Calhoun County Park, WV. November, 2023

With the late month October Skies being cloudy, our group of deep-sky chasers anxiously kept an eye on the November New Moon weather. Our hope was that the Calhoun WV dark park would stay clear, (and warm), enough for a late autumn trip. By the middle of the first full week of November, the forecast was looking very promising! Time to start packing!

Friday 11/10/2023:

Left home around 10:30 am for the drive to Calhoun.
The morning temps in PGH were in the low 40's, and while the ground was dry, the sky was overcast. Once down by Uniontown, heading towards I68, the sky looked like it wanted to snow. South of Morgantown on I79, the road was wet from recent rain. Traffic was light from the Veterans Day holiday, and the drive was uneventful. The forest along the interstate was a dull green with most of the leaves having fallen. Still there was an occasional splash of yellow or red to lighten the mood.

Arrived at the park right at 3pm, and after registering at the red barn, drove up to the new observing field. Dean S and Dean M were already there setting up. After a few minutes of deciding on my camping spot and with only a few hours left of sunlight, I hurried to get both camp and telescope setup before sundown.

I quickly got my camp together and assembled my EAA 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 on-top Sky-Watcher EVO50mm f4.8 refractor & ASI294MC camera (uncooled model), and a 60mm Antaries refractor guidescope with a ASI120MC camera, and piggybacked on the bottom rail of the scope a small Canon 5.5-55mm CCTV lens (set to 25mm) & ASI290MC camera as a super-widefield finder. And I setup the Allsky cam, a ZWO ASI224MC & fisheye lens in a DIY dome. Got everything setup and telescope assembled just in time for sunset and finished setting-up the camper’s blackout clamshell tent with the last dying rays of twilight. After starting up the AllSky camera, I then headed indoors for a quick dinner.

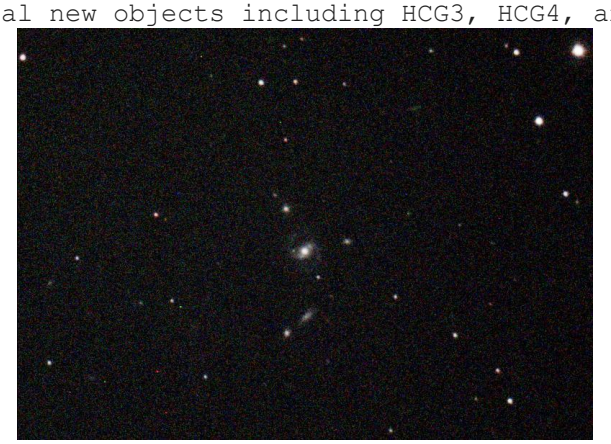
By the time I had finished eating and headed back outdoors, the Dipper stars were shining, and I focused on getting the mount polar aligned and the scope/cameras focused. Once that was completed, I slewed the telescope up to the Triangulum Galaxy for a deep dive EAA observation. With the Coyotes yipping to our south, I headed back inside to change into warmer clothes and to phone home. It was a beautiful clear, chilly evening here at Calhoun. Just the three of us here tonight, Dean S, Dean M, and me.

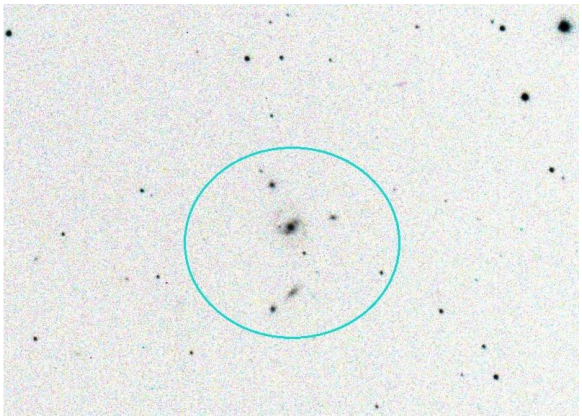
The late summer Milky-Way wheeling overhead in Cygnus and falling down to Sagittarius on the SW horizon glowed softly.

Livestacking on the monitors, the three views of M33, (25mm, 50mm, and the 200mm of the 8" SCT) showed great detail when zooming in on the galaxies spiral arms. I originally had only planned to let the observation/images build for one hour, but the quality of the views was so good that I let it run for 90 minutes.
Here are the EAA observations including a zoomed/cropped view of the large HII NGC605:

(Canon zoom set to 25mm, ASI290MC camera no filter, 60 second subs, for 80 minutes),
(EVO50mm @ f4.8 ASI294MC camera & L-Pro filter, 5 min subs, for 90 min),
(8" SCT @ f6.3 ASI294MC Pro camera & L-Pro filter, 5 min subs livestacked using Sharpcap for 90 minutes)

I then worked on my Hickson Galaxy cluster project, in Cetus to the southeast, observing several new objects including HCG3, HCG4, and HCG12. The best cluster observation - HCG4:

