

President's Message

by Jon Stewart-Taylor

We have been blessed with a once-in-a-decade event with comet NOWISE. We were perhaps even more blessed with some evenings with good enough skies to see it with unaided eyes. Views through binoculars, telescopes, and of course imaging showed us what a truly marvelous visitor the comet was. I hope all members of Cape Fear Astro got a chance to see it at least once.

The only thing about the comet which makes me sad is that due to the pandemic, we weren't able to share it with the public as we normally would. Unfortunately, that appears to be our new normal for the foreseeable future. The rate of infections in many states is exploding. Here in North Carolina it's increasing less rapidly, but still increasing. A vaccine will take at least several more months to develop and test, and even longer to distribute widely. At this point, the most probable scenario is that COVID-19 will be with us at least until next spring, and possibly even up to a year from now.

Please follow the three requirements: Wash hands, 6 feet apart, wear a mask. If we all do those three things, we can reduce the spread of the virus. We all know them, now we need to make them the new normal against the pandemic.

On a more positive note, George has begun the 501(c)3 filing process to apply for federal tax exempt status. At this point there appear to be no obstacles to a successful application, so I'm hoping that by the next time we pay dues, they will be tax deductible (provided your filing status allows itemizing). We're also working on the filing of our corporate tax return. Finally, in August we'll be working on the legal process to dissolve the old Cape Fear Astronomy Club.

Special Interest Groups have continued to meet, especially the Both Eyes and Club Observatory SIGs. At a recent Both Eyes meeting we went through a binocular star hop which can be found later in this newsletter. The Club Observatory SIG has identified the requirements for a club observatory and made good progress towards meeting them. After evaluating several sites briefly, and Starfields and Mr. North's property at Yamacraw in depth, the SIG chose Starfields as the site best meeting the requirements. Perhaps surprisingly, few of the requirements need to be solved with money or materials. Most solutions just required procedures, or (like the new lockable gate), were things Kathleen and I wanted to do anyway. After the requirements are all met, then the SIG will consider the "needs" and "wants" for the club observatory. Those will probably require some infrastructure.

(Continued on next page.)

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

August 2020

Date – Event - Time

- 03 Full Moon 03:58 PM UTC, Sturgeon Moon
- 07 Club Observing; 08:30 PM; TBD**
- 08 Club Observing; 08:30 PM; TBD**
- 09 July Monthly Meeting via Zoom; 07:00 PM with Business starting at 08:30 PM**
- 11 Perseid meteors; ZHR 110; peak Aug 12 6h; 1 day after Last Quarter
- 11 Last Quarter Moon, 04:37 PM UTC
- 12 Venus at westernmost elongation; 45.8 deg. from Sun in morning sky
- 14 Club Observing at Starfields; Shiloh Road Ivanhoe NC; 08:00 PM**
- 15 Club Observing at Starfields; Shiloh Road Ivanhoe NC; 08:00 PM**
- 19 New Moon , 02:41 AM UTC
- 21 Club Observing at Starfields; Shiloh Road Ivanhoe NC; 08:00 PM**
- 22 Club Observing at Starfields; Shiloh Road Ivanhoe NC; 08:00 PM**
- 25 First Quarter Moon, 05:58 PM UTC

Astro phenomena from

<https://www.universalworkshop.com/astronomical-calendar-any-year/>

President's Message (Cont'd)

Finally: I know it's a long way in the future, but we need to start planning what if anything we can do about the annual Holiday Celebration, and the Annual Meeting where elections are to be held. At this point, it's quite likely the Governor's Order limiting gatherings to 10 or fewer people will still be in effect. 10 people is right at the edge of our required quorum. The current Constitution doesn't allow for election of officers via any mechanism other than in-person voting. This can be done relatively safely with masks and distancing. Again, it's a long way off but we need to start thinking about it.

Clear skies and stay safe. -Jon

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Binocular Star Hop in Scorpio

By Jon Stewart-Taylor

For one of our Both Eyes SIG meetings, we went through a binocular star hop through Scorpius. This is intended for binoculars in the 7x50 or 10x50 range, but even 7x35s should let you at least detect most of

August Meeting Program

A Comet NEOWISE Discussion

Moderated by Karl Adlon

Let's talk about Comet NEOWISE – whatever you want to say - observing it, imaging it, sketching it, etc.

