

ORAS - AstroBlast: August, 2022

The summer months seem to pass quicker and quicker every year. With the dog-days of summer beginning to wind down, it was time to pack the camping gear and make my astro-observing plans for the 2022 Oil Region Astronomical Society's AstroBlast convention. (the 1st major starparty to be held onsite since the observing field was completed). I spent Sunday and Monday finalizing my packing of clothing and food supplies, along with getting the usual yard work taken care of. All that was left to do was hook-up the SUV to the camper on Tuesday morning.

Tuesday 8/23/2022:

Up early to finish prepping the car for travel. Needed to wait for a passing rain shower to clear before hooking up the camper. (like my cats, I don't like to get wet, LOL). Finally on the road by 11:30am. After an uneventful couple hour drive up I79 and eastwards on I80, I arrived at the ORAS observatory site at 2pm. I first stopped in at the Activities building to say hello to the Observatory Director Dan H and Sharon, his better half, who had setup camp there. Within a few minutes Dean S came walking down from the observatory, in search of gas for the club riding mower. A little while later both Dan and Dean finished mowing the outer sections of the observing field, while I proceeded to setup camp. Once Dean had finished mowing, he pulled his trailer over next to mine and setup his camp.



There were already a number of attendees on site, including Tom H and Dean M, both setup over near the western power pedestal, across from the observatory building.



Soon, more folks arrived throughout the afternoon, including Eric S, Rich C, and then Chuck from Ohio, who is a regular down at Calhoun and on CloudyNights.



Late afternoon, ORAS President Tim S stopped by to say hello to Dean and I, and to pick up the starparty signs that go out on the road. Probably about 15 campers now on the field. Around 7pm, Ed K arrived with his mobile observatory and setup to my east, and then right at dusk, Denny H pulled in just to my south.



During the afternoon, Once I had my camp squared away, I assembled my usual EAA setup: an 8" Celestron SCT optical tube @ f6.3 with a ZWO ASI294MC Pro camera and filter wheel on an Atlas EQ GEM mount, along with a piggybacked Canon CCTV 25-100mm zoom lens with ASI290MC camera, and a 60mm Antaries refractor guidescope with an ASI120MC camera. I also setup my DIY Allsky cam, a ZWO ASI224MC & fisheye lens inside a domed container on a tripod mount. Finally, I put together my "Guttercam", an old Samsung SDC435 security vidcam & widefield lens housed inside a section of drain gutter. I use it mainly to monitor my telescope at night during meridian flips and GOTO slews, but it also doubles in watching for any four-legged 'critters' that might take an interest in the back of my camper when the clamshell hatch is open. (the ORAS site definitely has the 'Ursa' types). I also assembled my blackout tent canopy that hangs from the campers open clamshell.

At dusk, with Polaris faintly sparkling in the north, Dean, Ed, and I went into our usual first-night mode of polar and GOTO aligning our mounts, along with focusing the cameras and getting our observing plans together. Denny having arrived late didn't setup any equipment, but instead headed up to the observatory which Dan H and Dean M had opened up and were planning on using the two 14" SCT's. Right off the bat, I had an equipment issue with my camera's power supply dying after just a few minutes of being turned on. Without that, I would not be able to cool the camera. After digging thru my astro junk box, I came up with a 12V adapter and cable that fit the camera and soon it was chillin.

By then, the Milky-Way was softly glowing in a long arc extending from the northeast to the southern horizon, rising higher as the night progressed. Soon, a heavy dew began to form on any outdoor surfaces, followed later in the evening by sporadic ground fog that rolled downhill from the northern edge of the observing field, occasionally rising overhead. The sky began to go a little soft, with the Milky-Way slightly washed-out.

The AllSky cam struggled with the moist air, and I occasionally had to take a cloth and wipe-off its dome, but while I was under the blackout canopy it provided me great real-time views of the Milky-Way and the occasional bright meteor.



