ObSIG Zoom Meeting 7/21/21

Lloyd Lashbrook is inviting you to a scheduled Zoom meeting.

Topic: ObSIG Zoom Meeting
Time: This is a recurring meeting - Meets 3rd Wednesday of the month 7:00 – 9:00 pm

Join Zoom Meeting
https://us02web.zoom.us/j/7536063507?pwd=Yjh2NEF2WGZjaVVIM1FCZHE1MGx1Zz09
Meeting ID: 753 606 3507
Passcode: wmY4Tm

Good evening. So nice to see you all again. Do we have any new members? Please remove the mute on your microphone and let us know.

How has the observing been going lately? Did anyone go to the dark site this month? Has anyone gone through the constellation Ophiuchus that we studied last time? Or have you been doing some lunar and solar from home?

Tonight we will have a session of Waz Up with Chaz. I want to show you some more videos from David Duller where he will demonstrate how to set up and use an equatorial mount. And finally, I have an extensive list of objects from Scorpius that can be seen in small telescopes as well as large ones.

Chaz, I understand that there are some really nice meteor events coming soon. Is that right?

Now let's look into equatorial mounts. Why do many astronomers use them and how you can work with your mount?

This time I have set up our observing objects in an outline format. I hope this will make it easier for you to follow the conversation and find the pertinent information later while you are in the field.

July/August Objects 2021

This set of objects was designed to please people with both large and small telescopes.

1) **Ptolomey's Cluster in Scropius - M7**
   a) **3.3 mag – size 80 arc minutes**
   b) **RA 17h54m/-34°47'**
   c) **Look for the little cloud just west of the milky way and east of the stinger.**
   d) **The cluster is big, beautiful, and loose that has no real pattern but lots of loose star chains. Great @ 59x in a panoptic.**

2) **M6 - Butterfly Open Cluster**
   a) **4.2 mag - size 20 arc minutes**
   b) **RA 17h40m - -32°15'**
   c) **M6 easily fits in a finder field with M7. Put M7 near the 8:00 and M6 will appear opposite at 2:00.**
   d) **M6 really does have the shape of a butterfly and therefore is on the AL Asterisms list. Harder to see in a small scope but it does comes through well @ 95x.**

3) **NGC6441 - Globular Cluster**
   a) **7.15 mag – 9.5 size arc minutes**
   b) **RA17h50m/-35°32"**
   c) **Go back to M7. Put it at the 11:00 in the finder. This little glob cluster should be right in the middle of your field. Center and increase your power to what the night will allow. Star HR6630 mag 3.2 interferes greatly with this rather dim looking globular cluster. The star is so close it can't be easily isolated from the field. Still NGC6441 is plainly there even in small scopes.**

4) **M4 - Globular Cluster**
   a) **5.6 mag – size 36 arc minutes**
   b) **16h24m/-26°31'**
   c) **M4 is a very easy object to find since it lies less than 1° west of the brilliant star Antares that is the brightest star in Scorpius. A 6" SCT just can't resolve globular clusters well. With averted vision at 126x, M4 is a loose cluster that will show**

25-30stars. I can see one small star chain pretty well.

5) **M80 - Globular Cluster**
   a) **7.3 mag – size 10 arc minutes**
   b) **16h17m/ -22°59'**
   c) **To find M80,return to the finder and put 2.9 mag Sigma Scorpii, the bright star just to the 2:00 position of M4. Now locate 4.6 mag Omicron Scorpii which will be very near the 12:00. Once you have centered Omicron in your finder a very fuzzy, fairly bright star will be well within your field toward the 2:00. This is M80.**
   d) **M80 is bright but much smaller than M4. Actually, M80 has undergone a core collapse so it can't be fully resolved with any telescope. Give it all the power the skies will allow. In the 6" it did not resolve into stars even at 157x. I have to say, it looked much better at 328x in the old days through my 14 ½" scope.**

