

President's Message

by Jon Stewart-Taylor

The Governor's "next step" order went into effect on May 22nd. Indoor gatherings are still restricted to 10 or fewer, so we'll be having the June meeting over Zoom. Outdoor gatherings were increased to 25 with social precautions. That means we can hold our club observing sessions, and even our Solstice Celebration on the 20th, although the picnic part of that may take some thinking.

Speaking of club observing, I was very happy to see the unscheduled session on Tuesday, May 12th turned out well. Despite being in the middle of the week, we had 8 people attend. And, although the forecast wasn't promising, conditions were pretty good until after 11 pm. Several people were taking images, which I hope they'll send to Karl for inclusion in this issue of Carolina Skies.

Billy Kidney sent us a document which filled in a potential legal gap in last year's incorporation of the "new" Cape Fear Astronomical Society. Thanks, Billy.

At this point, we can feel certain that we have a fully legal corporation. The lawyer providing advice has described some next steps to take the process to completion. There are some recommended changes to the constitution (mostly to allow 501(c)3 application), transfer of the club property (hence the inventory), and closing down the "old" Club. Much of this can be done without needing to meet in person, which is good given the current situation. I hope we can wind up the whole process by September.

Over the last year or so, some of the members of the club have been lukewarm about the idea of getting 501(c)3 status. Others were very positive about the idea. I'd like to make it a focus of the July meeting, and resolve the question, so we can either let it go, or take the steps required to achieve the status.

The last thing I want to note is that we had 2 meetings via Zoom to get an idea of what Special Interest Groups people were interested in. Several good ones were proposed, and I'm hoping even those who didn't "attend" the meetings can find a SIG or SIGs they'd like to participate in.

Hope to meet you all under the stars soon. Maybe at the Solstice Celebration on the 20th? I know Summer observing in these parts can be trying, but there's a lot of good stuff to look at. Let's look at it together.

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".

June 2020

Date – Event - Time

- 04 Mercury at easternmost elongation; 23.6 deg. from Sun in evening sky; 01:00 PM UTC
- 05 Full Moon (Strawberry Moon); 07:12 PM UTC
- 12 Club Observing; 08:30 PM; TBD**
- 13 Last Quarter Moon; 06:24 AM UTC
- 13 Club Observing; 08:30 PM; TBD**
- 14 FLAG DAY 
- 14 June Monthly Meeting via Zoom; 07:00 PM with Business starting at 08:30 PM**
- 19 Club Observing at Starfields; Shiloh Road Ivanhoe NC; 08:30 PM**
- 20 Solstice celebration: picnic and observing; Shiloh Road Ivanhoe NC; 08:30 PM**
- 20 Summer Solstice; 09:45 PM UTC
- 21 New Moon; 06:41 AM UTC
- 28 First Quarter Moon; 08:15 AM UTC

Astro phenomena from

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

Sermonette

by Jon Stewart-Taylor

It's wonderful that the Governor has issued a "step two" order relaxing the Covid-19 restrictions. It's not so wonderful that the day after, NC registered it's highest-ever one-day increase in cases. The two aren't directly related, since the case statistics are usually delayed a week or so. It does mean that although "the curve has been flattened", the virus is still active in the population. If we don't continue our protective actions, we can look forward to a severe "second wave", undoing all the work we put into reducing the spread up to now.

What does that mean for us as astronomers? There are the things which apply generally, and some suggestions for astronomers in particular. We probably all know these by now, but here's a recap.

General Precautions:

First, keep the size of gatherings small. The Governor's order says fewer than 10 people indoors, fewer than 25 outdoors.

Second, maintain a safe distance. 6 feet apart, about one medium-sized alligator.

Third, please wear a mask. I know there's some resistance to masks. And, i know that wearing one provides only about 10% protection for the one wearing it. But, a good mask will reduce transmission from the wearer to people around them by 60% or more. Studies have shown that if 80% of the public wore 60% efficient masks, the rate of transmission would fall below one per person, and the pandemic would basically be over. By wearing a mask you show you care about the health and safety of those near you.

Specific to Astronomers:

Set up equipment about 8-10 feet apart. That ensures you're got the 6 foot minimum, even if your equipment is oriented so that the eyepiece is closer to your neighbor.

If someone offers you a view through an instrument, wait for them to move away so you can maintain the 6 feet of separation. Use hand sanitizer if possible after you touch the focuser.

When you offer people a view through an instrument, use an eyepiece you don't mind disinfecting. Give the the eyepiece and focuser a wipe before they have a look. Move back to give them appropriate space. Disinfect again after they have a look.

It wouldn't hurt to give the tube and mount a wipe at the end of the evening before breaking down. Another option would be to make a drape to go over your scope and mount, leaving only the aperture, finder, and eyepiece exposed.