HELP!

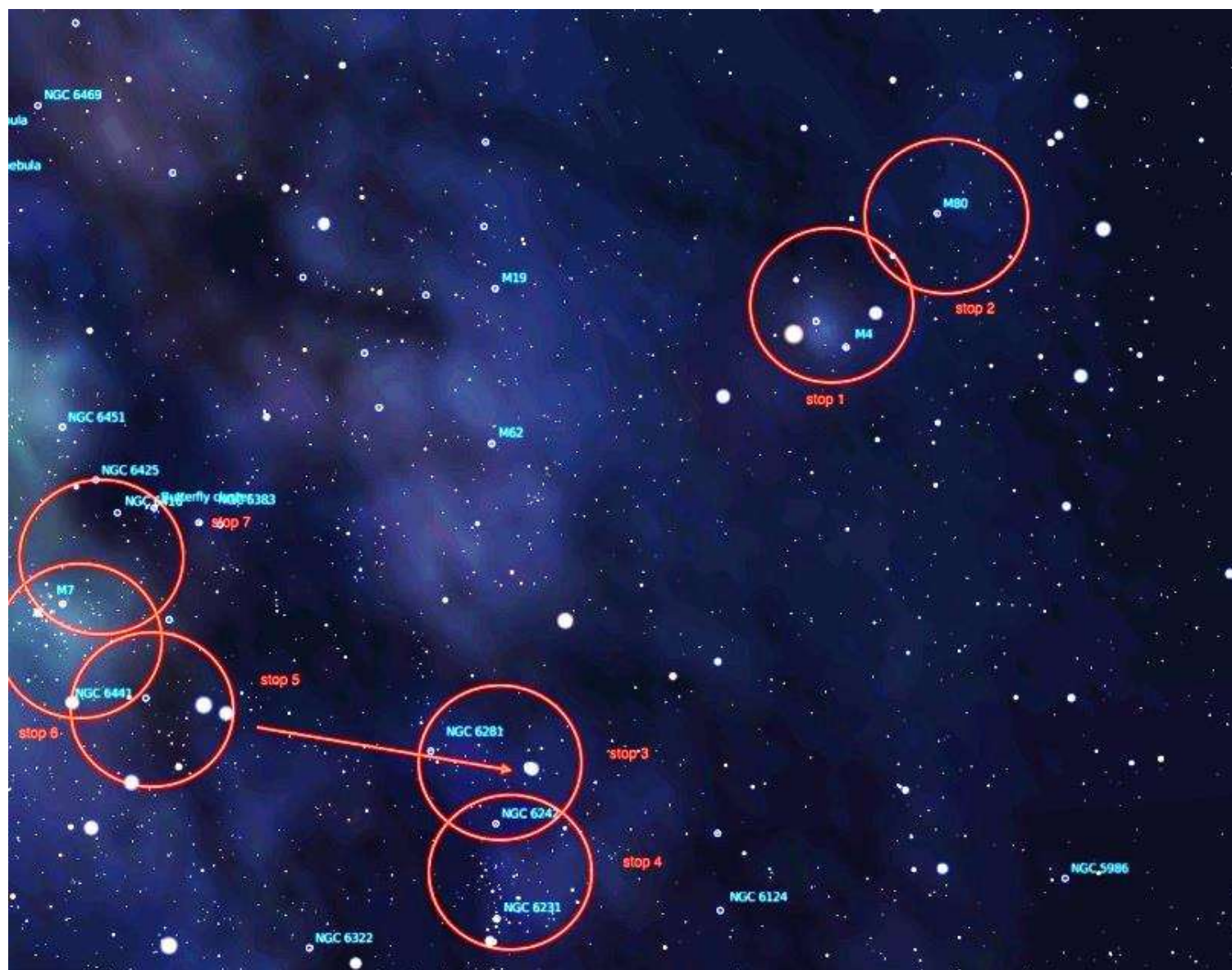
Pictures always enhance a program, so if you have any, please show them or you can send them to me and I'll show them.

Could you see the comet naked eye? Did you need optical equipment? What did you see?

If you found an exceptional image of the comet and want to share it, that's great – be sure to credit the source of the image.