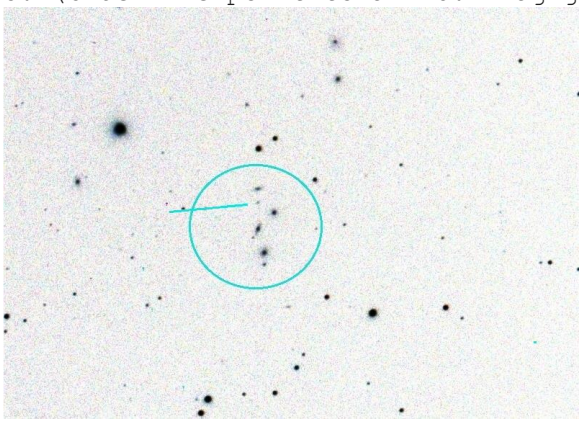




(8" SCT @ f6.3 ASI294MC Pro camera & L-Pro filter, 3 min subs livestacked using Sharpcap for 15 minutes)

The outdoor temps dropped thru the night from the low 40's into the upper 30's, but under my blackout tent, it stayed a balmy 55 - 60 deg. I stayed comfortable wearing just a light jacket, except for when I would walk across the field to visit with one of the 'Deans' inside their campers. Dean M was busy imaging SH2 objects (SH2-184) with his big 12" ACF SCT and ASI2600 Duo camera, while Dean S used his Redcat71 & ZWO AMD mount & ASI535 camera imaging the Veil Nebula, and later Bodes Galaxy - M81.

The Sky stayed crystal-clear until around 10:15pm when light clouds and haze began moving in from the SW. This caused me to cut short my normal 15 minute livestacked observations of HCG13, and HCG15, and forcing me to abandon observing HCG19 as clouds slowly engulfed the southern sky, I slewed the telescope over in Lynx to the far north to capture a view of HCG35. Here's the observation of HCG35: (blue line point to a +18.4 mag galaxy)



(8" SCT @ f6.3 ASI294MC Pro camera & L-Pro filter, 3 min subs livestacked using Sharpcap for 15 minutes)

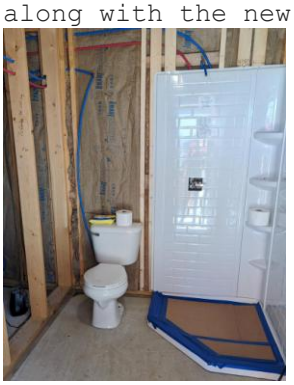
Throughout the evening, a number of nice meteors fell. Here's a couple captured by the AllSky camera that occurred within a few minutes of each other at about 11:45pm.

By midnight, with the outdoor temp near 36 deg, heavier clouds had begun moving in and the sky had gone mostly overcast. After consulting the weather apps, we called it quits for the night. After parking & shutting down the telescope, I headed indoors and stayed up till after 1am reading.

Saturday 11/11/2023:

Woke up around 7:30am, after looking out a window, I rolled back into bed.
Slept in till 9am. The morning started off very foggy and cool, (overnight temps in the low 30's), but by 10am the fog had burned off and it became a sunny pleasant afternoon.

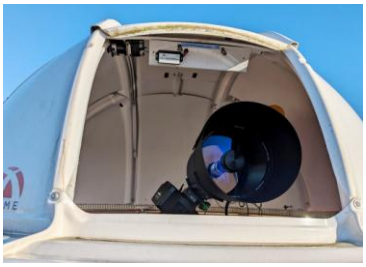
Good news! Donnie P (Calhoun Park staff) installed a working flush toilet this morning in the new restroom building! No sink yet, that and the showers are still to come.
The "Dean's" and I gave the new throne our approval! Many thanks to Donnie!
We then walked around the observing field, checking out the new bunkhouse being built, along with the new concrete pad for the observatory dome.





I spent the afternoon lounging around camp watching a bluebird that was checking out Dean M's camper windows and walking over to check out the foundation for the new observatory dome and the new bunkhouse. Very nice! Also refined my observing plan for the evening, adding a few CN EAA November challenge objects to my list.
At 3pm, Gary S arrived and setup next to Dean. Also amateur astronomer Dave from Toledo OH arrived and pitched his tent & imaging kits midfield. Around 4pm, Andrew arrived and setup his big dob back by the new bunkhouse. Then right at 4:30pm Ed K pulled in with his mobile observatory and setup between Dean M and Gary. A few minutes later, Alexi arrived and setup his equipment over near Dave.





