Steve Yates
Fort Worth, Texas
2020

Astronomy Log

Visual Observation Notes

Time: CST/CDT (UTC-6/-5)

Telescopes: Bresser Comet Addition, **AR102s**, 102 mm, f/4.5, Achromatic Refractor, Aperture Mask 60 mm (f/7.65) if needed to meet the Sidgwick Standard (CA)

Eye Pieces: Astro-Tech ED Paradigm, 5 mm,12 mm, 25 mm; Stellarvue 15 mm EUW Ultra Wide Angle 82 degrees, Celestron 8-24 mm Zoom, assorted Plossls

Barlow: Celestron 2X

Mounts: Bresser Manual Alt/Az

2020-12-26

1553-1605

Captured images of the sun before it set for the day. Three sunspots were visible. 1745-1930

Viewed Jupiter and Saturn just before they set. Saturn is now below Jupiter. It is definitely easier for me to discern Jupiter's bands while the sky is still blue in twilight. Used my Astro-Tech Paradigm 12 mm eyepiece.

Jumped to the star IW Aqr that formed a perfect right triangle with two other stars forming the hypotenuse. Next, slewed to the star Sadalsuud in the constellation Aquarius. Worked my way up to the globular cluster M2. It is a nice fuzz ball but I

couldn't resolve any stars but there was still lots of twilight. At 1842 while scanning I tracked a rotating south to north polar satellite (Radarsat-2) with specular flashes as spun cross just below M2. Tracked another north to south polar satellite (Iridium 920) that tracked just above M2 this time about 1843.

Keep running into an odd shoe horn shape cluster of stars between M2 and the star Kitalpha. Still not sure what they are.

Chased another north to south polar satellite until it lead me to M15 and I stopped there because that was what I had been looking for. Pretty but difficult to resolve stars.

Swung the telescope more northwest to Cygnus. Found a bright and tight star pair that I've seen many times before about 5 degrees to the lower right of Deneb but I cannot identify them. Possibly HIP 92962A/HIP 92961B but I can't get the star patterns to match Stellarium.

2240-0000

Started in the constellation Orion and slewed to the NGC 2244 Satellite Cluster. No nebulosity was visible.

Went the open cluster NGC 2236 but I couldn’t seen anything.

Star hopped to the location of NGC 2251 but it was barely perceivable. Went to the Cone Nebula but no nebulosity was observed. However, the central Double Star S Monocerotis (15 Mon) was bright. Even with 6 mm Plossl I still could not split the pair for sure.

Swung over to the star Procyon, beautiful and sharp. Above that was 4 CMi and it was a distinct yellow.

Moved to Pollux and then to the double star Castor. It is a distinct double at 6 mm and both stars of near equal magnitude. The more easterly star was very slightly dimmer.

Found another double just like Castor pair but dimmer. Maybe HIP 36035 A but not certain because I do not recognize the star pattern around it.

2020-12-25

1255-1318

Captured images of the sun for the first time with my new Thousand Oaks Optical solar filter and my old Sony DSC-H400 super zoom camera. Two sunspots were visible in the southwestern limb with a possible new one on the same horizon.

2200-2315

Went to star Navi in the constellation Cassiopeia. From there to Ruchbah and then to the open cluster M 103 which I discovered visually by accident. It was obviously a cluster though it is one of the most distant known at 8,000-9,500 light-years away. From there I hopped to my target of the star system Iota Cassiopeiae. I was able to see a main companion star to the right (left in reality) of the main star using my Plossl 6 mm EP with my 2x Barlow (mag. 153X). It was still difficult to resolve.

Turned my telescope to the 11.2 day old Moon. Best view was with the 12 mm Paradigm. Also observed through the No. 09 Moon, No. 25 Red, and No.58 Green filters.

Neighbor's lights made it un-fun to look for anything else for the night.

2020-12-24

2230-2300

I got two new eye pieces (Stellarvue 15 mm 82 deg. and an Astro-tech Paradigm ED 12 mm) for Christmas so I took out my telescope to try them out. First target was Pleiades which was straight up. The cluster was sharp and beautiful in both. Next target was the moon a few days before full. Beautiful clarity with very little chromatic aberration. My son Austin was with me and looked at the moon for the first time with this telescope.

