ORAS Observatory August, 2024

Continuing with this year's starcloud EAA observing project, for the August New Moon, I headed up north to my club's observatory, (Oil Region Astronomical Society - ORAS), located about 15 miles to the west of Clarion Pa. While the site is not as dark as say Cherry Springs or Calhoun, and it has light domes to the NW, SW, and SE, it does have a dark eastern horizon and straight overhead. Perfect for Summer Triangle Starclouds!

Thursday 08/01/2024:

Left Pgh at 9:30am. It was going to be a hot day. The temp was already in the mid 70's and humid. The sky was mostly sunny with scattered clouds. But the sky was a washed out milky blue from thick smoke overhead from Canadian wildfires.

Drive was uneventful, arrived onsite at the ORAS Observatory around 12:15pm. Drove up to the observing field and setup to the east of the Observatory near the first power pedestal. First order of business was to plug in the camper and get the AC on.
Then create my own shade attaching the sun visit to the camper and setting up the hatch easy up canopy. Took my time, stopping to sit in the shade and not overheat.
Once camp was squared away, I headed inside the now cool camper for lunch.

After cleaning up I headed back to assemble my telescope:
an 8” Celestron SCT optical tube @ f6.3 with a ZWO ASI294MC Pro camera, ZWO filter wheel & focuser, on an Atlas EQ GEM mount, along with a piggybacked Sky-Watcher EVO 50mm refractor with a ASI294MC camera (uncooled model),and a 60mm Antaries refractor guidescope with an ASI120MC camera. Attached to the bottom rail of the main optical tube was my ASI290MC camera with a small Canon 5.5-50mm CCTV lens as a super-widefield finder. (I planned on using the little Canon lens As my primary starcloud kit)
And I also setup the Allsky cam, a ZWO ASI224MC & fisheye lens in a DIY dome.

Dean S arrived a little after 2pm, and after mowing the southern half of the field, setup camp by the south power pedestal. His brother Gary S joined him a few hours later around 400pm. Dan H also stopped by (Dan was onsite working on the tractor).

After balancing the telescope and setting up the AllSky camera, I headed inside to cool off. Outside temp was at 87, inside with the AC, it was a comfortable 74.

Late afternoon, I visited with Dean and Gary under Dean's canopy and had a few snacks. Walked back to my camp at 7pm to phone home and make dinner. Towards sunset, I walked down to the activity building where Dean was putting away the zero-turn mower.
The new grass growing on the west and north field looked good!

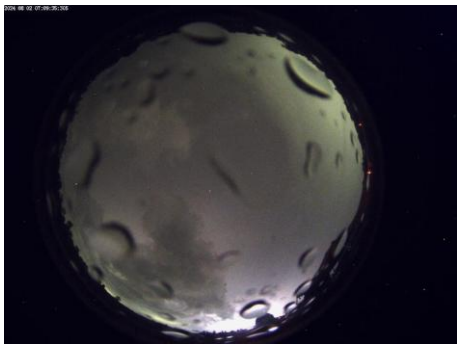
On the walk back, you could see a dusty haze to the NW. Astropheric confirmed it was smoke. Being optimistic, I partly assembled the blackout tent, but it was too hot to fully enclose the back hatch, plus there was no one setup behind me, so I hung the old 'short' blackout curtains and left the back open for airflow. Uncovered the telescope and powered on the laptop.

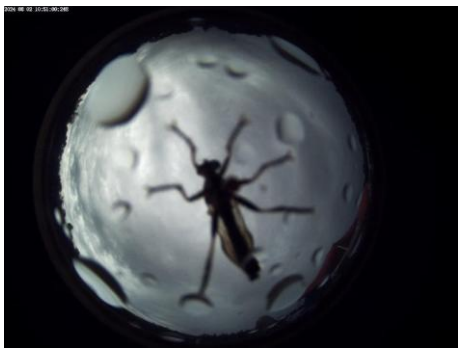
Once dark, Polaris managed to shine thru the haze and soon everyone was polar aligned.

Dean even began imaging M20. In the meantime, both Gary and I worked on getting our scopes focused and guiders trained, but before I found really get started EAA observing, thick bands of clouds moved in. I did take advantage of a sucker hole and got in a single test image of the Summer Triangle.

Called it a night at 11:30, powered down the equipment and covered up the telescope, but left the AllSky uncovered. Headed indoors, stayed up reading till 1am.