In Summary:

It's wonderful to be out under the sky, and even better to share the views. Just please be careful that we don't spread the virus.

Special Interest Groups Start-up

by Jon Stewart-Taylor

Hi all. We held two Special Interest Group (SIG) brain-storming meetings over Zoom to find out what SIGs were of interest and who might me interested in participating. A total of 7 people besides myself "attended" one of the meetings and a bunch of interesting SIGs were suggested. Several people had excellent suggestions which we promptly adopted.

The suggested SIGs and the number who expressed interest were:

- Meteor observing (2)
- Unaided Eye observing (5)
- Scope Use improvement (5)
- Club Observatory (5)
- Binocular observing (3)
- Brunswick area SIG (4)
- Other regions (Pender, Onslow, New Hanover)
- Beginning Astronomers (4)
- Public Outreach and Education (4)
- Solar Observing (2)
- Eclipse Observing and Planning (3)
- Astrophotography (2)
- Dark site observing (2)

That's a lot, especially since many of the same people expressed interest in more than 3 SIGs.

The next step would be to hold Zoom meetings for each SIG to establish the purpose and goals of the SIG, and create a plan to bring it to life. We will publish the date and time of each meeting so people who are interested in the SIG but were unable to make the initial meetings can participate. For each SIG, we're hoping to get both experienced and inexperienced but interested people to join in.

It's likely that not all of these SIGs will thrive: we are a smallish club, and that's a lot of SIGs. It's up to each of us to make the SIG or SIGs you're most interested in grow and flourish.

Next Meeting

"Caroline Herschel, more than William's Sister",
presented by Ben Steelman.

I bet you learn something new about Caroline Herschel during the June 14 meeting via Zoom.

I've been taking one of those DVD "Great Courses" on outdoor stargazing with Prof. Edward Murphy of the University of Virginia. It's a good review and I'm learning some new constellations. This would be a terrific introduction for inexperienced new members.
-- Ben Steelman

Tourist Traps: Two Objects for May/June *by Jon Stewart-Taylor*

This article, I'm only going to discuss two objects. Why? Partly because I've already done the Ursa Major and Canes Venatici objects which are the primary tourist traps for early to mid May. But the main reason is because the main deep-sky attractions are the Virgo galaxies, and for small to medium sized scopes under public session conditions, most of the Virgo objects just aren't tourist traps. Even the ones which might qualify are hard to find. I'll cover two bright globular clusters and then move on to the list for June.

The first object is Omega Centauri, the famous globular cluster in Centaurus. Despite being by far the brightest and most populous of the globulars, this is a very elusive object indeed and barely qualifies as a Tourist Trap. Because it is so far south, you need a nearly perfect horizon with nearly perfect conditions. It has been sighted from Jordan Lake, and if you're going to find it at a public session, late May and early June are when to do it. Omega is the brightest globular cluster at magnitude 4, and is known from ancient times, appearing in a catalog by Ptolemy over 1800 years ago. It's also one of the nearest of the globulars at about 17,000 light years away and is about 350 light years in diameter. It contains on the order of a million stars.

The second object is M5, a globular cluster in Serpens Caput. M5 tends to be an under-appreciated and under-visited object, mostly because its neighbor M13 (the Great Hercules Cluster) steals all the press. M5 is a bit more difficult to find than M13, or even M3, because it's in a star-poor region of the sky and a little fainter than either. At 6th magnitude, it jumps right out in a pair of binoculars or a decent finder. The view through a scope is well worth tracking down. M5 is definitely comparable to M13 and M3, with all three having about the same number of stars (about 500,000) and at around the same distance away (M5 is about 25,000 light years away). Comparing the three (along with M92) gives a mini-course in globular form and structure. Observe them in late May or early June and see what you think.

In contrast to the paucity of tourist traps in spring due to the heavy concentration of galaxies, summer has an embarrassment of riches because of the many objects associated with the Summer Milky Way:

Graffias (Beta Scorpius); Double star.
M13, Globular cluster: the Great Hercules cluster.
M92, Globular cluster in Hercules
Ras Algethi (Alpha Hercules): Double star.
M4, Globular cluster in Scorpius.
M6 and M7: open clusters in Scorpius.
M8: The Lagoon nebula; nebula and open cluster in Sagittarius.
M20: The Triffid nebula, in Sagittarius.
M22: globular cluster in Sagittarius.
Epsilon Lyra: the double-double.
M57: The Ring Nebula; Planetary nebula in Lyra.
Albireo (Beta Cygnus): Double star.
M17: the Swan nebula in Sagittarius.
M11: The Wild Duck Cluster: open cluster in Scutum.
The Coathanger: Asterism in Vulpecula.
M27: The Dumbbell Nebula in Vulpecula.
Gamma Delphini: Double star.