I moved the scope over to Orion and saw a distinct sibling to the double star Hatysa, maybe even a third star. Observed the double stars HIP 26199 and HIP 26197. The Paradigm 12mm worked best here. Saw four distinct stars for Ori C in the Orion Nebula. Witnessed both stars of the Mintaka binary system.

Moved over the Procyon for the first time with this telescope. It was very sharp and beautiful. Swung over to Cancer and saw the Praesepe (Beehive) star cluster M 44 for the first time. Six of the stars had a very distinct triangular pattern made from Star pairs.

Walked out in the back of the yard to clear the trees and find Kappa Draconis that my wife registered to me as "AA5TB Steve Yates". Viewed it with my naked eyes but it was difficult with the light pollution.

2020-12-21

1730-1830

Setup the telescope and iPhone to get some photos and view the big Jupiter and Saturn conjunction. I could discern two bands on Jupiter and Saturn rings were very clear. Jupiter's Galilean moons were spaced away from the planet except for Ganymede. I watched Ganymede disappear in front (or behind) of Jupiter. Took a good landscape view of my telescope viewing the conjunction and an over-exposed cell phone photo through my telescope.

2020-12-20

1800-1900

2130-2140

Checked out Jupiter and Saturn again for the upcoming conjunction. I was able to discern one band on Jupiter and Saturn's rings very clearly, perhaps due to there still being some evening skylight reducing the dynamic range of light intensity.

Experimented with taking photos of the moon with my iPhone XS. Found that using the No. Red filter on the 13 mm Plossl eye piece gave extraordinary views that my phone could capture. I later converted the red images to Noir black and white with good success. Used various camera apps but the native camera app work the best while collecting burst images and selecting the best later.

After supper and a movie my son Wes and I explored the Orion Nebula again. We counted at least 5 tightly clustered central stars with the 13 mm Plossl EP though the 20 mm Bresser gave the brightest nebulosity. Later tried to find references to these stars but all images favor the nebula and wash out the stars.

2020-12-19

1755-1815

2030-2145

Observed Jupiter and Saturn in the same FoV of my 8 mm eyepiece! Took several poor photos with my iPhone through the telescope.

After supper took several descent photos of the 1/4 moon with my iPhone an telescope. I had a good view of the star Deneb so I turned my telescope north and zoomed in on it. I tried to check out the sights in the region like NGC 6997 (mag. 10) to no avail.

After the constellation Orion rose over my neighbor's house I checked out Orion Nebula. At least 4 central stars were visible in the nebula as well as lots of nebulousity. Moved over to the multiple star system 48 Ori and was easily able to split two. Moved to the triple star system Alnitak in Orion's Belt but I could not split any stars. Went to double star Mintaka at the other end of the belt and was able to split the stars. Blue nebulousity was apparent.

As Sirius (Dog Star) finally rose above my neighbor's house I took a look at it for the first time with this telescope. It was intensely bright and beautiful though psychedelic due to the low elevation in the sky. Tried with the 6 mm eyepiece but could not see the Pup, Sirius B.

2020-12-17

1825-1900

2000-2100

Took photos of the crescent moon directly with my Sony DSC-H400 camera and via my iPhone XS through my telescope. While observing the moon I witnessed an eclipse of a small star by the dark side, tall mountains peaks being illuminated on the far side of the moon along the terminator far from the sunlit part, and the utter smoothness of the Oceanus Procellarum, the "Ocean of Storms" Mare Crisium.

Bands were detectable on Jupiter and 3 Galilean moons were visible with Callisto being far from the planet opposite the other moons.

Saturn continues to get fainter but the rings were still easily discernible. Titan was visible. Both Jupiter and Saturn now easily fit into the FoV of my 15 mm eyepiece.

I chose the cluster targets below ahead of time and star hopped to find them.

NGC 436 Open Cluster in Cassiopeia. The brightest stars were visible with a distinctive yellow star standing out to the side of the cluster.

NGC 457 C13 Open Cluster that also goes by the Owl Cluster, E.T. cluster, Dragonfly Cluster, or Kachina Doll Cluster. Only the brightest stars were visible.

NGC 752 C28 Open Cluster in Andromeda. Numerous stars were visible.

NGC 281 PAC-Man Nebula. I returned but could not be sure if I saw nebulosity this time.

Almaak Double Star at the end of the Big Dipper handle. I did not know it was a double before I saw that it was. I could easily split the stars with my Celestron Zoom Lens set to about 10 mm. I noted the the best observation of the much smaller companion star was made by being just inside of focus where there is a slight halo artifact and when placing my eye at the edge of the field. Resolution seems to increase under these conditions. I've since discovered that the smaller blue star is actually a triple star system itself!