With the soft skies, I decided to abandon most of my nebula observing plans. Instead, it was going to be a starcluster observing night! With the constellation Cygnus 'the Swan' flying high to my east, I decided to start there with EAA observations of a couple of 'sparse' Messier open clusters M29 and M39:



(8" SCT optical tube @ f6.3 on an Atlas Gem, ZWO ASI294MC camera with L-Pro broadband filter, 15 second subs, PHD guided, livestacked for 5 minutes using SharpCap with dark & flat calibration frames applied, and histogram tweaked on the fly).

I then slewed the telescope over to the "W" of Cassiopeia over in the northeast to observe the more 'rich' clusters of M52 and M103:



(same info as above using the L-Pro filter, 15 second subs, stacked for 5 minutes).

With the observation of M103 in hand, I noticed that the fog had lifted and sky transparency had improved, so I decided to go for an exotic deep-sky object that I had previously visited from my light-polluted backyard and was saving for a darker sky. The supernova remnant Cassiopeia-A! Sky & Telescope magazine has a great observing article on this object in their December 2014 issue with images and a sketch. The remnant is about 11,000 light-years away and about 13 ly in diameter. It's also the brightest non-solar system radio-source. It's considered a challenge object for both visual observers with large telescopes and imager using narrowband filters. So I switched the filter wheel over to the L-eNhanse narrowband, refocused on the nearby bright star Caph, (beta Cas), and centered the telescope on the SNR for a deep exposure. Here's my observation:

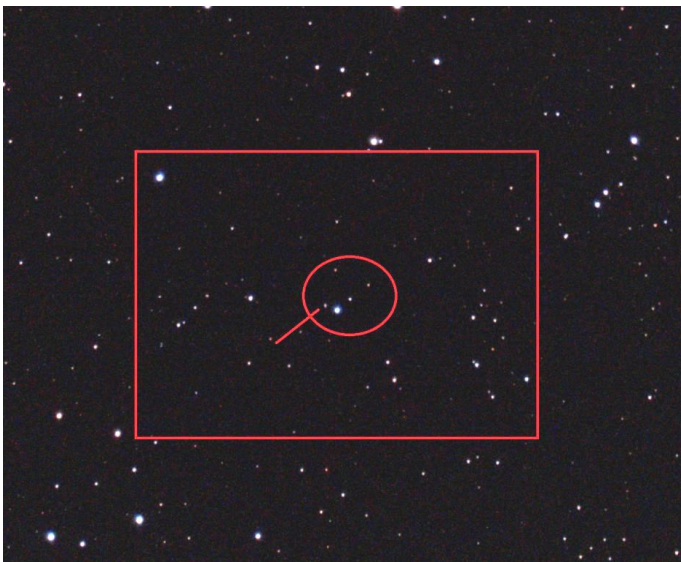


(same telescope info as above, now using the L-eNhanse narrowband filter, 3 minute subs, stacked for one hour).

Sharing my observation later in the week with both Tom H and Gary S, inspired both of them to also try their luck at imaging this elusive object. ☺

I then went for another exotic object, the quad-lensed Quasar J014709+463037 located in the constellation of Andromeda, nicknamed on CloudyNights as the 'Andromeda's Parachute'.

While I was able to identify the QSO, and detect a hint of the lensing, I really need to utilize one of the club 14" SCT's for a better observation. Here's the best I could do:



(same info as above, back using the L-Pro filter, 15 second subs, stacked for 5 minutes).

You can find more of my EAA observations of these 'exotic creatures of the deep' on my webpage: <http://stellar-journeys.org/deepskyexotics.htm>

I then headed back into 'clusterland', where my observing was more successful, first with M34 in Perseus, followed by the 'Double-Cluster' pair of NGC869 & 884:



(same info as above, back using the L-Pro filter, 15 second subs, stacked for 5 minutes).

By now it was close to 3am, and I was feeling the long day, so I powered-down the telescope & cameras, disassembled the clam tent, and headed to bed. A successful evening!