The next day I reviewed the AllSky captures. Caught a lot of lightning flashes on the AllSky camera. https://youtu.be/qcvuhemH6hU?si=iv2FFPG5f3vNjSfU
And a few visitors! Argh!!!





Friday 08/02/2024:

Wonder how much rain we've got so far today?
We've been getting hammered since 4:30am. Multiple Thunderstorms kept waking me up.
But then the rain lightly tapping on the camper roof lolled me back to sleep.
Finally rolled out of bed at 8:30am. When it's not raining it's foggy. At least the power pedestal are getting all the bird poop washed off,,, LOL.

Spent the afternoon visiting with Dean and Gary. Dan and Sharon also showed up, spending time at the activities building where Dan continued to work on the tractor radiator. Later Dan came up to the observatory and we removed his home made focuser from the C14 and reinstalled the old Celestron hardware. And I figured out how to attach the Celestron f6.3 focal reducer to the Baader switch-lock. All we need is the new camera equipment, which UPS finally shows on the move. I also straightened up the work desk inside the observatory warm room and brought in a little library of observing guide books. These will be on long-term loan to the club for use by club members inside the observatory.

It was mostly cloudy for the entire day, threatening to rain. Joined Dean and Gary for pre-dinner snacks and drinks, and cloud watching. We also watched the wildlife roaming the field. Every evening there were 12 – 15 deer. You also had to watch where you walked as the field was polluted with bear scat! (We didn't see one the whole time there ☺)

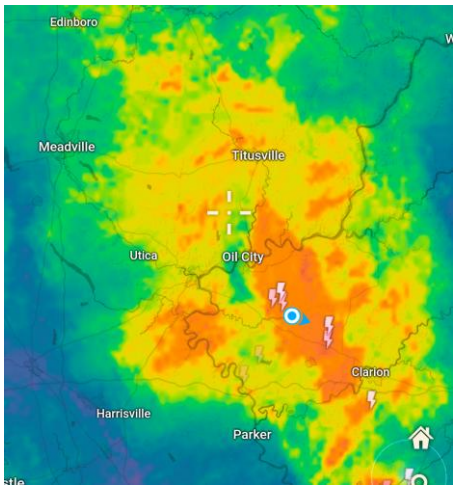
After dinner I headed over to the observatory and spent time inside the warm room getting my laptop to connect to the C14 and ASI2600MC camera. Also tested the desktop computer that Denny H had installed the previous weekend. I was later joined by Gary.
The desktop computer works good, and both Gary and I tested out our laptops.
Headed back to camp at 10pm.

Around 11pm, Dean reported that he stepped outside for a few minutes around 11pm and was able to see the Milky Way. I quickly checked the satellite/radar and decided to just stay indoors. Stayed up reading till midnight.

Saturday 08/03/2024:

Slept in till 8:30am. Woke to an overcast sky and a wet observing field. It had rained overnight, but no big lightening storms like the night before. Weather forecast for tonight doesn't look good. Sunday night looks great, but Monday and Tuesday not so much. This trip is heading into bust territory. After breakfast, spent time sitting outside under my canopy reading. Dean dropped over to say hi.

Around 11:30am, the Sun began breaking thru the clouds and you could feel the humidity. But off to our North West there were large storm clouds rumbling with thunder. Radar showed a big train of storms heading our way. Before long the entire western horizon was filled with angry looking clouds with lightening flashing near every minute.