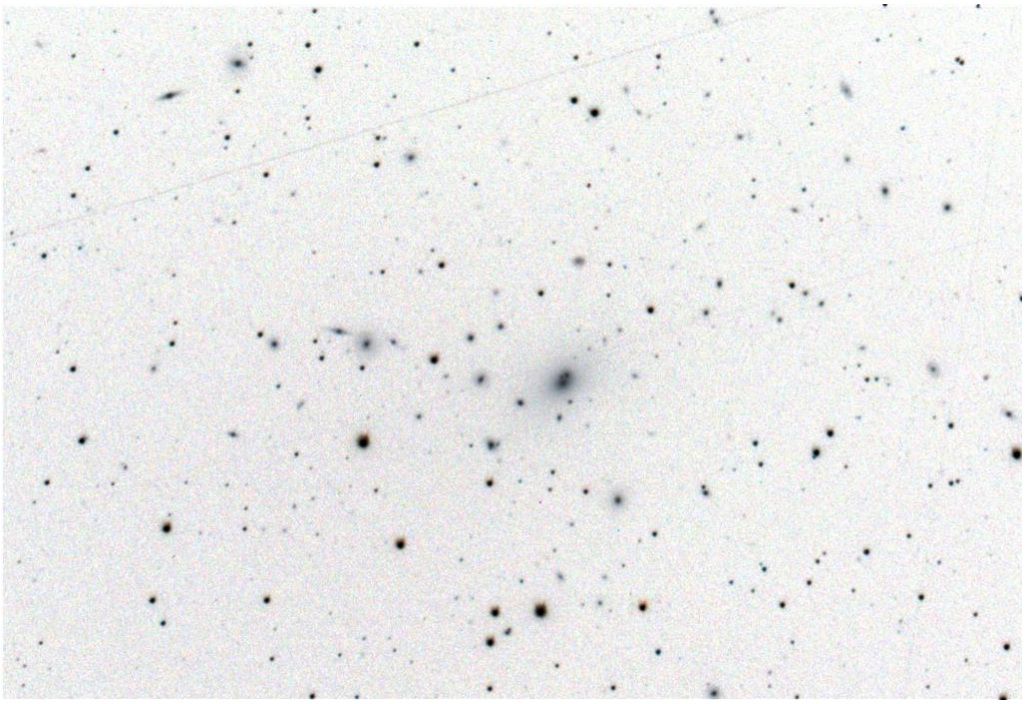
It was a beautiful sunset, just a few clouds to our south from a large system down around the Virginia/ Tennessee border. At 5:15pm I headed indoors for dinner and call home. Afterwards, I dressed in heavy clothing and headed outdoors to uncover the telescope and start up the laptop & cameras.

A great evening of observing! The Milky-Way was outstanding!

Dean S worked on the North American nebula, while his brother Gary S worked on M33. Dean M experienced equipment issues for awhile, but finally got imaging Sharpless Nebula, while Ed worked on getting his observatory running. I started off with solar system observing, hunting Comet Lemmon in Hercules. The comet was a fast moving little blue-green snowball. Using the 8”, the nucleus quickly became a blur.
Here’s my EAA observation using both the 50mm & 8”:

(EVO50mm @ f4.8 ASI294MC camera & L-Pro filter, 15 sec subs, livestacked for 20 min), (8" SCT @ f6.3 ASI294MC Pro camera & L-Pro filter, a single 15 second image)

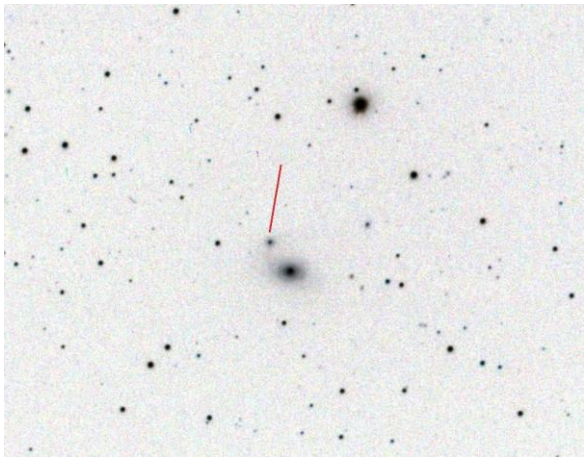
I then went galaxy hunting, starting with the galaxy cluster Abell2199 in Hercules. Counted over 22 galaxies in the camera FOV, centered on NGC6166.



(8" SCT @ f6.3 ASI294MC Pro camera & L-Pro filter, 3 min subs livestacked using Sharpcap for 30 minutes)

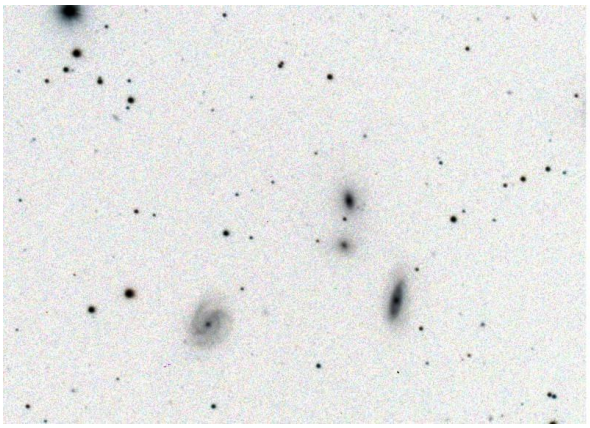
I then re-visited an interesting Arp galaxy NGC7603 (Arp92), a low-redshifted galaxy with a high-redshift quasar that appears to be embedded within the spiral arms of NGC7603. This was one of Arp's controversial examples of 'discordant redshift' that challenged the Big Bang theory. (you can read more about it here: http://stellar-journeys.org/Halton%20Arp%20and%20His%20Peculiar%20Galaxies.pdf

Here's the EAA observation: (red line points to quasar)



(8" SCT @ f6.3 ASI294MC Pro camera & L-Pro filter, 3 min subs livestacked using Sharpcap for 30 minutes)

I then moved on to the Hickson Compact Galaxy clusters back in Cetus, which had much clearer skies this evening. Observed HCG6, HCG7, HCG9, and HCG19. The best was HCG7:



(8" SCT @ f6.3 ASI294MC Pro camera & L-Pro filter, 3 min subs livestacked using Sharpcap for 15 minutes)

Around 10:30, we all gathered over on Dean S's camper for refreshments. Prior to heading over, I slewed the telescope to M77 for a deep-dive exposure. Stayed longer than I had planned, but ended up with an hour-long stacked image of the Messier galaxy that displayed its outer very faint spiral arms.