Wednesday 8/24/2022:

Slept in till 9:30am. After a quick breakfast, I joined Dean S, Denny, and Ed outdoors. Later, Chuck walked over and visited with our group. We then pitched in to help Dan and Dean M with event prep work, setting up several popup canopies for shade behind the observatory, and assembling the registration tent down by the activities building. Dean and I then tested our laptops with the new big screen TV in the classroom and arranged the chairs and podium for the presentations later in the week. After lunch, Denny, Dean S, Chuck, and I sat around camp discussing our astronomical observations from the night before and watched more attendees arrive onsite. These included Steve & Deb B, Paul, Ray L, Al, and Gary S who setup camp next to Dean and I.





Towards sunset, Dean S, Gary S, Dean M, Ed, Denny, and I pooled our resources for a group meal under Dean S's camper awning. A little later Dan, Barb R, and Tim dropped in to visit with us.



At dusk, Dan opened the observatory roof, and Tim led a training session with those present on visually using the 30" Dob, while Dean M and Dan worked the two 14" SCT's, training those interested on using the Meade visually and the Celestron for imaging. They continued holding these training sessions every night during the convention, adding a number of club members to the list of those qualified to open the observatory.



With dew already beginning to form, I assembled my blackout tent at the rear of my camper, powered on my equipment, and organized my observing plans. Tonight I was going to focus my observing on SH2 objects, which are mostly HII regions of nebulosity embedded within the Milky-Way. The few scattered clouds that during the day provided us with a

little shade gave way to clear skies and soon the bright summer stars rising overhead began to shine, followed by the Milky-Way's glowing band of starlight.



The night's transparency started off soft, with a little fog, but by midnight the sky had improved greatly. The AllSky dome camera collected images all evening, and the next day I stitched those into a time-lapse of the night: <https://youtu.be/PR1DnNOXERg>

While the AllSky was purring away, I pointed the 8" SCT overhead to Cygnus and SH2-114, known as the "Flying Dragon". To really bring out the dragon's 'wings' I had to take a deep exposure. Here's my observation:



(8" SCT optical tube @ f6.3 on an Atlas Gem, ZWO ASI294MC camera with L-eNhanse narrowband filter, 3 minute subs, PHD guided, livestacked for 60 minutes using SharpCap with dark & flat calibration frames applied, and histogram tweaked on the fly).

I then slewed the telescope over to Queen Cassiopeia and settled-in for an evening of EAA observing that lasted the night. I added another six SH2's to my capture list, including SH2-113, 170, 172, 173, 175, and 176. The best being SH2-170 and SH2-175, a good example of the large difference in size of SH2 nebula.



(same info as above, using the L-eNhanche filter, 3 minute subs, stacked for 30 minutes).

As the evening progressed, the summer Milky-Way swam across the meridian and began to empty out to the south-west, and brilliant Jupiter slowly rose over the trees to the south-east and took center-court on the meridian. But the glistening winter Milky-Way and constellations were ascending, with the 'Great Hunter' Orion rising over the world.



It was now past 4am, and as I was having trouble keeping from falling out of my observing char, decide it was a good time to call it a night, power down the scope, pack the tent and head indoors to bed! It was a very good night at ORAS!

Thursday 8/25/2022:

Woke around 6am, but rolled back over and slept till 10am.

The Sun warmed camper finally roused me out of bed to open the camper windows for air. After breakfast, I visited with Denny, Dean S, Ed, Gary, and Steve & Deb B. Several of the tent campers, Rich and Chuck, who couldn't stay for the entire convention had already packed-up and headed home. Denny also had another weekend commitment, so he eventually broke camp and left later in the afternoon.

Spent the day lounging in the shade, trying to stay out of the hot Sun, Temps today were going to be a warm one, heading into the mid to upper 80's. Early afternoon Dean S, Denny, and I walked down to the activities building where we joined Dan in cleaning-out the garage and setting up tables inside to hold the door-prizes. I then gave the classroom floor a good sweeping. While there, Sharon fixed a big pot of pasta for our lunch, with several other attendees stopping in for a plate.

Late afternoon, after hitting the shower, I headed inside my camper to take a nap so I could make it thru another possible night of observing. Having taken care to put the

sunshade on the camper windows and running the exhaust fan, the temp inside the camper was near ambient and tolerable for sleeping. At 6pm, nearly all of us on the field gathered over at Dean M's camp where we enjoyed a few adult beverages and a group dinner.