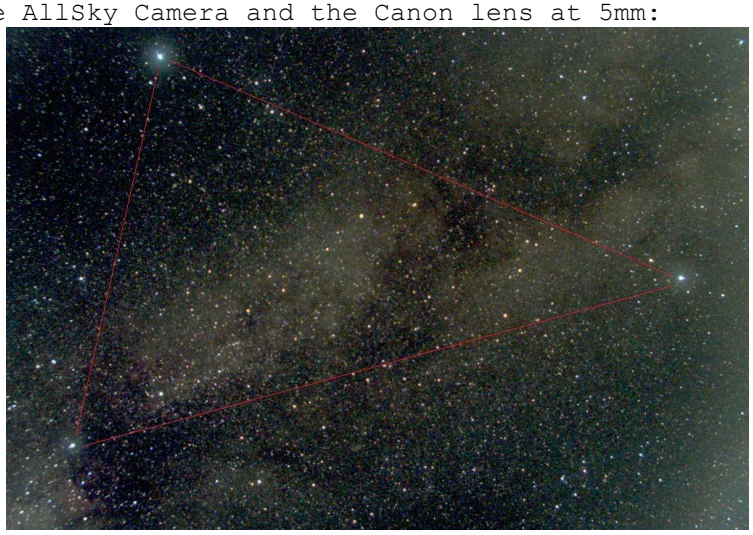


At 12:30pm there were several loud claps of thunder over the observing field, with a particularly close jarring lightening strike down around camp Coffman Road that lit up the field. Gary took shelter in the Observatory, while Dean and I rode out the storm in the activities building, where several outlet breakers popped. Back at camp, I found that my field pedestal breaker had popped, along with several inside the camper. Fortunately, nothing 'electronic' seemed damaged.

The light off/on drizzle turned into a steady rain around 2:30 pm. Good for growing grass on the observing field. By 4pm, the rain had stopped and the Sun was back out. Around 4:30pm, Jeff, a local new club member, stopped by to check out the Observatory. Dean and I gave him a quick tour and demonstrated opening/closing the roof.

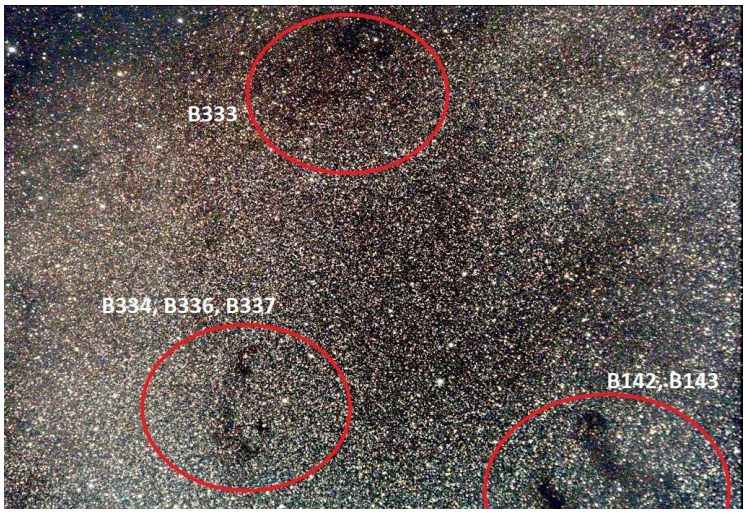
Gary, Dean, and I met afterwards at Dean's camper for refreshments and cloud watching, as a new storm front slowly moved in from the NW. Around 6:30pm a heavy downpour went over, but after about 15 minutes it tapered off to drizzle and we were rewarded with a rainbow to our SE. The sky began to partly clear at sunset, but soon you could see fog forming in the tree line to the NW of the Observatory.

Being optimistic, I uncovered the telescope and prepped my observing notes while keeping an eye on a possible rain cloud skirting along our eastern horizon. Shortly after 11pm, the sky began to clear and soon I had slewed the telescope up to the Summer Triangle region to escape the ground fog. I started off using the Canon lens set to 5mmm for ultra-widefield observing of the Summer Triangle and the Great Rift. (was also using the EVO50mm f4.2 refractor). I then slewed the telescope to either end of the triangle to observe more of the Lacerta/Cygnus region past Deneb, and the southern clouds and rift in Aquila. Here's the EAA observation with the AllSky Camera and the Canon lens at 5mm:



(Canon zoom set to 5mm, ASI290MC camera with IR filter, 60 second subs, for 15 minutes)

While EAA observing, I was able to identify several Barnard Dark Nebula embedded within the starclouds around the Lacerta/Cygnus area using the Canon 5mm, and within the Gamma Aquilae Starcloud with the EVO50mm refractor.



(Canon zoom set to 25mm, ASI290MC camera with IR filter, 60 second subs, for 15 minutes)
(EVO50mm @ f4.2 on an Atlas Gem, ZWO ASI294MC camera with L-Pro filter, 180 second subs, dark & flat calibration frames pre-applied, PHD guided, Livestacked for 30 minutes)

The fog kept slowly building, and eventually even overhead became fuzzy.
Called it quits at 1:30am.

Sunday 08/04/2024:

Slept in till 10am to a partly cloudy/foggy day. But soon the Sun burned off the mist and I uncovered the telescope and AllSky camera to dry off.