(8" SCT @ f6.3 ASI294MC Pro camera & L-Pro filter, 5 min subs livestacked using Sharpcap for 60 minutes)

At midnight, I then went 'Jellyfish' hunting in Gemini, IC443. This is a wide-field object, so I employed both the 50mm and the 8", using the L-eNhance narrowband filter:

(EVO50mm @ f4.8 ASI294MC camera & L-eNhance filter, 3 min subs, livestacked for 51 min), (8" SCT @ f6.3 ASI294MC Pro camera & L-eNhance filter, 5 min subs, for 60 min),

The Jelly was my last observation for the night. Shortly after 1am, clouds began rolling in from the west, bringing the evening to an abrupt close. After checking the weather satellite, we all grudgingly called it quits. Shutdown the telescope and closed up the camper hatch, and headed indoors. In bed by 2am.

Here's the AllSky overnight time-lapse video:
https://youtu.be/o67lX6NxnEU?si=y2SjOgjw1Ne4GjmJ

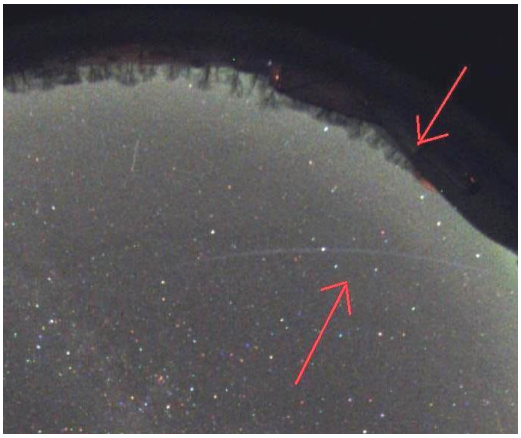
Sunday 11/12/2023:
Slept in late, finally getting up at 9am. It was a cool, sunny morning, temps around 36 deg. Waited for awhile for the temp to edge into the low 40's, then headed outside to visit with the gang and grab a few items out of the fridge for breakfast.

By 11am, it had warmed up nicely, only needing a light jacket or sweater. It was going to be a sunny day with the temp heading into the upper 50's this afternoon. Assisted Gary with maintenance on his Polemaster camera, downloaded the images from the AllSky camera to the main computer, charged up the AllSky battery and created the above time lapse vid. Spent the afternoon visiting with the gang.
A few more amateurs arrived, including Shawn and John D from the local clubs who had the cabin rented. Also Frank W from PGH arrived, but decided to setup over on the old observing ridge above the red barn.

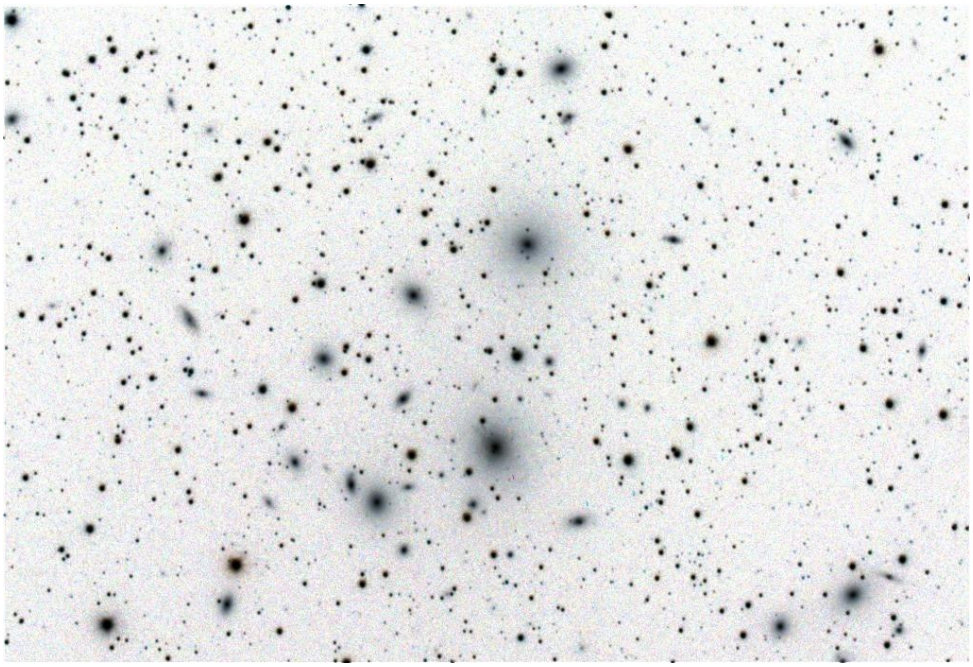
Group dinner, chili and cornbread muffins by Dean M. At dusk, headed indoors to change, going to be another cold night of observing. Once back outdoors, I fired-up the telescope and took control of the mount with the laptop. My observing plan for the evening was hunting Abell Galaxy Clusters, but before I dived into the 100 million+ light-year deep end of the Cosmos pool, I wanted to first make a 'pretty picture' observation. So after slewing over to the bright star Mirfak in Perseus and focusing the cameras, I headed to the hero's right foot for the 'California Nebula' – NGC1499. Like my observation a few nights ago of M33, I utilized all three optics/cameras for a wide-field to close-up view of the emission nebula.
Here's the observations: (only a small knot of HII could fit in the 8" FOV)

