above the southern horizon. I'll post an update at some point in the future.

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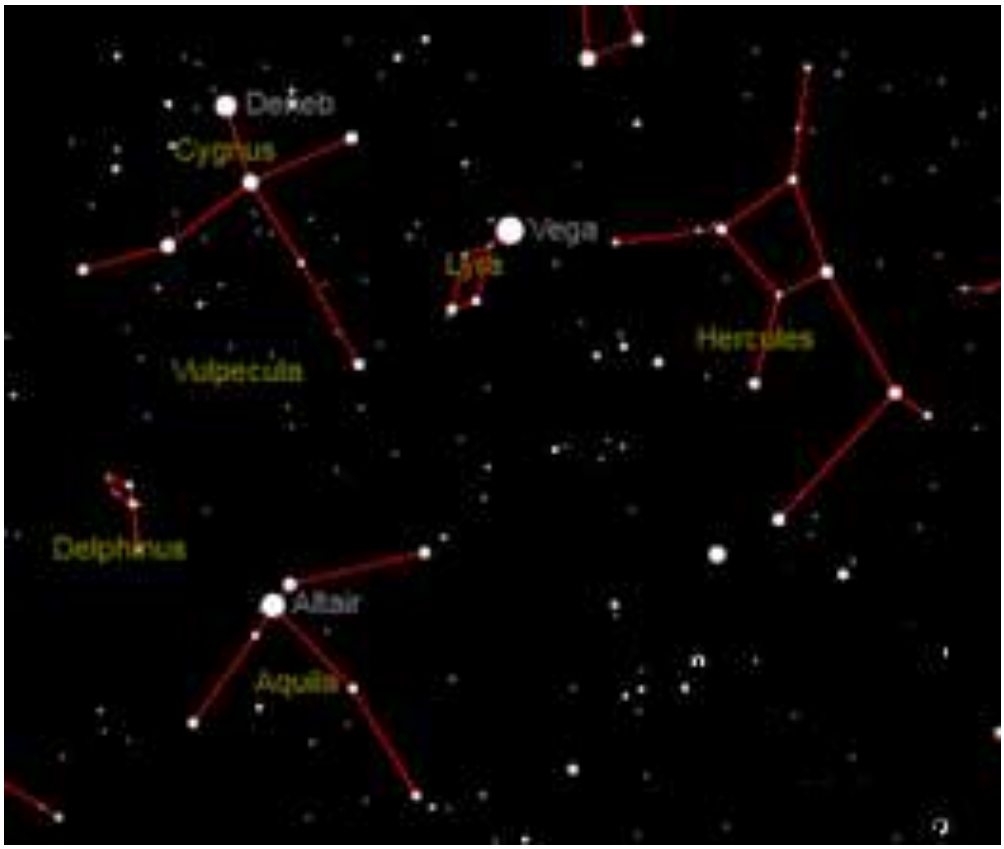


Constellation that are over head in September – our September Program topic.

September Meeting Program

September Over Head

by Karl Adlon

The second half of Jon's "President's Message" reminds me how things used to be. Public Star Parties would be a cause to gather and share the sky with others. Using our green laser pointers, we would point out the stars that made up the major constellations of the evening. We would point to object locations in the sky and show attendees the objects through our telescopes.

This month's Program will be a look at the over head constellations and select deep sky objects since lately high humidity has reduced views toward the horizon (at least, that's my excuse).

October Meeting Program

I'm looking for someone to do the October Program as most likely we will be out of town for this meeting. **Please let me know if you are interested.**

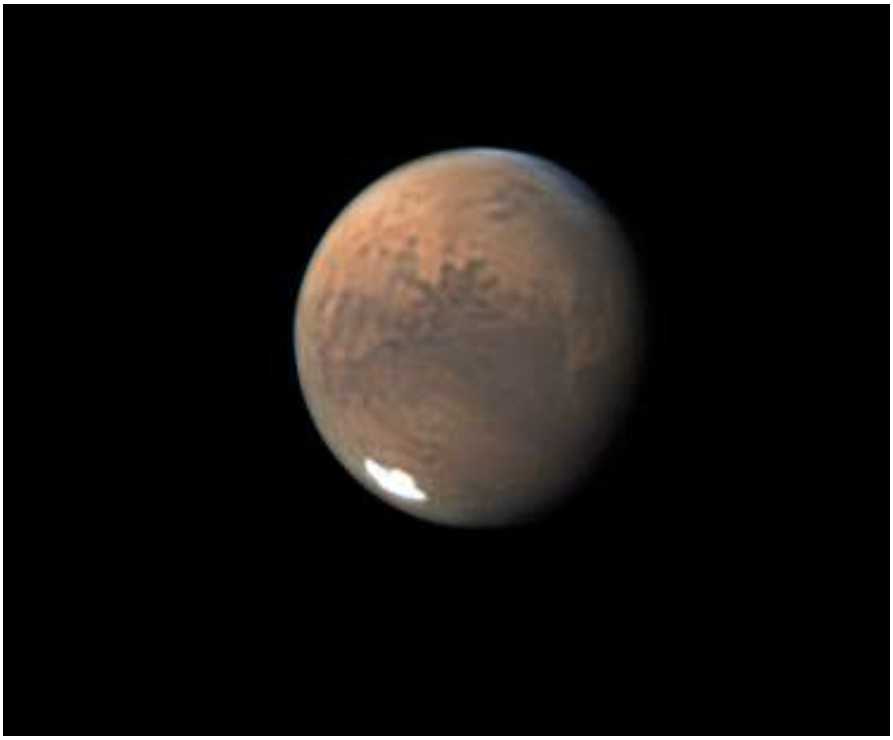
November Meeting Program

UNCW astronomy student, Sydney Polak, is building a radio telescope as part of his PHY 491 Directed Individual Study class. He is using an off-the-shelf parabolic dish antenna, a low-noise amplifier/filter and a software defined radio to detect the 1420 MHz hydrogen emissions to map the galactic plane. He will present the status of his work at the November Meeting.

Since most of us have only worked in the visual part of the EM spectrum, this should be quite interesting.

Mars Moment

by Karl Adlon



THIS MONTH, Mars is in the late evening sky, rising ~9:30 PM

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Mid-September, Mars is about 21 arc-sec apparent diameter.

Comparing this to its October 13 max of 22.4 arc-sec, it's a good time to make the most of Mars this apparition.

This apparition, Mars is as good as it gets for a long, long time. So, don't be thinking "I'll wait for next time!"

Posted on Cloudy Nights by KiwiRay in Seattle, WA, he says:

Clear skies and good seeing continue! Seeing isn't always steady, and while this morning it was consistently excellent, yesterday it only improved near the end of an hour+ session. Seattle's run of six clear nights may end tonight, with cloud expected to roll in around 4am when I usually get up to image Mars. That's fine - I could do with a break, and the weather next week looks great anyway.

Mars is looking dark in the August 28 image, as the bright volcanic region rotates backwards out of view during my imaging window. I think this is the first image I've captured in which Argyre Planitia has some definition, and almost looks like the large, circular basin that it is. Northern cloud is rotating more into view now too. The August 27 image is almost identical to the one I posted a couple of days ago for August 26. I've also included a lightly-processed blue channel image for August 28 to highlight the northern cloud, and a 610 nm image, also from this morning.

Nexstar Evolution 9.25 with 2x Barlow and ADC. ZWO ASI224MC camera.

Editor's Note: Used in this Newsletter, "Cape Fear Astronomical Society" may be abbreviated "CFAS" or "CFAstro".

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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).

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