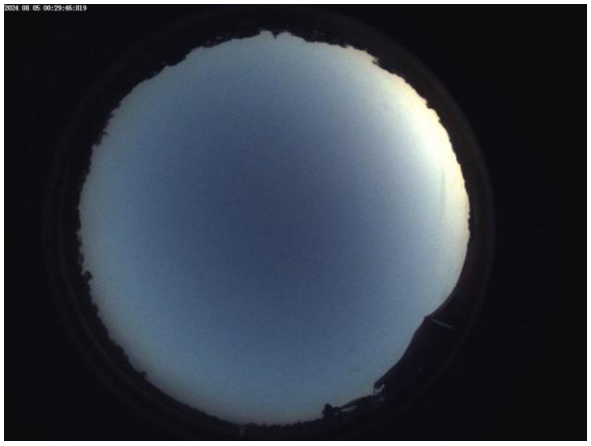
Bill White & friends, and Dean M who drove up for the day, got the field signs installed. They look nice!

Then Both Dean's, Gary, and I attempted to fix the Observatory internet and determined that one of the antenna components had failed. Will have to order a new one

Headed indoors at 4:30pm for an hour nap.
Club member Eric arrived and setup a small visual refractor that he was trying out.
Around 6pm, we all gathered at Dean's camper for a group dinner. Afterwards I headed back to camp to phone home and assembled the blackout tent and uncovered the telescope.

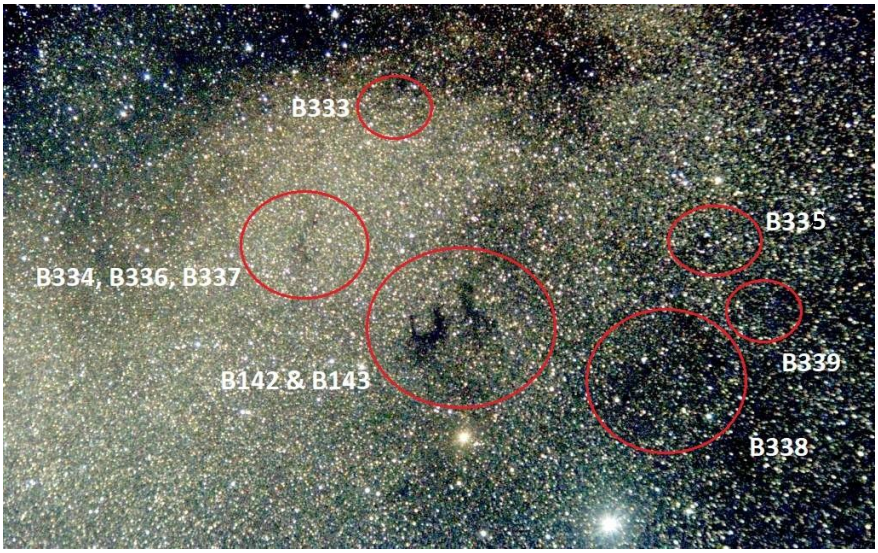
At dusk, club member Mary Ann J and several of her friends arrived and headed up to the Observatory. I demonstrated how to open the Observatory roof and Eric and I uncovered the 30" Reflector for a few observations.

It appears to be a soft night, probably due to wildfire smoke. Also very dewy.



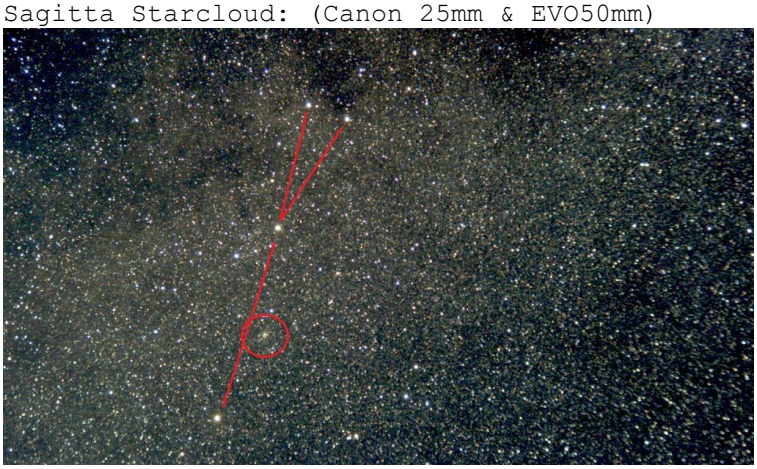
I switched the Canon to 25mm (a manual refocus), and used it and the EVO50mm f4.2 refractor to observe the individual starclouds of Gamma Aquilae (containing Barnard's "E" dark nebula B142 & B143 and others), Sagitta (near Alpha & Beta) with the globular cluster M71, and the Cygnus Starcloud between Sadr and Alberio.
Also observed the "Coat Hanger" asterism – CR399 with the Canon 25mm.

