

## President's Message

*by Jon Stewart-Taylor*

The danger from the Corona virus pandemic is acute. Carolina Beach State Park has canceled all public sessions for the near future. The State Wide Star Party has been canceled.

For our part, the Executive Board have decided to cancel the April meeting: Much business can be done via the e-mailing list, and no business we could conduct would be worth the risk to the health and safety of our members.

As a sort of virtual program, you might watch this YouTube video: <https://www.youtube.com/watch?v=8gPzIKe92-M>

It's called "Nocturne", and is about an hour of the earth at night, from space.

2020 Club Badges will be distributed via snail-mail this year. For those without addresses in the roster, i'll be contacting you via e-mail to find out where to send them.

For May, we may try to work out some kind of virtual meeting. There have been a couple of suggestions as to methods, and the Board will do some research into feasibility and try to post info well before May 3rd.

Note that the club observing dates have not been canceled, although i wouldn't expect them to be heavily attended. If you do choose to go, and find company when you get there, please practice proper observer distancing. Given the weather we've seeing lately, it may be a moot point anyway.

But, while our movements are restricted, we can put time into some of those projects we've been putting off, and perhaps we'll have more time for astronomy-at-home. If your sky conditions are less than ideal, there are a number of "urban astronomer" programs- the Astronomical League has one.

Everyone stay safe, and hopefully we'll be able to resume our normal activities before too long.

**Due to the COVID-19 (Wuhan Flu) virus pandemic, we are now under "shelter-in-place" orders. No CFAstro events are planned at this time.**

## April 2020

- 01 First Quarter moon
- 02 Venus meets the Pleiades –see next page
- 05 \* NO MEETING! \***
- 07 Full Moon
- 12 Easter (first Sunday after the First Full Moon after the vernal equinox)
- 14 3<sup>rd</sup> Quarter Moon
- 21 Lyrid Meteor shower peak
- 22 New Moon
- 23 Wolf 359 parallax reminder:  
<http://pluto.jhuapl.edu/Learn/Get-Involved.php#Parallax-Program>
- 27 Send Karl something for the Newsletter!**
- 28 Venus brightest; magnitude -4.52°
- 30 1<sup>st</sup> Quarter Moon

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

## April Observing Targets

by Jon Stewart-Taylor

Since we can't hold the April meeting, I thought it would make sense to put the monthly observing targets in the Newsletter.



### Unaided Eyes: Venus passes through M45

Over the course of three days beginning April 2nd, Venus passes through M45 (the Pleiades). Unfortunately, much of the actual transit happens while the objects are below our horizon. It will still be an amazing show. Look to the West shortly after sunset. Venus will be the brightest thing in that part of the sky. On the 2nd it will be just below M45. On the 3rd it will be within the cluster, just below the "handle" of the M45 "dipper":

< < < *Image created with Stellarium*

On the 4th, Venus will be just above the "handle".

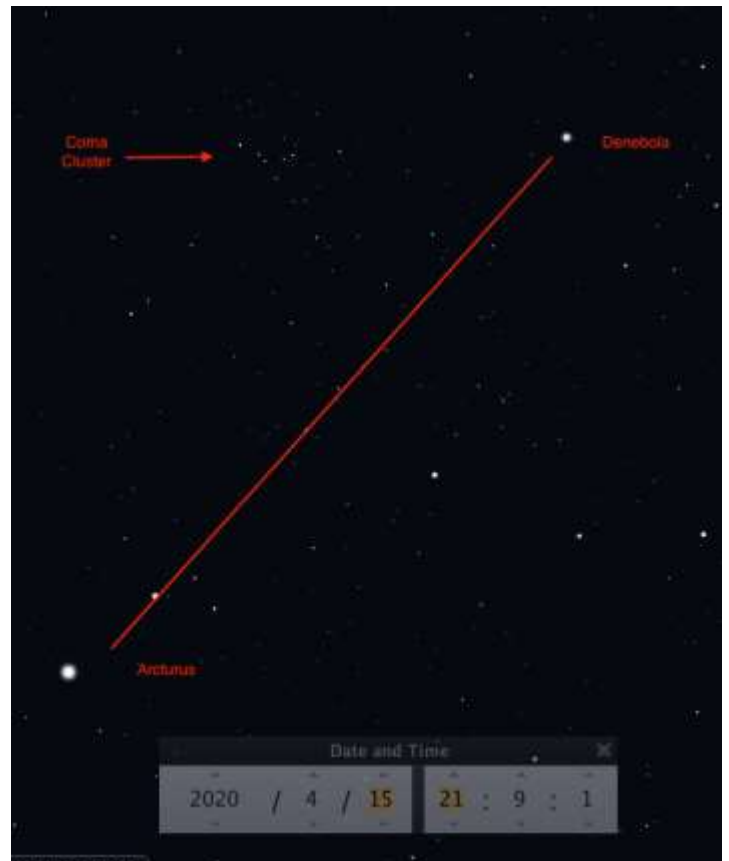
This should also look beautiful through just about any pair of binoculars, so we get a bonus binocular target this month, but I've got a different object in mind for the binocular target of the month.

