Lloyd Lashbrook's June 16th Zoom Meeting 7:00 -9:00PM for the Observing Special Interest Group

https://us02web.zoom.us/j/7536063507?pwd=Yjh2NEF2WGZjaVVIM1FCZHE1MGx1Zz09

Meeting ID: 753 606 3507

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Welcome to all astronomy buffs out there. We hope that you find clear skies sooner rather than later and that this meeting may provide you with useful information. I know that trying to get out lately has been tough. But hold on, better nights are coming.

Now it's time for Wuz Up with Chaz Haffey. So Chaz, what is up? Any more questiones for Chaz?

I wanted to introduce you to a web site that could be very helpful for people just beginning in astronomy. David Fuller is an amateur astronomer who has been very involved in "public observing" for many years and he takes special care to help budding astronomers. His You Tube web site "Eyes on the Sky" should be very useful to beginners as well as those of us who have been doing this for a while. Try this link after the meeting. I will take you there now so you can see some of the many things it has to offer.

https://www.youtube.com/channel/UCbr9IU92jSF_bbQgBTRK6nw

One thing I would like to add to this online lesson. I can not emphasize enough how important it is to learn the constellations. These are our road maps in the sky. In the next few nights look to the east. There are three very bright stars far apart. This is the summer triangle. Each star is found in a different very important constellation. Study your star maps and see if you can trace out each of the figures shown on the charts for these constellations. If you learn to identify Cygnus, Aquila, and Lyra, you have made a giant leap in your progress to become an astronomer. Once you have identified these three constellations it should become easier and easier to identify others. Now turn south. Scorpius should be evident to you even in suburban skies. Above Scorpius is a very large constellation that looks something like a tin man with a stumpy arm. The area of this arm is where we will find this months objects.

June Objects

This time we will take on a number of objects in the northeastern part of Ophiuchus and one in Serpens Caput. Ophiuchus sits below Hercules and above Scorpius. This is a very interesting part of the sky since there are a variety of different objects that are close together and pretty easy to find.

Let's start with the Index Catalog open cluster 4665. It is large at 70 arc minutes and bright at mag 4.2. Under dark skies some people can see a very faint fuzzy patch. IC4665 is an excellent object for binoculars and small telescopes. At 47x in my 80mm short tube refractor the 30 member stars appear scattered and standout clearly against a background haze where it sits close to the Milky Way disk. It's stars range from 6.9 mag to around 12mag. My reason for starting here is because it sits very close to Beta Oph, a 2.75 mag star close to where the eastern arm attaches to the asterism. I like to use both binoculars and the scope on this one. If you use a larger scope keep the power low.

I said that the objects we were hunting this month were close to one another. But to start off with, we make our biggest jump. Using a 6x30 finder scope with a 6˚ field go about 11/2 fields to the 9:00. A fairly bright blue/green star appears in the field. But this is no star. Instead, it is planetary nebula NGC6572. Very small at 12 arc minutes but very bright at 9.75 magnitude makes this guy 100 times brighter than it's brother, the famous M57. Being small and bright, NGC6572 will take lots of magnification. Take it up to the most magnification that your scope can provide on that night. Pay attention to the field stars around the nebula and once those stars start to blur, back the power down some. At 94x in my 80mm refractor it is distinctly a little green blob that is definitely not a star but more like a little traffic light in the night sky. In a 14" scope at

273x it clearly shows why this object has names like the “Turquoise Orb” and the “Blue Racquetball.” It is young for a planetary nebula and will become much bigger and dimmer until some time, tens of thousands of years from now it will just fade away.

Our next jump is very easy. Put the nebula NGC6572 at 3:00 on the edge of the finder field and just below 9:00 on the other side, you can make out a dim cluster of stars. Sometimes called the “Tweedledum Cluster” or the “Captain Hook Cluster,” NGC6633 has many bright stars that are easily within reach of small telescopes. Over a dozen are brighter than 10th magnitude, with an additional 50 dimmer stars. Keep the magnification down under 100x and look for a little hook towards the 9:00. If you have a good imagination you can connect a sleeve, cuff and stump to the hook of the old captain within the rest of the bright cluster. NGC6633 is 20’ in diameter and has a total brightness of 4.6 magnitude. It’s given distance from the sun is about 1,000 LYs.

Now let’s head into Serpens Caput for a moment. Putting NGC6633 at the 2:00 edge of the finder field puts another very nice open cluster near the middle of the field. IC4756 is 4.6 mag and about 50’ wide. But is further from us at 1,600 LYs. Now, if we had a “Dweedledum Cluster” then there must be a “Tweedledee Cluster,” right? And, of course, this is it. IC4756 has closer to twenty stars brighter than 10magnitude. These are spread out in no particular pattern and once again there are many more dim stars that belong to this cluster too. IC4756 is a cluster that also looks very good in both binoculars and small telescopes. Magnifications of 80x to100x is plenty. Note: it is easy to look right past all three of these clusters if you use too much magnification.

Have you ever seen a carbon star? If you look to the edge of the field within IC4756 at 2:00 you will see a dim 10.8mag star that looks quite red. Most carbon stars do appear red. These old stars are cooling off which makes them look a bit red to start with and

now they are burning carbon, which ejects a fine dust into their atmospheres. The light that gets through that atmosphere is basically stripped of the colors other than reddish orange. This star, TYC0459-1346-1, is quite red on the index color scale at 3.1. Anything above 2.0 is considered more red than orange by this scale, so this one is definitely red. (Yes, there is a Carbon Star observing program and no, not all carbon stars on the list will be conveniently red/orange/ as you will learn if you do this program.)

The challenge object this month is TY Oph, an even redder carbon star at 3.8 on the color index and brighter at 9.7mag. This star is located by putting NGC6633 near the 1:00 edge of the 6˚ finder and IC4756 near the 10:00 edge. TY Oph will be right in the middle of your field. Good luck, there are dozens of red stars in the field. But this star should easily be the reddest of them all.

Ophiuhcus is full of nice Globular Clusters. This short list just includes the Messier GCs M14,10, 12, 9, 19, 62 and 107. All of these globular clusters are a nice site if you have an 8” scope and are spell binding if you have a 16” scope. Under very good skies a 6” scope resolves parts of these globular clusters rather well. In addition to the Messier GCs, there are another 18 of this type of object in Ophiuchus. But if you want to see them all you’re going to need to book some time on the 30” scope at 3RF. And then that probably won’t be enough scope for a couple of them.

I will be glad to take any last minute questions or comments.

Best of luck with your hunt this month and clear skies for everyone.

Best Regards,
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