6) **NGC6231 (C76) open cluster size – 14 arc minutes. Open clusters Cr 316 and Tr 24 combined with C76 give the impression of a False Comet to the naked eye under excellent skies.**
   a) **Let's start with NGC 6231**
      i) **2.6 mag – size 14 arcminutes - Zeta Scorpii 1 & 2 may be included**
      ii) **RA 15h54m/ -41°49'**
      iii) **NGC6231 is an intensely bright open cluster that forms the head of the comet. It will resolve well with 12x60 binoculars, which will show the entire area of the comet.**
   b) **CR 316 is a very large open cluster that includes Trumpler 24**
      i) **3.4 mag – 100'**
      ii) **16h55m/ -40°50'**
      iii) **Together Cr316 & Tr24 form the tail of the comet. It is a sprinkling of stars in Cr316 that joins Tr24 to make the tail.**
   c) **To find the comet, look to Zeta Scorpii that sits at the intersection of the body and tail of Scorpius. The cluster just above is NGC6231. Use binoculars for the best effect on this object. On 7/5/21 I could not see the comet effect naked eye but all became clear in my 12x60 binos. What a joyous thing to put all these parts together. Fascinating! Also, at this point**

I noticed that the light pollution from the Casino is much better than it has been in recent years. I hope it stays that way!

These last two object searches will take larger telescopes and more experience to observe. Still, they can be teased out with smaller scopes. If you feel you are up to this challenge, by all means, give it a try!

7) **NGC 6302 / C69 – The Bug Planetary Nebula – size 83 x 24 – arc seconds, which is very small so it will take some power.**
   a) **9.6 mag**
   b) **RA17h14m/ -37˚06'**
   c) **To find "the bug" look at the star Mu Scorpii, which is a beautiful wide blue/white double star in the body of Scorpius. Beautiful in binos! In your low power eyepiece, (11/2˚ field for me), with Mu at the 3:00 position look just beyond the 9:00 position you will see a bright but small open cluster - NGC6281. Take some time to explore this little gem. In the 6" it has a strange rectangle shape with 16 stars clearly seen at 126 and 157x.**
      i) **5.4mag – size 8'**
      ii) **RA17h05m/ -37˚59'**
      iii) **From this cluster, let's move on to NGC6302 the "bug nebula." Place the open cluster to the 3:00 and relocate about 3˚ toward the 10:00 position. A dim fuzzy star appears near the 10:00. But, that's no star, that's the "bug". Can you make out the two lobes of the nebula? Do you see any color in it? In the 6" I could make out the two lobes at 126x with a nebula filter but no color appears.**

8) **NGC 6124 – C75 is an open cluster – 40 arc minutes**
   a) **5.8 mag – size 40'**
   b) **16h25m/ -40˚39'**
   c) **To locate this cluster, fit the aforementioned Zeta and Mu in your finder's extreme eastern edge. NGC6124 can be found just beyond the 3:00 outside the western edge.**

d) It will look a lot dimmer than you might expect and I could never quite see the imaginary figure that Stephen J. O'Meara describes in his book <u>The Caldwell Objects.</u> But it is indeed an intriguing object that shows 14 or more stars in the 6" and will look best at 126x. It is also the jumping off place to two more interesting objects, which is why I included it in tonight's discussion.

e) NGC6153 Is a very small planetary nebula – 30x18 arc seconds in size
   i) Mag 10.6
   ii) RA16h32m/ -40°15'

f) Once again, in a low power eyepiece (mine being11/2°) you will find a dim little group of stars just about one field away to the 10:00. Center this diamond shaped asterism of four stars lying on its side. The nebula is the fuzzy object on the bottom, clearly seen at higher power. The stars to the east and west are both doubles. But that night I could only make out HD148705 on the west side as a kissing pair. The other star has a very dim secondary out of the reach of small scopes. This asterism makes a good object for small scopes and a great object for larger scopes. 16"? Yes please.

g) One last bonus object is globular cluster NGC6139 - 8.2 arc minutes in size
   i) 9th mag
   ii) RA16h28m/ -38°51'
   iii) Globular cluster NGC6139 lies 11/2° to the 1:00 of the planetary nebula NGC6153. This time you will need a bigger scope to get a good view. A 16" dob is ideal at about 250x. It is about as bright as several of the dimmer Messier globulars. It did not resolve into stars with the 6" but it was clearly and easily seen at 95x.

Now do you see the advantage in learning to star hop? Look at all the wonderful objects that you can find along the way! I hope y'all have great skies and clear viewing. Let's talk about Scorpius at next month's meeting.