At sunset, with the sky and weather forecast now looking more iffy, I headed back over to my camp where I dressed in slightly warmer clothes for the evening, and assembled the blackout tent and uncovered the telescope. I then walked over to the open observatory and lent a hand with the club training under now cloudy skies. A little later, back over at camp, Dean, Gary, Ed, and I sat around and watched the overcast sky, occasionally checking the weather cloud images for any hope of possible clearing. Finally, with clouds getting thicker, we threw in the towel and called it quits for the night. I covered the telescope, took down the tent, and headed indoors to early bed.

Friday 8/26/2022:

Up early today at 8:30am,,, LOL.

After breakfast, spent the morning drinking coffee and visiting with Gary and Dean out under Dean's camper awning. At noon, I walked down to the activities building and visited with Al, Dean M, Dan & Sharon. While there, Susan & John P arrived for the day's activities. A little after 2pm, I walked back up to my camper for a late lunch/early dinner. More attendees continued to arrive and setup camp, including Marianne H who pitched her tent over near Gary's camper, and Pat and his son Ryan who setup towards the southern edge of the observing field. While at camp, around 3pm the sky clouded over and soon rain drops began to fly. The storm reached it maximum around 3:30pm with a moderate downpour accompanied by a very loud 'boomer' right overhead.



By 4:30pm, the storm had moved off and the Sun was out drying-off the observing field. I gathered up my laptop and presentation notes and headed down to the activities building joining other attendees (Barb R, Miranda H, & others) for Tim S's opening ceremony welcome and the first talk by Vivian W on NASA Eclipse Ambassadors. Barb R then took over as the 'MC', introducing each speaker. First up was Dean S's talk on beginning astrophotography and nightscapes.



I followed that with dual talks on beginning star hopping and deep sky sketching. All talks were well attended.



Afterwards, Dan, Tim, Al, Barb, and Dean M opened up the observatory roof and trained other club members on the telescopes.

Shortly after sunset, a line of clouds and light haze moved down from Lake Erie obscuring most of the sky. Dean, Gary and I gathered under Dean's camper awning, watching the sky for the occasional star shining dimly thru the clouds and sucker holes, and checking the forecast. Around 11pm, Barb joined us to share our misery, with Gary then pulling out a bottle of 14yr-old scotch that lightened our spirits, while Barb entertained us with stories from her days as an ER nurse. Occasionally, a large clearing would go overhead tempting us to uncover our telescopes, but we wisely deferred and the sky never quite cleared enough to make imaging or EAA observing worthwhile. Finally, by a quarter till 2am, Barb decided to head home, so we all said goodnight and headed for our campers to bed.

Saturday 8/27/2022:

Up at 9am, and after a quick breakfast, I grabbed my shower kit and a bag of astro 'sell' stuff, and Gary and I headed down to the activities building for the swap meet. Didn't sell any of the stuff that I had brought, but did pickup a couple of small items. After cleaning-up, I headed back up to the camper to get my laptop and talk notes and headed back to the activities building for lunch at the BBQ food-truck.



Caught most of Tim S's talk on telescopes in Australia and the sound based astro software for the visually impaired, then sat-in on Gary P's talk on observing the sun and aurora.



