



Observing Special Interest Group Session 7 – February 24, 2021

NOTE: The meeting for Feb. 17th was canceled due to weather and moved to Feb. 24th at the same time.

INTRODUCTION

Hello everyone, I hope you all are well and have had a chance to do some observing. Does anyone have questions or observations they would like to share with us?

Hello Chaz, waz up dude? Yes it's time for our friend Chaz to tell us about his monthly article in the Spectrum. Take it away Chaz.

Now for our guest speaker. Gary Carter is a former president of TAS-Dallas and has extensive background knowledge of amateur astro equipment. We have had questions lately about eyepieces so I asked Gary to give a more in depth look at this subject. Gary, are you ready?

February “deep sky objects”. I have had people ask me to give some target objects during our monthly meetings. Therefore, this list was mostly composed with beginning astronomers in mind that wanted interesting objects that are pretty easy to find with small telescopes. Except for a few of these, I think this list meets those requirements. It is especially written for the people who use star charts & star catalogues in the field. **I ask that you open and print this document before the start of the meeting so you can follow along in the discussion.**

MEETING NOTES

February ObSIG Meeting

Our February Zoom meeting was held on 2/24/2021. It was postponed for a week due to the loss of power because of the cold weather. There were a total of thirteen members present. There were not a lot of questions this time nor had anyone attempted any observing, so we went right off to Chaz to get his latest info on Waz Up. Jupiter, Saturn and Mercury are all up. We notice that the planet Saturn and the Saturn nebula are fairly close together in the sky next month. So it may be a good time to observe them both to compare how they are alike and how the nebula may have gotten its name.

Next we discussed some objects that I had selected for our members to observe. This list and what was discussed in detail and will be attached to the end of this article.

Finally, Gary Carter gave a nice presentation on eyepieces. He presented a slide show in which he showed how the lenses in eyepieces differ in numbers, configurations and shapes. He explained how the different combinations brighten or dim the field, and how they affect field of view and eye relief. We covered about 20 different sets of popular eyepieces on the market today, from the very expensive to the very cheap. Gary helped clear up why 2" eyepieces are sometimes necessary if you have a setup that will take them. Basically, the 1.25" cylinder can only give so much field of view so if you are looking for a very wide field, you will need a 2" low power, wide field eyepiece to get the view you that you want.

Best Regards,
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Feb. Objects in Lepus & Orion.

- Nebulae - are quite plentiful in Orion but not so much in Lepus.

Of course, the great Orion Emission Nebula – M42 is a spectacular object. The center star of Orion's sword is M42. Clearly seen naked eye, it shows its self to not to be a star in binoculars. Small telescopes start to bring out many details. In my 14" Dob at high power, it was so bright and detailed it seemed I was looking at daytime clouds. Be sure to look for the little asterism of stars called the trapezium at the center of the nebula. You should easily find four stars, but two more can be coaxed out with good skies and at least 8" of aperture. M42 is the MUST SEE OBJECT THIS MONTH. See this nebula!
M 42 = RA 05h36m / DE -05°22'

Orion has another nebula of great interest. M 78 is a small 8'x6' reflection nebula about 2 degrees NE of Alnitak, the Eastern star of the belt. Its faint blue light shines at a surface brightness of only 12.0. It can be seen well in scopes as small as four inches. There are two distinct patches to see and the second is even dimmer. This nebula is unique since the gas does not emit light but simply reflects it. Although these types of these nebulae are really quite common, most reflection nebulae are just too dim for amateur equipment, so enjoy this little gem. M 78= RA 05h 47m/ DE +00°05'

Orion has a modest planetary nebula NGC 2022 one degree fifty four minutes NE from Lambda Orionis, the head of the great hunter.

It is quite bright at 9.2 surface brightness and has a slightly darken center. It measures about 28"x27" and it's center star of 15.2 VM is beyond the equipment of most beginning astronomers.

NGC 2022 = RA 05h43m/ DE +09°05'

Many other nebulae appear in Orion but most are a tremendous challenge for the neophyte.

- Open and Globular Clusters this month.