### Binoculars: Melotte 111, the Coma Berenices Cluster.

The Coma Cluster was mentioned last month as part of the Unaided Eye Target, the Three Leaps of the Gazelle. The three leaps started at the "pond", which is the Coma Cluster. It's a vaguely "U" shaped group of stars, visible to the unaided eye as a hazy blur spread out over about 5 degrees. The combined light is about 2nd magnitude. The ancients saw it as the tuft on Leo's tail, but Ptolemy III renamed it around 240 BC. As the finder chart shows, in April and May skies the cluster is above and to the left of a line drawn between Arcturus and Denebola

*Image created with Stellarium > > >*

See how many stars you can count in the cluster. Depending on the size and magnification of your binoculars, there may be other deep-sky objects you can find in the neighborhood. One of my favorites may be detectable under Very Good conditions: the Needle Galaxy (NGC 4565). At 10+ magnitude, most people need larger binos to find it as a very skinny band of light. A telescope makes it much easier to see.



## Telescopic: NGC 4565



NGC 4565, also known variously as Caldwell 38, the “Needle Galaxy”, and sometimes “How Did Messier Not Include This?!?”, is an edge-on spiral galaxy in Coma Berenices. Apparent magnitude is only about 10.4, and at about 16' x 2' it really is a skinny little needle. None-the-less it's easy to observe in a 10", and I've detected it in a 4" Dobsonian telescope.

It lives quite near the galactic pole. That shows how tilted our planet is to the galactic plane, since it's quite a ways from Polaris. The Wiki article has a pretty good finder chart:

[https://en.wikipedia.org/wiki/Coma\\_Berenices](https://en.wikipedia.org/wiki/Coma_Berenices)

which shows several of the deep-sky objects in Coma, including 4565. It's also not difficult to find by dead reckoning. Follow the base of the flattened “U” shape of the cluster to the south-west, about the length of the base, to reach the galaxy.

< < *Image created with Stellarium, of course.*

Hope you have fun observing these objects.

★ ★ ★ ★ ★

## Stellar Spectra Classification

Can you answer the question above the charts at left? I couldn't a few months ago. But this was a question on a sample test I encountered while coaching St. Mary Catholic School middle school participants in the Science Olympiad competition.

My plan is to one day turn what I learned into a CFAstro Program for a Monthly Meeting. In the meantime – and right now you may have time – I can send you the info needed to answer the question on your own. Just PM me, Karl, at [kmja79@yahoo.com](mailto:kmja79@yahoo.com).

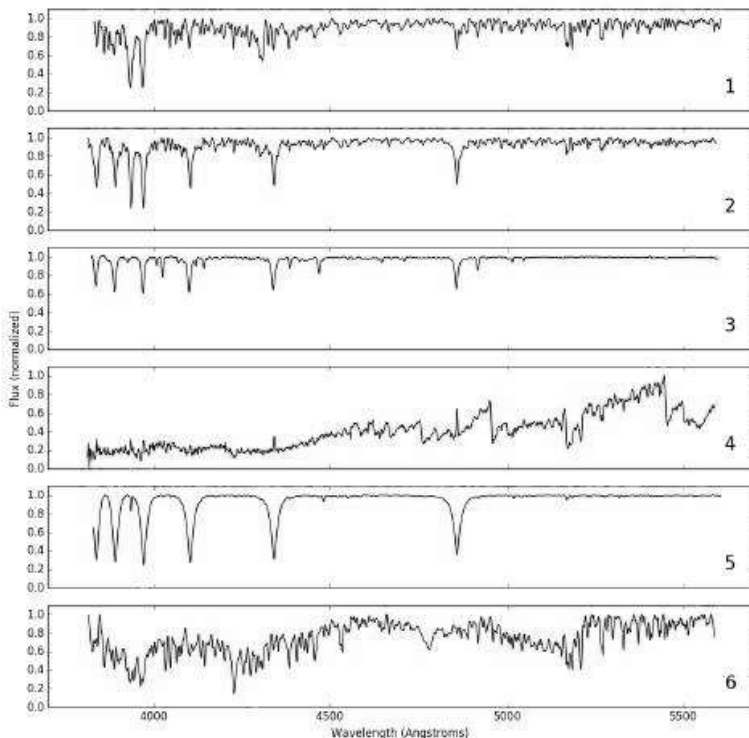
The Regional competition was March 7. How did they do?

- ★ 1<sup>st</sup> Place Overall and,
- ★ 1<sup>st</sup> in the Reach for the Stars portion thanks to Miss M and Miss S.

*Cheers!!*

Unfortunately, the NC and National competitions were cancelled due to the COVID-19 pandemic.