(Canon zoom set to 25mm, ASI290MC camera no filter, 15 second subs, for 15 minutes),
(EVO50mm @ f4.8 ASI294MC camera & L-Pro filter, 3 min subs, for 45 min),
(8" SCT @ f6.3 ASI294MC Pro camera & L-Pro filter, 3 min subs livestacked using Sharpcap for 45 minutes)

During the California Nebula observation, a SpaceX Starlink satellite train went over to our NW, from the handle of the Big Dipper thru the Little Dippers 'guard stars' and fading away into the Earth's shadow just past Polaris. Here's an AllSky capture:



With my 'nebula' observation complete, I then switched over to the L-Pro broadband filter and slewed the scope to the nearby to Abell426 – "Perseus I" galaxy cluster.
Once again, numerous small galaxies filled the monitor screen. A beautiful sight.
Here's the observation:



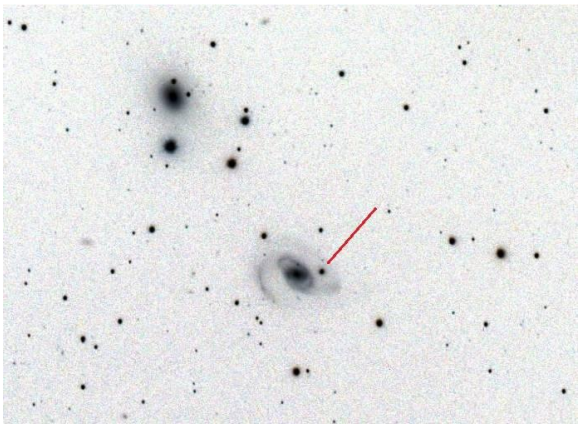
(8" SCT @ f6.3 ASI294MC Pro camera & L-Pro filter, 3 min subs livestacked using Sharpcap for 30 minutes)

I then spent the next four hours observing the galaxy clusters Abell262, Abell347 in Andromeda, Abell4038 in Sculptor, Abell154 in Pisces, and Abell2634 in Pegasus.
(I'll post images of these to my website, once I build a new page for them).

Around 10:30pm, we all gathered over at Dean M's camper for refreshments and to catch-up on what everyone was working on. Dean S was back imaging the North American Nebula in Cygnus, the open cluster M52 & the Bubble Nebula in Cepheus, then later the Witch Head in Orion, Dean M was doing emission nebula SH2-235 in Auriga, Gary was working on the Wizard Nebula – NGC7380, and Ed was also imaging.

Once back at my camper, I continued to hunt Abell galaxy clusters and listened to the coyotes calling to one another to the south and west of the observing field.
With the clock heading toward 2am, I was beginning to feel a bit tired, so I decided to make one last observation of the night – NGC4319 & Markarian205. This was another one of Arp's controversial low redshift galaxy associated with a high redshift object that I wanted to re-observe.

Here's the EAA observation: (red line points to quasar)



(8" SCT @ f6.3 ASI294MC Pro camera & L-Pro filter, 3 min subs livestacked using Sharpcap for 30 minutes)

And with that, I called it a night at 2:30am. Temp was 31 deg. The telescope was frosty!

Monday 11/13/2023:

Slept in till 10am. After dressing, headed outside to get a few things from the fridge and stopped and chatted with Dean & Gary S. It was warm standing in the sunlight. Temps were going up to 59 later in the afternoon. After breakfast/brunch, I decided to route my USB cable indoors and work from inside the camper for the rest of the trip. Gary lent me a powered hub to try, but Win10 didn't like having that many ports. Ed loaded me a 6ft extension and that did the trick.