See you August 9th! Zoom! Zoom! Zoom!

the objects. Larger binoculars such as 15x70s will make it easier to observe anything you could find in 10x50s, and will let you detect some of the objects which were out of reach of smaller instruments. You can also use this hop with a small telescope



Although a chart is included here, I strongly urge you to transfer the star-hop onto your favorite mag 6 star atlas. The red circles on the chart are about 5 degrees: approximately 1 binocular field of view (FOV). When you transfer the hop to your atlas, draw the stop circles for the FOV of your own binoculars. This will help you find your way the first time or two you do the hop.

It might be worth mentioning that this hop is northern-hemisphere-centric. If you do this hop south of the equator, turn the chart upside-down and swap up and down, left and right, in the directions which follow.

Scorpius Star Hop: The Stops

Here are the “stops” on the star hop. If you’re not familiar with the constellation, I suggest that you do them in order the first time, because it makes it easier to find your way around. The order isn’t critical if you know your way around the constellation.

Stop 1:

Find Antares, the brightest star in Scorpius, and center it in your binoculars. Antares is a red giant, and the color is apparent to the unaided eye, leading to the name which in Greek means “the rival of Mars”. It’s also often called the heart of the scorpion.

Antares: <https://en.wikipedia.org/wiki/Antares>

Slide your FOV about a quarter width to the right. If you look west of Antares about 1/2 FOV, there is a bright-ish star. Make an isosceles triangle pointing down towards the edge of the field to find M4, a large, bright, but low surface brightness globular cluster.

M4: https://en.wikipedia.org/wiki/Messier_4

Stop 2:

Position Antares to the far edge of the FOV (usually the left and/or lower side). Slide your binocular field of view towards the top “claw” (about WNW) one FOV, so that the left edge is now where the right edge used to be. M80 should now be in the FOV. M80 is also a globular cluster like M4, but it is much smaller and not as bright. In small and/or low power binoculars, it will probably appear starlike. In larger binoculars you may see a fuzzy patch. Averted vision will definitely help here, as will a good lawn chair if you’re hand-holding your binoculars.

M80: https://en.wikipedia.org/wiki/Messier_80

Stop 3:

Be prepared for a long hop away from Antares here: perhaps a jump instead. At the very tail of the Scorpion is a double star, easily split with the unaided eyes. We’ll come back here in another stop, but for now use the two stars as pointers to get to Mu Sco.

Mu is a wide double. Many people can separate it with their unaided eye. It’s an easy binocular target presenting a pretty pair of stars

Mu: https://en.wikipedia.org/wiki/Mu_Scorpii

About a half FOV to the south (usually down towards the bottom) is NGC 6242. This is a small open cluster. At magnitude 6.5, it’s unlikely you’ll be able to detect it with unaided eye in any sky conditions in SE NC. Since it is very small, probably only higher magnification binoculars are likely to see it as other than starlike, but it’s worth a try.

6242: <https://in-the-sky.org/data/object.php?id=NGC6242>

Stop 4:

Slide your FOV due South from Mu Sco, so that instead of being at the south edge, NGC 6281 is at the top edge. A little after MU leaves the FOV, a bright patch of stars should appear. This is another open cluster, NGC 6231. It’s quite bright (mag 2.6) so it may be visible unaided eye, although since it’s so far to the south it will be harder to see than the brightness would indicate. It is also called the Northern Jewel Box, likening it to the famous Jewel Box in Crux, the Southern Cross.

https://en.wikipedia.org/wiki/NGC_6231

This cluster includes the stars Zeta-1 and Zeta-2 Sco. They appear to be a double to the unaided eye, and make a very nice pair in binoculars. Zeta-2 appears yellow with a red tinge, while Zeta 1 is bluish, giving a nice color contrast.

https://en.wikipedia.org/wiki/Zeta_Scorpii

Finally for this stop, half-way between NGC 6242 and NGC 6231 lies a large loose open cluster, Trumpler 24. It’s twice the size of M4, but about the same total magnitude. This is also part of an asterism the “False Comet”:

<https://www.cloudynights.com/topic/541176-the-false-comet-in-scorpius-arizona-and-australia/>

Note that many of these objects are much harder to see here in the SE NC than from further south, because they’re so low to our horizon.

Stop 5:

Back to the stinger (i promised we’d be back). The double start right at the end of the scorpion’s tail are Lamda and Upsilon Sco. They’re easy to split unaided eye, and at higher powers may be too far apart for best aesthetic appeal. Called the Cat’s Eyes, they’re nice and bright, and usually perceived as being a lovely blue color, almost like a Siamese cat’s eyes.