Gamma Aquilae Starcloud: (Canon 25mm & EVO50mm)



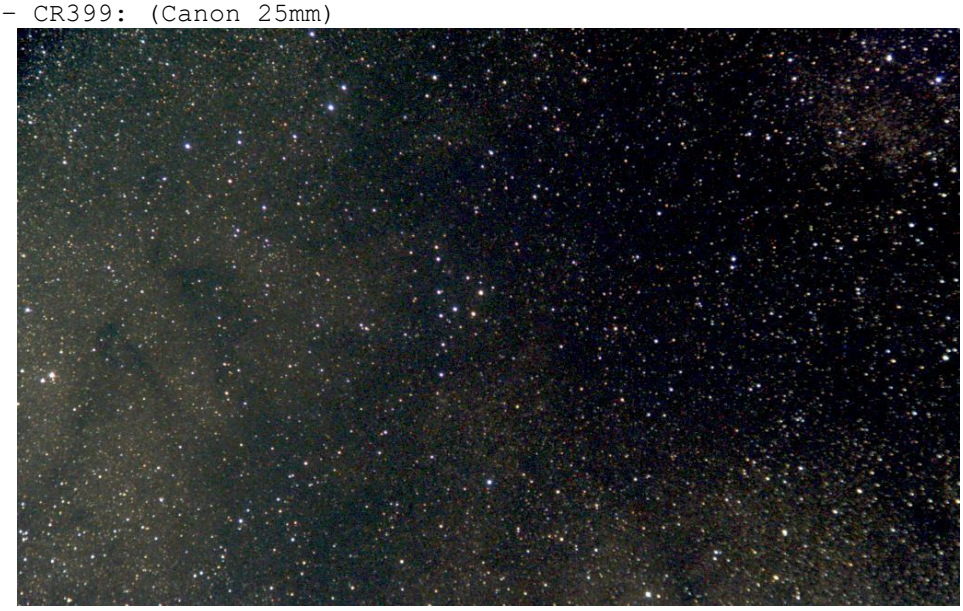
(Canon zoom set to 25mm, ASI290MC camera with IR filter, 60 second subs, for 15 minutes)
(EVO50mm @ f4.2 on an Atlas Gem, ZWO ASI294MC camera with L-Pro filter, 180 second subs, dark & flat calibration frames pre-applied, PHD guided, Livestacked for 30 minutes)

Sagitta Starcloud: (Canon 25mm & EVO50mm)



Cygnus Starcloud: (Canon 25mm & EVO50mm)

Coat Hanger – CR399: (Canon 25mm)