I'll discuss those objects in following articles.

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May 12 Observing

From Jon Stewart-Taylor :

Hi all. Here are some familiar faces setting up at Starfields last Tuesday.



I believe left to right it's George, Sylvia, Hank, and Rick, with me behind the camera. Pretty sure that's Skip's black truck. Steve and Karl arrived later, I think.

Despite the forecast, it was a pretty good night.

Sylvia Rivera took the following pictures that night.



From Karl:

Thanks for having us, Jon!!

I had my Meade LXD75 mount with a 300mm telephoto and a Revolution Imager R2. Below is a cell phone picture of the R2 screen showing galaxy M108 in the lower right and M97 (the Owl Nebula) diagonally opposite. I haven't used this setup much and this is the best at that point.



Later, I acquired M101 (the Pinwheel Galaxy) and tried some other settings and stacking and vestiges of the spiral arms could be seen. Unfortunately, I didn't get a picture before the lens dewed over, ending my night.

Since I have a little more space to fill, here's a picture I took 8 years ago with a Canon 20D and 4" refractor. I cropped the original to give it better scale.



The first image is of about 30 seconds exposure while the one above is a stack of 7 exposures of 1 minute.

The 20D image is of better quality but required computer processing of the 7 exposures.

The R2 image was about 35 seconds and shown in real time.



Karl

Attached <at left> is a .jpeg of Bode's galaxies (M81/M82) from subs captured at our observing session.

Regards, George
George Pappayliou

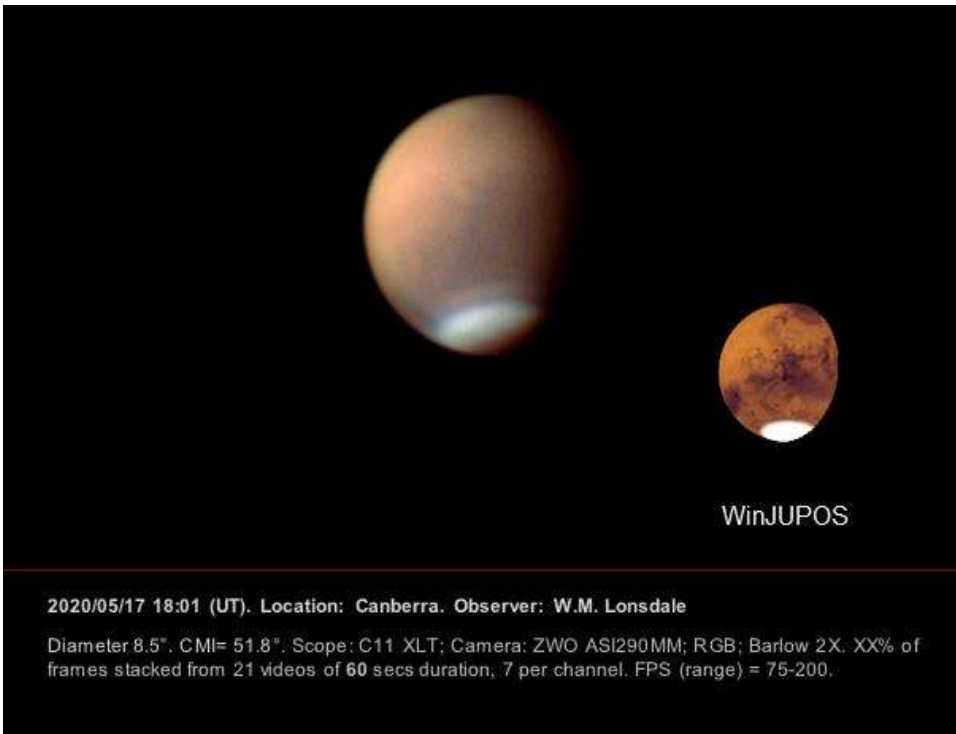
Editor's note:
First, THANKS for sharing, George!

Second, I turned this beautiful image counterclockwise 90 degrees to give y'all better view.

Side note: I checked the bright stars against an old Hubble image. No supernova. Why did I do that? Because many years ago an image I took of M51 had a supernova in it and it was the same day as the notice went out. Now I wonder if my image was first. -Karl

Mars Moment

by Karl Adlon



Each issue in 2020, this space is reserved for something about Mars in our skies.

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THIS MONTH, Mars is in the early morning skies in the Southeast.

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Mid-June, Mars is about 0.9 AU from Earth and about 10 arc-sec apparent diameter. This is a little less than 1/2 its October 13 max of 22.4 arc-sec. It's a good time to start seeing what you can see.

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These images are from Cloudynights.com by "Lacaille".



This second image is a composite and shows the approximate relative apparent sizes of the morning planets in mid-May.

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

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