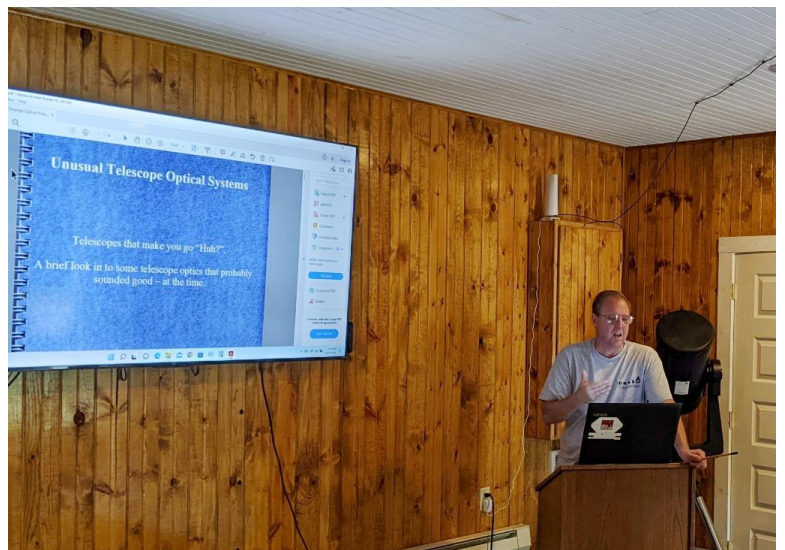
Outside of the classroom, the registration folks were keeping busy selling raffle tickets while Dan H was showing solar Ha features with the club's Lunt Solar telescope.



Barb R continued doing the presenter introductions, engaging the audience.



After I gave my presentation on Galileo – the first optical astronomer, Susan P then gave her talk on beginning observing, followed by a zoom talk on exoplanets by Derek W, then a fun presentation by Dean M on unusual optical telescopes.



Shortly after the last presentation, it was time for the group pizza party, followed soon by the door prize raffle giveaway. Tim S gave a few closing remarks and ORAS Treasurer and Secretary Barb R & Marianne H facilitated the prize drawing.



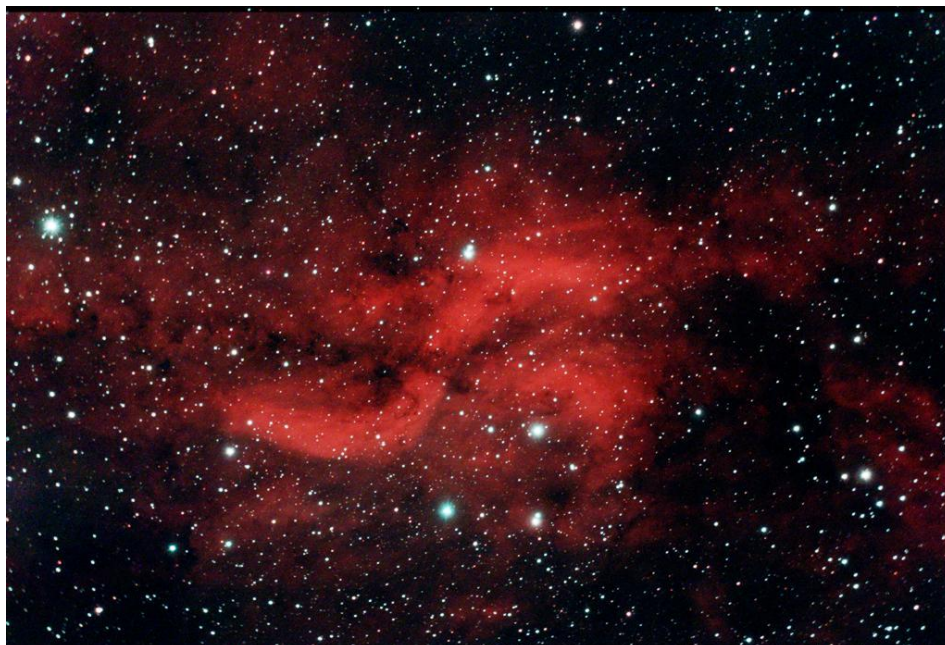
There was a good selection of prizes to be had, and I walked away with a new hat and pin from the AL, (Ed won a pin too), and a nifty astro-picture collage donated by Dean S. ☺

After helping put away the outdoor chairs, our group headed back up to camp. With the Sun now down below the western tree-line and a chill in the air, I quickly uncovered the telescope, started up laptop and AllSky camera, and set up the blackout tent before heading inside to change into heavier clothing. Dan, Tim, Al, Barb, and a few other club members opened up the observatory and began showing folks the telescopes while waiting for darkness to fall. Once the stars began to shine, I powered on my telescope and slewed up to the bright star Deneb in Cygnus to focus the camera.