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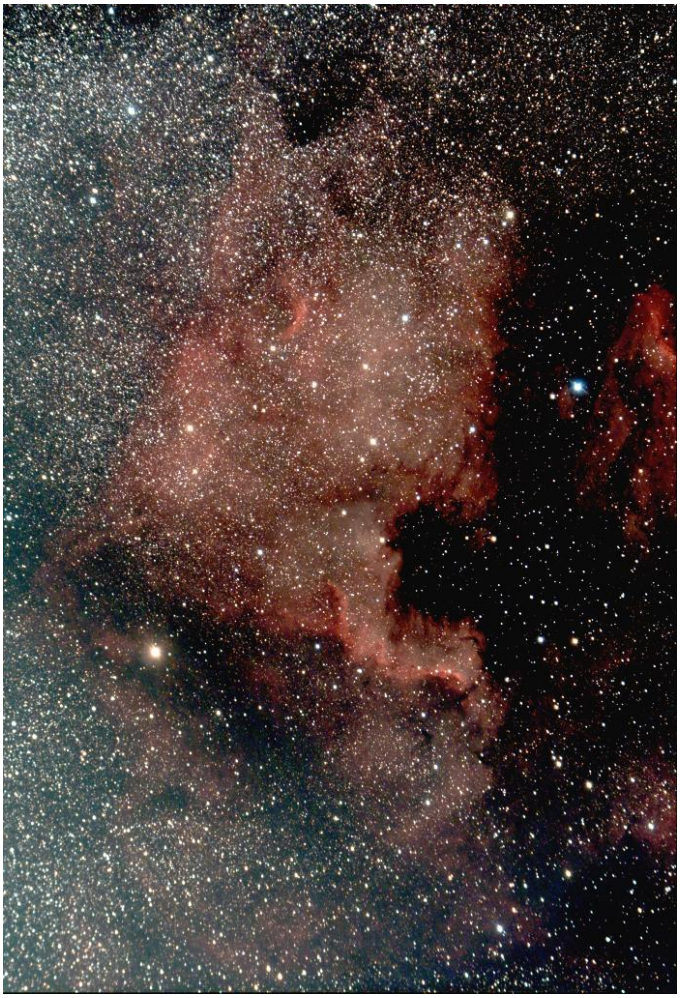
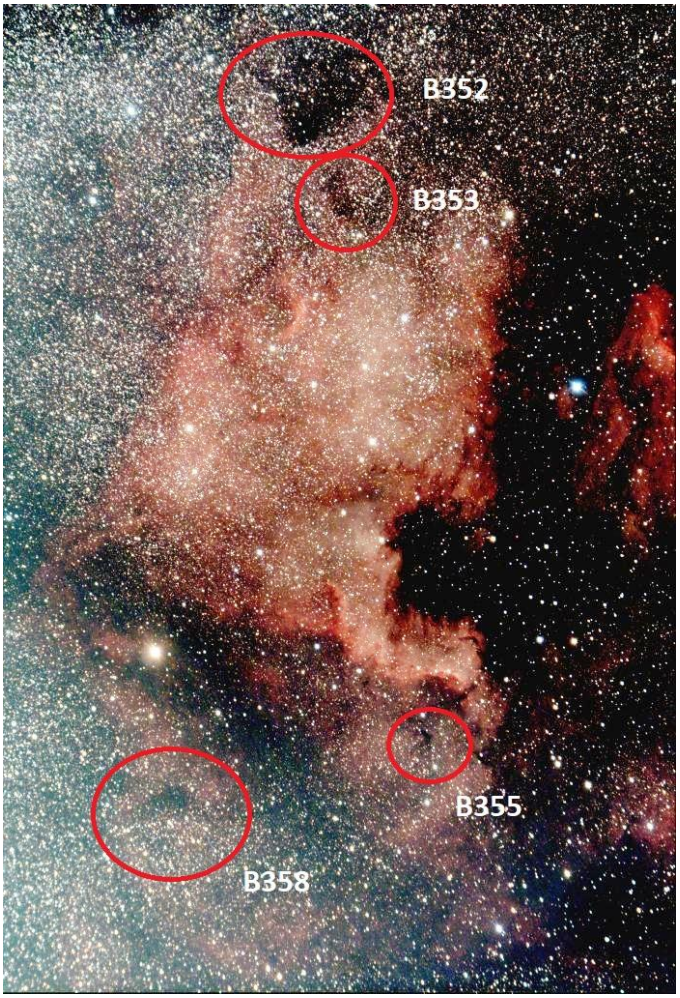
(EVO50mm @ f4.2 on an Atlas Gem, ZWO ASI294MC camera with L-Pro filter, 180 second subs, dark & flat calibration frames pre-applied, PHD guided, Livestacked for 30 minutes)

I also dropped in on the large "Northern Coal Sack" dark nebula and the bright "North American" emission nebula NGC7000, both near Deneb. During my observations, I was able to identify a number of Barnard Dark Nebula embedded within NGC7000.

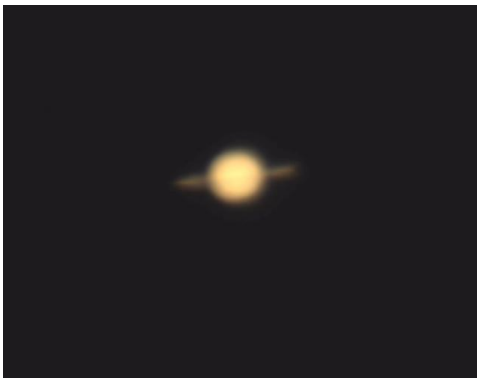




(Canon zoom set to 25mm, ASI290MC camera with IR filter, 60 second subs, for 15 minutes) (EVO50mm @ f4.2 on an Atlas Gem, ZWO ASI294MC camera with L-Pro filter, 180 second subs, dark & flat calibration frames pre-applied, PHD guided, Livestacked for 30 minutes)

Around 11pm it began to get a little foggy on the observing field, soaking everything with dew. Fortunately, my telescope dew heaters were able to keep up, but the AllSky dome began to fail.