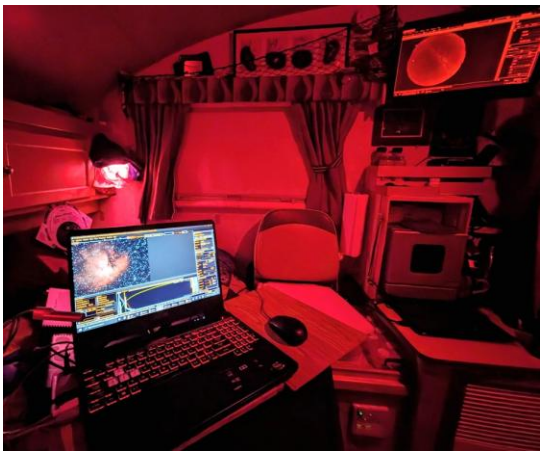
We all pitched in (Dean S, Dean M, Ed, Andrew, Dave, and me) to help John move the dome sections over to its new concrete pad. John then worked on cleaning the dome sections.

Later that afternoon, Ed, Gary and I hiked around the park. ~2 miles.

Once back at camp, a new attendee arrived, Jim, with a Stellina robotic telescope.
Jim setup on the field at the far southern point, to my west.

At 4:30pm, we had a group dinner of pulled pork sandwiches provided by Gary S. Yum!
Watched a beautiful sunset.

At dusk, everyone headed inside; it was nice and cozy indoors with the laptop.

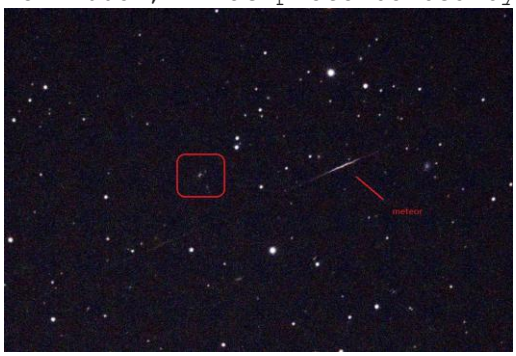


I started off the evening with a pretty object, the Pacman Nebula – NGC281 in Cassiopeia.
Here's the observation using both the EVO50mm and the 8" SCT:

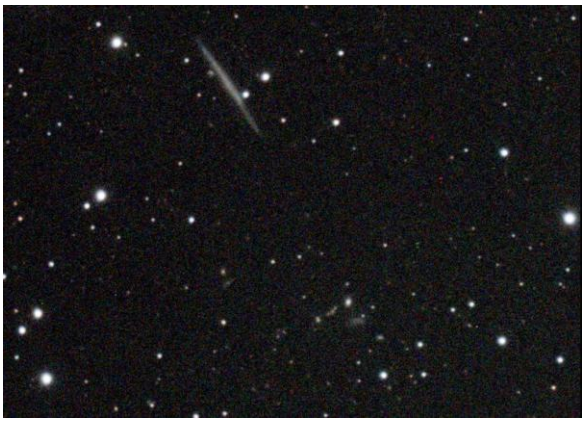
(EVO50mm @ f4.8 ASI294MC camera & L-eNhance filter, 3 min subs, livestacked for 30 min),
(8" SCT @ f6.3 ASI294MC Pro camera & L-eNhance filter, 5 min subs, stacked for 30 min),

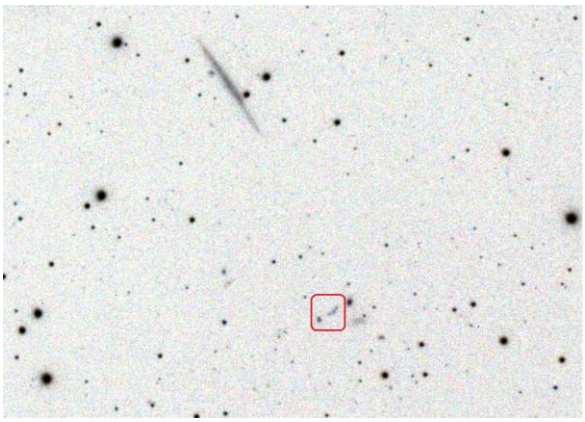
I then began the night's main observing program of hunting faint PCG 'Palomar Compact Galaxy' clusters. These clusters are *much smaller & fainter* than the Hicksons.
I wanted to see how well my 8" SCT would pull these in from a dark sky location.
I started off with PCG2221-0105 in Aquarius, and slowly worked my way eastwards thru Pisces and Pegasus. PCG2324+0051, PCG0017-0206, PCG0038+0245, PCG0045+1940, PCG2226+0512, PCG2259+1329, and PCG2332+1144.

While observing PCG2324+0051, I was photo-bombed by a meteor.



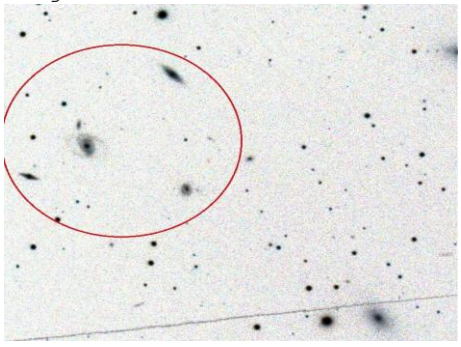
The best PCG cluster of the night was PCG2259+1329 in Pegasus which contained a nice spindle galaxy in the same FOV – UGC12281. (I'll post more images on my website).