With the Milky-Way beginning to 'pop', I moved the scope over to nearby HII emission nebula Simeis-57, the "Propeller Nebula" and once I had the camera & SharpCap doing a long livestack, I then headed up to the observatory to see if I could lend a hand. By now, a large crowd of 45+ people were jammed inside the building, waiting to look thru one of the telescopes. You could barely move without bumping into someone. Seeing that there were more than enough club member's on-hand to assist, and not wanting to add to the crowd. I headed back to camp. Dean S had also gone up to help, but he too soon returned. Apparently, the local advertizing had worked, and a large number of public showed up to look thru the observatory telescopes.

After a brief chat with Dean and Gary, I headed underneath the blackout tent in time to finish the livestack of Simeis-57. Here's the EAA observation:



(8" SCT optical tube @ f6.3 on an Atlas Gem, ZWO ASI294MC camera with L-eNhanche narrowband filter, 3 minute subs, PHD guided, livestacked for 60 minutes using SharpCap with dark & flat calibration frames applied, and histogram tweaked on the fly).

I then moved the telescope over the border into the constellation Cepheus 'the King' and settled in for a long run on a section of IC1396, known as the "Elephant Trunk". During that run, a little fog began to build on the field, adding to another night of heavy dew. Fortunately, while the horizon became a little fuzzy at times, overhead the sky remained very clear. Around 11:38pm, with Jupiter rising over the tree-line, the AllSky caught another bright bolide streaking across the sky just above the planet. The camera had also picked up another bright meteor earlier at 9:42pm streaking down the Milky-Way into Sagittarius.



Right after midnight, Barb R stopped over to visit before heading home just as I was finishing the real-time livestack image and got to see the 'magic' behind doing EAA observing. Here's the observation of the "Elephant Trunk", IC1396A, a filament of dark nebula backlit by HII emission nebulosity.



(same info as above, using the L-eNhanche filter, 3 minute subs, stacked for 60 minutes).

I then slewed the telescope down to Cassiopeia the "Queen", and spent the rest of the evening working on my SH2 objects project. Worked my way thru SH2-187, the trio of SH2-

192/193/194, then 195/187, 196, 198, and finally around 4:30am, with SH2-201 that I had to cut short from the clouds that were now rolling in from the lake.



Here's the best of the night's SH2 objects: SH2-196, and SH2-198 & 201 both near the 'Soul Nebula'.



(same info as above, using the L-eNhanse filter, 3 minute subs, stacked for 30 minutes for SH2-196 & 198, but only stacked for 6 minutes on SH2-201).

With the clouds increasing, I decided to quit for the night, closed-up and headed to bed. The next day, I made a time-lapse from that night's AllSky captures:

<https://youtu.be/tGris9CJXk>

Sunday 8/28/2022:

With the long evening of observing, I slept in till nearly 10am, woken by the warm camper. After breakfast, I helped out with cleaning up the facilities and packing away the tents till early afternoon. Most of the convention attendees packed-up and headed for home, but Dean S, Gary S, Ed, Dan & Sharon, Ray L and I looked at the weather forecast and decided to stay one more night. (later that evening, local member John H joined Dan at the observatory)

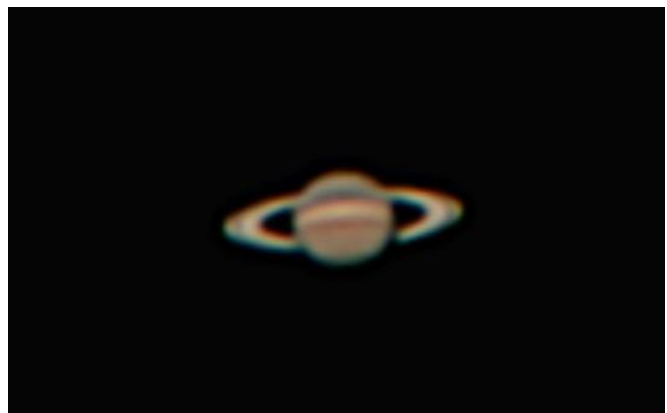
Mid-afternoon, I laid down for a much needed 2 hour nap. After freshening-up, I then joined the group over at Dean's camper for drinks and a last 'clean out the fridge' dinner. All of us contributed what we had left.