At 1am, I walked up to the observatory and visited with Gary who was working with the C14 & his laptop. While there, I powered up the Meade 14" SCT and took a look at Saturn with its edge-on rings. I could see several of Saturn's moons lined-up to either side along the ring axis. Pretty Cool! Shared the view with Gary.
(Later back at camp, I grabbed a quick single sub millisecond image with my scope).



I then helped Gary close up the Observatory roof, and we both headed back to our camps.

My last image of the night was the spindle galaxy NGC891 in Andromeda with its dusty dark lane dividing the galaxy in half. A preview of the galaxy season to come.

(8" SCT @ f6.3 on an Atlas Gem, ZWO ASI294MC camera with L-Pro filter, 3 minute subs, dark & flat calibration frames pre-applied, PHD guided, Livestacked for 15 minutes)

In bed at 3:30am.

Monday 08/05/2024:

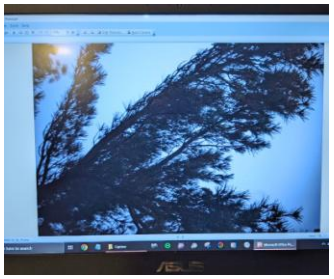
Slept in late, woken at 9:30am by a text from Dean M about the new C14 camera accessories having arrived in the mail. He was on his way to the observatory with the parts.

Had a quick breakfast and after reviewing the dismal weather forecast I decided to pack up the telescope and camping equipment, but stay overnight and work on the C14.
Dean S also decided to pack and head home that day, but Gary was sticking it out for one more night. Just finished putting away the last few items when Dean M arrived.
Then Dean M, Gary S, and I installed the new camera equipment on the C14 and everything appears functional.

Weather doesn't look good for tonight, incoming storms, so first light will probably have to wait. With Dean M heading back home, (he wasn't planning on staying), Gary and I are the last ones left camping on the observing field and we'll both plan on leaving for home tomorrow morning.

After dinner, Gary and I headed to the observatory where we rode out a few heavy storms.

While there we got the C14 and new camera focused and worked thru a few USB hub issues. In-between storms, with the observatory roof partly opened, first light with the new imaging equipment was on the trees across the valley. LOL!



As dusk was falling and more storms off to our north, we closed up the roof and headed back to our campers. At 11pm with the rain finally coming to an end and a expected slight clearing, we walked back to the Observatory hoping to try for more traditional astro-images. Unfortunately, a thick layer of misty fog & occasional drizzle prevented us from opening the observatory roof. After making a few more software tweaks, we called it quits at midnight, powered off the observatory equipment and locked-up.
Back at the camper I stayed up till 1am surfing.

Tuesday 08/06/2024:
Up at 8am to pack up the last few camping items. At 10am, I said my goodbye to Gary who was also in the middle of packing, and started the drive back home to Pittsburgh.

So, my second trip this year to the ORAS observatory was once again a bit of a bust. It was a warm, humid 5 days of the camping trip, with highs of mid to upper 80's and low's only into the upper 60's, with a good deal of clouds and haze, and wildfire smoke, not all of which dissipated at sunset. The first night I had barely started my observing when clouds rolled in from the west and shutdown the sky. The next evening was a washout, the third evening observing suffered from fog which ended the observing early.
But the fourth evening was decent and that's when I got in the lion's share of observing. The fifth and last evening was another stormy night.

So, five nights camping and only one good night of EAA observing. The clear sky odds were not with me,,, ☹. Still, I accomplished my primary goal of observing the starclouds of the Summer Triangle, and helped install new imaging equipment on the Observatory C14. All things considered, it was a worthwhile trip.

Looking forward to a hopefully drier and cooler trip next month back to Cherry Springs for the Black Forest Star Party. And the starclouds of Cepheus, Cassiopeia, and Perseus.

Larry McHenry
Astronomical Webportal: http://www.stellar-journeys.org/