Cat's eyes:

<https://www.astropix.com/html/observing/doubles/doubles08.html#CatsEyes>

If you slide the Cat's Eyes to the far west (right) side of your FOV, you may be able to find a little globular cluster (NGC 6441). It will probably be detectable rather than observable in any but Big Binocs: it's pretty small and dim (mag 7.2). Averted vision and a binocular mount are pretty much required to see this as anything but starlike.

6441: https://en.wikipedia.org/wiki/NGC_6441

Stop 6:

From NGC 6441 (or where it should be, if you couldn't find it), slide one FOV NNE. Our next stop should jump out at you. Ptolemy's cluster has been known since ancient times. It's visible with averted vision unaided eye, and often visible with direct vision. It's a great view in binocs. The longer you look, the more you see.

M7: https://en.wikipedia.org/wiki/Messier_7

Stop 7:

After you've taken time to really observe M7, slide it to the SE edge of your FOV. If you continue that motion, the next target should be very obvious. M6, the Butterfly Cluster is a bit smaller than, but about the same brightness as, M7

M6: https://en.wikipedia.org/wiki/Butterfly_Cluster

If you want to stop there, I won't blame you. It's such a great object in binoculars, and our last object is bound to be disappointing after M6. With the FOV centered on M6, you may see a little open cluster as a star that isn't a star about a 1/4 FOV to the east. It's sure to be more detectable than observable in binocs.

6425:

<https://theskylive.com/sky/deepsky/ngc6425-object>

Summary:

I hope you've found this star hop fun, and maybe introduced a couple new objects. Doing these kind of hops helps you learn the area of the sky covered, and helps your brain learn to translate the flat paper star atlas to the apparent dome of the real sky.

Comet C/2020 F3 - NEOWISE

by Karl Adlon



In the evening of Wednesday, July 22 I took many pictures of the comet, trying different exposures and ISO values. Finally, I decided to shoot one more as the comet was getting low and lowered the ISO to 800 and raised the exposure time to 1 minute.

As it turned out, that was the best shot and, with processing, is shown above. It's the photo I posted to the Next except rotated to a portrait mode.

Given the sky conditions at the time, I'm quite happy with it!

We had some neighbors over the night before and looked at it with 80mm spotting scope and 8" f3.8 Newtonian. Some liked the spotting scope the best; others the Newtonian. It may have been a better night than the photo night. It was not difficult to see naked eye

I hope you had a chance to view the comet and while it is getting dimmer as it moves away from Earth and from the Sun, have a look if you can.

After Shooting the Comet

. . . then, after the comet, and even though I was only using a 4" telescope, I decided to see what the scope and I could do with these well-known targets. We did pretty good. Now I am motivated to try the bigger scope!



M51



M101

Mars Moment

by Karl Adlon



THIS MONTH, Mars is in the morning skies, rising ~11:15 PM; ~25° elevation @ ~ 1 AM and ~60° elevation @ 5 AM.

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Mid-August, Mars is about 16.5 arc-sec apparent diameter. Comparing this to its October 13 max of 22.4 arc-sec, it's a good time to start seeing what you can see.

M&M

Mars & Meteors go together. With the Perseids maximum in the early hours of Aug. 11 and Mars being up then, if you are meteor watching and you brought a scope, have a look at Mars periodically.

Posted on Cloudy Nights by Hillbrad in Nashville, TN, he says:

Had some pretty decent seeing this morning for mars...through a very muggy and hot night. Taken through my C14 and flea 3...120 seconds per color through astrodon filters.

Also I'm considering upgrading my laptop this month so I can get a new camera...can anyone that used to image with the flea3 let me know if the new zwo cameras are worth all the hassle of upgrading my entire rig? I imagine I'll need a 1.5x barlow instead of my trusty ultima barlow too. But alas it's probably time...

The Flea3 camera was introduced 9 years ago, which explains his comments about a new replacement.

Still, I would not complain about this picture!

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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).

CFAS Officers:

Officers

President: Jon Stewart-Taylor
Vice-Pres: Skip Hagers
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Secretary: Bill Cooper
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Contact Us:

You can contact CFAS at info@capefearastro.org

Our website is <http://www.capefearastro.org/>