[T1] Put the visible spectra below in order from hottest to coolest. [6 pts]



## Kat's Battery Box

by Karl Adlon



Kat (Kathy Davis) needed a battery to power her telescope. While I used CloudyNights.com to see what others did, I decided much of what was posted was overdesigned for her use. They were often also powering computers and cameras which she does not plan to do.

The finished product is shown at left. The “box” is a plastic toolbox from Home Depot. The on/off switch, 12v power outlet and voltmeter are mounted on the front face of the box.



Open it up and there is a tray inside. I put a spare 10A fuse inside the pill bottle. The existing fuse should easily handle normal loads and would only blow in case of a short circuit.

I suppose the tray could be used for eyepiece storage – even if just for the night. Other possibilities are a spare flashlight, a green laser pointer, a granola bar, car keys, etc.

The third picture shows a wooden cover that serves 2 purposes. First, it positions the heavy battery under the handle so the box stays level while carrying it. Second, it protects the wiring. On the right side is a trickle charger that Kat had but no longer used. I cut off the battery clips and replaced them with a 12V accessory plug.



To charge the battery, just turn on the on/off switch, plug the charger into a wall outlet and into the battery box outlet. By monitoring the voltmeter it can be seen when charging is complete.

The last photo shows the battery, which also came from Home Depot. It's 18 amp-hour rated and can be mounted in any position (though upside-down seems bad to me).

It should last all night running the mount drive and a corrector heater on high. The voltmeter will indicate when power is getting low. I've read on the 'net that these type batteries start to be permanently damaged below 10.5 volts. I'd recommend stopping before the meter goes below 11 volts.

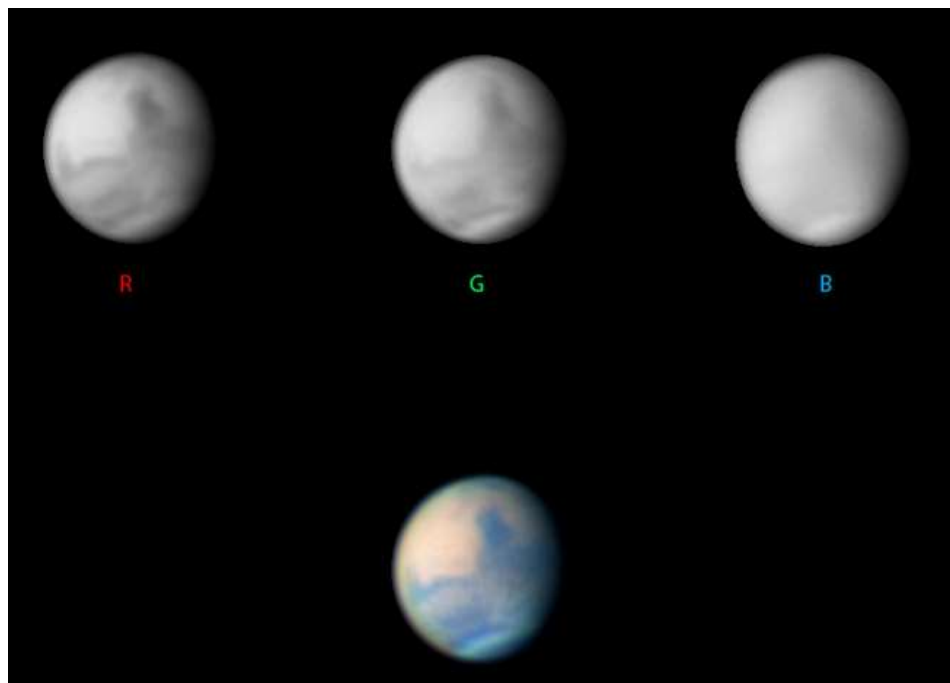
I like the plastic box for a couple reasons. It's lighter than a metal box and it wasn't too difficult to cut the holes out to mount the equipment. A black box would be more difficult to see at night and would get hotter in sunlight.

Charge the battery regularly and keep it above 11 volts and it should last for years.

And the box won't rust!



**Mars Moment**  
by Karl Adlon



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

Perhaps you have something to include?

★ ★ ★ ★ ★ ★ ★ ★

THIS MONTH, in the early morning skies, Mars will encounter Jupiter and then Saturn, as Mars will be in retrograde motion.

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Right now, even though Mars is very distant, talented amateurs with good equipment can obtain nice images.

The image above is from a Cloudy Nights post by “Kokatha man” in Australia.

<https://www.cloudynights.com/topic/698757-mars-jupiter-saturn-in-decent-seeing-this-early/?hl=%2Bmars>

He recognizes that “*Mars is still very early from any perspective!*” with opposition still 6 months away.

I can hardly wait to see what is coming from him as we get closer to opposition.

From text on the image:

- ★ Mars r-g-b image (including individual channels)
- ★ UT 19:35:42 March 18 2020
- ★ C.M. = 302.4°
- ★ C14 & ASI 290MM
- ★ © Milika & Nicholas

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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](mailto:kmja79@yahoo.com)).

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