2020-12-11

1800-1900

2100-2300

Jupiter and Saturn. Tried all my filters to remove some of the chromatic aberration. No. 12 Deep Yellow seemed to be my favorite for these planets. I am no longer able to see Saturn's shadow on the rings due to being closer in line with the sun. Saturn's moon Titon is visible as usual.

Scanned the skies at random objects near Lecerta and Andromeda.

Made my way to the M31 Andromeda Galaxy and M110 secondary Galaxy near my zentih.

Lower my elevation to the NGC 7686 Open Star Cluster (mag. 5.60).

Made a right into Cassiopeia to the star Shedir and hopped from there to the NGC 281 Pac-Man Nebula where I thought I could see some faint nebulosity. Within the nebula I studied the double star HIP 4121 A and I was able to split the stars.

I moved my telescope down from there to the Achird Star System, Eta Cassiopeiae A, and its companion Eta Cassiopeiae B. I was able to split the stars.

I turned my telescope around to Mars. As usual Mars was a bright disk with no CA but no details either.

I went down from Mars to the Revita (Kuton II) and Kuton III double star system. I can't recall if I could split them, I will have to reinvestigate.

I went down and east to the Pleiades (M 45) Open Cluster. Beautiful as usual with the best views in my Plossl 17mm eyepiece.

2020-12-09

1800-1900

2040-2115

Checked out Saturn and Jupiter and noted again (first noted yesterday) that they both fit in the FoV of my 20 mm eye piece.

Found Sadr in Cygnus.

From there star hopped to M29 - Cooling Tower.

Then on to NGC 6910 that looked like a dog legged cropping of stars. From there to the o1 Cyg eclipsing binary star.

Found Denep and hopped from there onto M39.

2020-12-06

Found M2 Globular Cluster by accident just scanning around.

Observed Saturn and Jupiter

Found NGC 7606 but is was very faint. Listed as magnitude 10.8

I star hopped and found where Neptune was supposed to be. Saw a faint blue star but it seemed much less than the reported magnitude of 7.71

2020-12-04

Fort Richardson State Park

Wes and I went to the Fort Richardson State Park, in north Texas last night for an awesome star gazing session with 10 x 50 binoculars and my 102mm, f/4.5 achromatic refractor telescope. The skies were good. We observed the planets Mars, Jupiter,

Saturn, Uranus, and Neptune. Jupiter and Saturn are now close enough together to be captured in the same field of view using my 20mm, 70 degree eyepiece! We saw many Messier objects much better than from my home in Fort Worth where my skies are a Bortle 8. In addition, the Pleiades (M45), Double Cluster, and most of the clusters in the constellation Augira were especially beautiful. M2, M15, and the Andromeda Galaxy were far better than from home.

Of course I couldn't hardly look at anything without seeing satellites cross the view. The coolest being two identical satellites traveling extremely close to each other from south to north in a polar orbit. I suspect they were NOSS 3-6(A) and NOSS 3-6(P), Navy spy satellites.

The freakiest sights were three stationary "UFOs" at dusk just west of Mars and about the same intensity as Mars. I looked up and asked Wes "Were did THOSE stars come from?" and disappeared before I finished the sentence. He looked up and saw the other two and then they disappeared, one slightly before the other. All within about 15 seconds. My guess is specular sunlight reflections off of satellites but they were not moving at all to the naked eye. They were clustered around the ecliptic so maybe geostationary satellites but I think their intensity was too strong for that. I know Iridium flares are common but three together with no motion? If they were geostationary satellites then I may be able to witness them again.

Overall we had a great time but we had to leave about the time Orion had fully risen because we had to go back home.

2020-11-28

Star hopped to the M2 Globular Cluster.

Went from there to M15 Globular Cluster (mag. 6.5)

Turned my telescope towards the constellation Augura

Found NGC 1857 (mag. 7.0)

Tried to find NGC 1778 (also mag. 7.0) but I could not see it for some reason. Hopped to the the Starfish Cluster (mag. 6.4)

Then on to NGC 1907 (mag. 8.2) but I could not find it.

Had a good view of M36 (mag. 6.0)

Saw the two main stars in M37 (mag. 5.6) but the rest were visible with averted vision only.