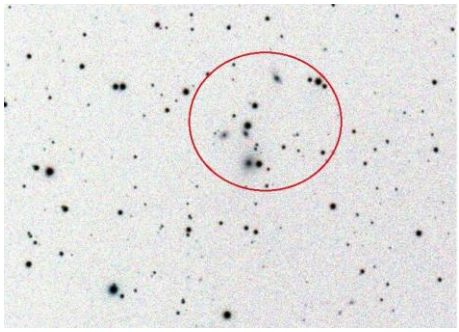




(8" SCT @ f6.3 ASI294MC Pro camera & L-Pro filter, 3 min subs livestacked using Sharpcap for 15 minutes)

At 12:30am, I switched over to the brighter Hickson galaxy clusters located in Eridanus. Observed HCG21, HCG22, HCG23, HCG24, HCG29, HCG30, and the last one – HCG32 in Lepus. The best Hickson galaxy clusters of the night were: HCG23 in Eridanus & HCG32 in Lepus:





(8" SCT @ f6.3 ASI294MC Pro camera & L-Pro filter, 3 min subs livestacked using Sharpcap for 15 minutes)

Around 1:45am a few scattered cloud bands moved in from the southwest, but stayed mostly in that region of the sky.

Overall, it was another great night of observing! Occasionally, I would pull on a jacket and step outside for a naked-eye view of the bright winter constellations and the Milky-Way, or walk over to visit with the other guys. Dean S was imaging the Crescent Nebula in Cygnus, while Dean M was on Sharpless-155.

Around 3:30am, I stepped outside for another look at the nightsky. Orion was just past the meridian, and Leo was rising high in the east. A few scattered bands of cloud.
It was tempting to continue hunting Hickson's but I was just too tired. So I reluctantly parked and covered the telescope and headed for bed.

Tuesday 11/14/2023:

Slept in till 10am. Another sunny chilly morning, but the temp soon warmed up into light sweater weather. Jim and his Stellina had already packed up and headed home. Spent the rest of the morning visiting with the gang, discussing the previous night's observations. I then had a late breakfast/lunch.

Around 1pm, we assisted John D with bolting together the dome sections. I then headed indoors to work on a few captures and AllSky time lapse from the previous evening.

The clear skies that we had earlier in the day gave way to a light haze and cloudier weather. A front to our south pushing just far enough northwards to muddy our skies. The evening forecast wasn't looking good! Andrew decided to throw in the towel.

At 4:30, we gathered over at Dean S's camper for a group dinner of green pepper soup prepared by Dean. Afterwards Andrew finished packing up his big dob and left for home.

The sky continued to go overcast. I spent the early evening on a ORAS club zoom call, then practiced using several new telescope mount control features in Sharpcap thru the hazy skies. After reading for awhile, I called it a night at 11pm.

Wednesday 11/15/2023:

Got in a good night's sleep. Woke around 8am.
Everyone enjoyed a warm day, temps nearing 70 deg. Was able to sit outside in a T-shirt!
Went for another hike. Enjoyed sitting down by the little pond.

Alexi decided to pack-up and headed home. John and Shawn also left, leaving just the five of us on the field. Dean S, Gary S, and Dean M all planned on leaving in the morning. As I wasn't sure if I would head home tomorrow, I packed away all unnecessary camping gear. I then spent the afternoon sitting outside reading.

At 4pm, we had one last group dinner of cheeseburgers and fixings. Dean M let me play 'chef' using his grill. Ed supplied veggies and cookies. It was great enjoying such warm weather sitting out eating. But once the Sun went down behind the trees, a chill in the air quickly settled in, causing everyone to go for their jackets.

At dusk, I uncovered the telescope and headed indoors. After waking up the telescope & starting up the cameras and checking the focus, I slewed the telescope over to Cepheus high in the NE for an hour-long deep-dive with the 'Wizard Nebula' – NGC7380 using all three cameras & optics.

On my earlier walk in the afternoon, I had spied a bench out on the ridge-point to our south. As it was still a pleasantly mild evening, I decided to take my 12x50 Minolta binocs and walk the path out to the bench for a little visual observing.

Once settled on the bench and my eyes dark-adapted, I enjoyed beautiful views of the Sagittarius Milky-Way starclouds settling into the SW horizon, catching M8, M22, and higher up M17, and M11 in Scutum. I then swung over to the NE for the Double-Cluster in Perseus and the Alpha Persei OB Association around Mirfak. After scanning along the Milky-Way in Cassiopeia for M103, I hopped higher eastwards to the Andromeda Galaxy – M31. Finally I moved back over to the SW for a last view of the Scutum starcloud and was rewarded with a very bright bolide falling thru Aquila to the horizon!

After nearly 40 minutes, I headed back to my camper. It was a great start to a long night of EAA observing! Once back inside at my workstation, the hour-long livestack of the Wizard was about finished. Lots of great details of the combined Cluster and Nebula.