First globular clusters. The only "glob" this time of year is M 79 in Lepus. Sorry, but be patient, late spring is coming soon. As for M 79, it is one of the

smaller and dimmer globulars in the Messier list. At just 9.6 arc minutes and VM of 7.73 it is interesting but not exactly compelling. In a six scope it can be seen as a bright smudge that has a few outlying stars and has an overall surface brightness of only 12.0. You can find it by following a line starting from Alpha Leporis going through Beta Leporis and straight on about four degrees South. HJ372 is a bright double star very close to M79.
M 79 = 05h25m/ DE -24°30'

Open clusters are a different story this month. Let me tell you about two of them. These two also make the asterisms list since both form curious shapes in your eyepiece.

NGC 1662 can be found West of and near the top of Orion's shield. At 6.4 VM and 20 arc minutes it stands out well against the background. If you are a Star Trek fan, you may see the likeness to a Klingon battle cruiser. Really! To find it look past the two top stars of the shield.
NGC 1662= 04h49m/ DE +10°59'

Next we have an open cluster for people who like numbers. How about the number 37? You can find that number in the open cluster NGC 2169. Yes the top of the three is very flat but some folks write it that way, so? To find this cute little guy go to the middle of Orion's big club that near the bend in the arm. It is easily seen at VM 5.9 but it is small at five arc minutes so it takes about to 100x to get a good look.
NGC 2169 = RA 06h09m/ DE +13°57'

- There are two worthy Asterisms this month but they are not star clusters.

First go back to the Orion nebula. If you have the equipment to get this one it is truly a marvel. You need a configuration of 40 to 50x and 85+ arc minutes. Not easy to find that exact sweet spot, but when you do, it is well worth the effort. Place the nebula near the South of the field of view. Now look north to NGC 1981. With a little imagination, you can make out the form of a boot as you trace down toward the nebula. It appears as though the boot has just stomped on the nebula putting out the fire, leaving smoke and embers falling off the soul. Large at 40'x80'. Boot in the Fire = 05h36m/ DE -05°15'

Another much easier asterism lies winding it's way through Orion's belt. A good pair of 10x50 binoculars will show you an "S" starting above and

between Mintaka and Alnilam. The figure then winds it way through the belt and ends under Alnilam. Distinct! Very large $3^{\circ} \times 4^{\circ}$!

The Great Orion "S" = RA 05h 37m/ DE $-01^{\circ} 11'$

- Bright Galaxies - are not plentiful at this time of year. Orion has no bright galaxies and Lepus has only a couple dim ones to even attempt.

NGC 1964 is the brightest at 10.76 VM but has a surface brightness of 13.4. It is a small $5.5' \times 2.1'$ Spiral SE of Beta Leporis. Mostly one will be able to make out a small slash of light running NE-SW and not a lot more. An interest triangle of field stars lie just N of it.

NGC 1964 = 05h34m/ $-21^{\circ} 56'$

NGC 1832 is even smaller at $2.5 \times 1.3'$ than NGC1964 and its VM 11.1 is dimmer but its surface brightness is higher at 12.8. This is because its area is so much smaller. It is easy to find this galaxy less than half a degree N of Mu Leporis. Lots of luck with this one, but there are some interesting details to be had if you have the scope to do it.

NGC 1832 = 05h13m/ $15^{\circ} 39'$

- Now let's move on to the Interesting Star of the Month.

R Leporis, Hind's Crimson Star leaps out at you the first time you see it. Most stars astronomers call red are much closer to orange. Not this one. It is truly red. In a color index where very few "red stars" can break "2.5" this one rates a "5.7". Wow! It is a good idea to find this 8VM crimson star first in binoculars. Then it is a much easier find with the telescope. It is a tough find, located three degrees thirty arc seconds NW of Mu Leporis. R Leporis = RA 05h00m/ $-14^{\circ} 46'$

Double stars are too numerous to name in these two constellations, so just start hunting to find one that suits you. They make for good conversation at our Ob SIG meetings.

This list is sent to you directly so you can print it out and use it in the field with star charts.