At dusk, I assembled the blackout tent, uncovered the scope and prepared my observing notes for the night. As I was still tired from the previous all-nighter and would probably be going to bed early, I decided to spend the last evening doing fun observations and not any formal observing projects. While waiting for full darkness, I started off using the L-Pro filter for a little 'Shallow-Sky' (solar system) observing, first dropping in to visit Comet Panstarrs K2 over in the southwest for one last time. As the comet had recently crossed over Earth's orbital plane, it displayed a bright coma and a short tail.



(8" SCT optical tube @ f6.3 on an Atlas Gem, ZWO ASI294MC camera with L-Pro broadband filter, 60 second subs, PHD guided, livestacked for 10 minutes using SharpCap with dark & flat calibration frames applied, and histogram tweaked on the fly).

I then moved on to the ringed planet Saturn, where I purposely overexposed the planet's disk to bring-out its tiny moons. I then re-adjusted the exposure & gain for the planet's surface features, and took a 2 ½ minute avi clip at 340ms, capturing about 500 frames. (several days later, back at home, I processed the avi clip using Registax to stack all the subframes into a single image). Here's a picture with the moons labeled, and the processed image of Saturn:



I then headed back out into the 'Deep', slewing the telescope over to Sagittarius and it's bright splashy globular cluster M22.



(same info as above using the L-Pro filter, 15 second subs, stacked for 15 minutes).

With the sky now dark, I next pointed the telescope up to Pegasus, the "Winged Horse" and the cluster of NGC galaxies known as "Stephans Quintet". Hearing Dean and Gary talking about taking 10 minute subframes, I thought, "why not"! My guiding had been spot-on the last several nights, and the sky transparency was good. This was a good as time as any to try going really long on exposures. So I took a few short 15 second exposures to frame the galaxy group, got the guiding going, and then set the exposure time to 10 minutes and started up the livestacking and walked away to visit with Dean. I came back after the first 10 minutes was done to make sure everything looked ok, decided to let it stack for an hour, then headed outdoors to my camping chair to spend some time doing naked-eye Milky-Way viewing. At the end of the hour, I came back and finalized the observation.



(8" SCT optical tube @ f6.3 on an Atlas Gem, ZWO ASI294MC camera with L-Pro broadband filter, 10 minute subs, PHD guided, livestacked for 60 minutes using Sharpcap).

I then went to nearby bright spiral galaxy NGC7331 - the "Deer Lick Galaxy" and went for another 10 minute sub exposure for an hour. After setting up and starting the camera, I went for a walk visiting with Dean, Gary, and Ed, dropping off KitKat snacks. I even took some up to the observatory for Dan, Ray, and John and watched Dan in action with the C14. At the end of the hour, I made my way back to the camper and watched the last of the livestack before saving the observation. Here are the results:



(same info as above using the L-Pro filter, 10 minute subs, stacked for 60 minutes).

By now it was after 2am, and the transparency had gone soft with a little haze along the horizon. So I decided to call it a night and shutdown and headed to bed.



Monday 8/29/2022:

Slept-in till about 9am, then after dressing, began to pack a few items away. At 10am we were all invited down to the activities building where Dan and Sharon fixed a bacon & egg breakfast. Umm!! Then back to work finishing packing up the telescope and the outdoor camping items. Shortly after noon, we were all pulling out from the observatory, with Dan & Sharon the last ones out, locking the gate behind them. The trip home was uneventful, got thru Pittsburgh before the rush, home by 3pm.

So, six nights spent at the ORAS observatory for Astroblast this past week. Four of those nights we were able to observe making this a successful trip!

My next astro-trip will be back to Cherry Springs and the Black Forest Star Party in late September!

Larry McHenry

Astronomical Webportal: <http://www.stellar-journeys.org/>