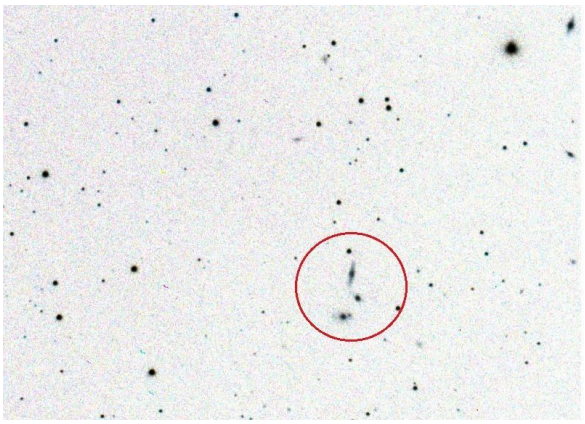
(Canon zoom set to 25mm, ASI290MC camera no filter, 15 second subs, for 48 minutes),
(EVO50mm @ f4.8 ASI294MC camera & L-eNhance filter, 3 min subs, for 60 min),
(8" SCT @ f6.3 ASI294MC Pro camera & L-eNhance filter, 5 min subs stacked for 60 minutes)

I then moved on to my next 'pretty picture' target, the 'Tadpole Nebula' – IC410 in Auriga. Using the EVO50mm, I was also able to get in the FOV the 'Flaming Star Nebula' – IC405. I again utilized all three cameras & optics – 25mm, 50mm, & 200mm (8").
Here's the observation of the bright tadpoles swimming towards the bright cluster and dark nebulosity. (also included is a previous observation of IC405)




(Canon zoom set to 25mm, ASI290MC camera no filter, 15 second subs, for 60 minutes),
(EVO50mm @ f4.8 ASI294MC camera & L-eNhance filter, 3 min subs, for 60 min),
(8" SCT @ f6.3 ASI294MC Pro camera & L-eNhance filter, 5 min subs livestacked using Sharpcap for 60 minutes

Spending time on these first two pretty objects allowed the final three Hickson Galaxy clusters on my project list for this trip to rise high enough, so I slewed the scope over to Eridanus for HCG26, HCG27, and HCG28. The best of the three was HCG28:

(8" SCT @ f6.3 ASI294MC Pro camera & L-Pro filter, 3 min subs livestacked using Sharpcap for 15 minutes)

While I was hunting galaxies, wizards, and tadpoles, Dean S was having another productive night imaging the Jellyfish in Gemini, along with M35, and finally the Pleiades, M45 in Taurus. Dean M was imaging more SH2 nebula including the Wizard, and later the HorseHead. Ed was shooting the Crab Nebula, and Gary S was on reflection nebula IC447 – "Blue Tadpole" in Monoceros.

The sky continued to remain cloud free, a beautiful night, the best of the trip.
The AllSky camera caught several meteors throughout the evening.

Having completed my Hickson Galaxy observations, and the time now past midnight,
I decided to switch back to my narrowband L-eNhance filter for a deep image centered on the "Flame nebula" – NGC2024, and nearby 'Horse Head nebula' – B33 in Orion's belt.
Once again utilized all three cameras & optics – 25mm, 50mm, & 200mm (8").
Here's the observation of the bright & dark 'Flame' (or as our Canadian buddies call it the "Maple Leaf"), along with other interesting nebulosity's & clusters in the FOV's:

(Canon zoom set to 25mm, ASI290MC camera no filter, 15 second subs, for 60 minutes),
(EVO50mm @ f4.8 ASI294MC camera & L-eNhance filter, 3 min subs, for 60 min),
(8" SCT @ f6.3 ASI294MC Pro camera & L-eNhance filter, 5 min subs livestacked using Sharpcap for 60 minutes

Not wanting to stay up all night and try to drive home in the morning, I decided to make one last deep EAA observation before calling it a night. My target was "Barnard's Loop". While I used all three optics, the loop is such a large object that the best views was with the EVO50mm & 25mm: here's the deep dive:

(Canon zoom set to 25mm, ASI290MC camera no filter, 15 second subs, for 60 minutes),
(EVO50mm @ f4.8 ASI294MC camera & L-eNhance filter, 3 min subs, for 60 min),
(8" SCT @ f6.3 ASI294MC Pro camera & L-eNhance filter, 5 min subs livestacked using Sharpcap for 60 minutes

With the time just past 2:30am, I parked the telescope and shutdown the cameras. After covering up the scope, I headed for bed. Left the AllSky camera running overnight. The next day, I processed the AllSky overnight captures into this video: https://youtu.be/LHGEkJRYaYg?si= dM767AozpBLboLh

Thursday 11/16/2023:
Slept about 5 hours then up at 8:30am to say goodbye to Dean S. He was soon followed by his brother Gary, and then Dean M.
Ed decided to stay thru the weekend, but after consulting the weather forecast while having breakfast, I decided to not stay. Packed up the scope and camper and was on the road by 11:30 am.

The drive home was pleasant, but traffic was heavy in the Clarksburg / Fairmont corridor along I79. Back in Pittsburgh, I stopped at a carwash to hose off the camper.
Home and unloading by 4:30pm.

This concludes my trip report for the November outing to Calhoun.
While always a little risky planning an astronomical camping trip this late in the season, we enjoyed five nights of observing out of six nights total. A pretty good run!
Hopefully, with a lot of weather luck, I'll be back to Calhoun in December! ☺

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