

## 2021 January Observations from Big Woodchuck Observatory

----- Original Message -----

Subject:[ORAS] First Observing Night Out of 2021

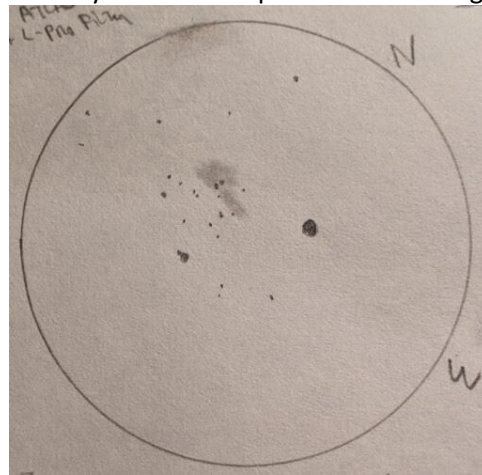
Date: Sun, 10 Jan 2021

hi all,

After a four-week drought of clear skies, on Saturday, 1/09, I finally had my first good night of 2021 observing here in Baldwin. Mid-afternoon, I headed outback to the observatory to turn on the computer, uncover the allsky cam and telescope, and re-attach the main imaging camera that's been sitting on the bench for the past several weeks. But, soon after sunset, several small waves of thin clouds began straggling down from Lake Erie. Even when the clouds rolled-out, the sky had a slight hazy look to it, so I settled down in front of the TeeVee for a while. I put-off heading out for several hours, but finally around 9pm, I pulled on the heavy winter jacket and went out to either cover-up the telescope or try and observe. Once outside and somewhat dark-adapted, I could tell that the sky actually wasn't too bad, the clouds were gone and the frosty-looking haze was mostly along the horizon. Up high, along the meridian, it was nice and clear.

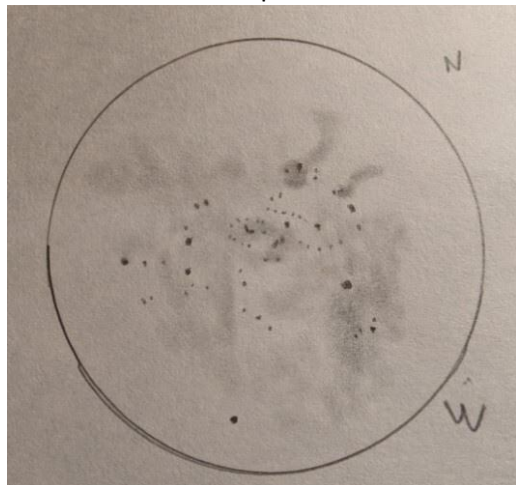


After powering up the Atlas Gem mount and cameras and taking control with the laptop, I slewed the telescope up overhead to Perseus and IC-348, a small open-cluster with a bit of reflection nebula embedded within. Using the ASI294MC camera and L-Pro filter attached to the 8" SCT optical tube, I stacked a 30 second exposure for a total of 15 minutes. While watching the image building, I decided to experiment with doing a pencil sketch of the image. (a New Years resolution). It's a bit sloppy, but it was good to reacquaint myself with the process of creating a sketch.



Switching over to the L-eNhanse narrowband filter, I then caught another open-cluster nearby in Auriga that was hitting the meridian, NGC1893 that's embedded within a bright emission nebula - IC410. This HII star-forming region is also known as SH2-236.

Here's a 60 second exposure stacked for 30 minutes, along with a pencil sketch.



This nebula is appropriately nick-named the "Tadpole" for the two objects in the center, Simeis 129 & 130 (brighter of the two). Both objects are roughly 10 light-years in length and are HII regions that are being eroded by stars embedded within. The image was quite complex to sketch, but I think I captured the essence of it.

(anyone wanting to learn more about how to sketch, I have a page for that: <http://stellar-journeys.org/Sketch2.htm> along with a template: <http://stellar-journeys.org/sketchingform.htm> )

I then slewed the telescope over to Orion and his great nebula - M42. Unless you spend a chunk of time doing post-processing, the Orion Nebula can be a challenging object to image. Too short of an exposure and you don't get the nebula 'wings'. Too long, and you blow out the 'Trapezium' core region.



(2 second single exposure,



60 second single exposure)

So following the lead of our other great club imagers, I did a short exposure, but stacked a ton of them to bring out the 'wings'. Here's a stack of 1,800 two second subs for an hour total exposure.



Being nearby, I then went to the Christmas-Tree cluster (and nebula) highlighted last month by Ed and Dean in their images. (in my image the 'tree' is now on its side waiting to be recycled - lol) Here's the pic: 60 second subs for a 30 minute exposure, using the L-eNhance filter.



Around 2:30am, I decided to finish-up the night with open cluster M44 (Cancer) from the widefield-objects list. Here's an image using the Canon zoom lens at 100mm f5.6 with the ASI290MC camera and no filter, for a 15 second stack of 40 subs for a 10 minute exposure.



I think I have 2021 off to a good start!

Larry <http://stellar-journeys.org/>

----- Original Message -----

**Subject:**[ORAS] A mid-January 2021 frosty evening

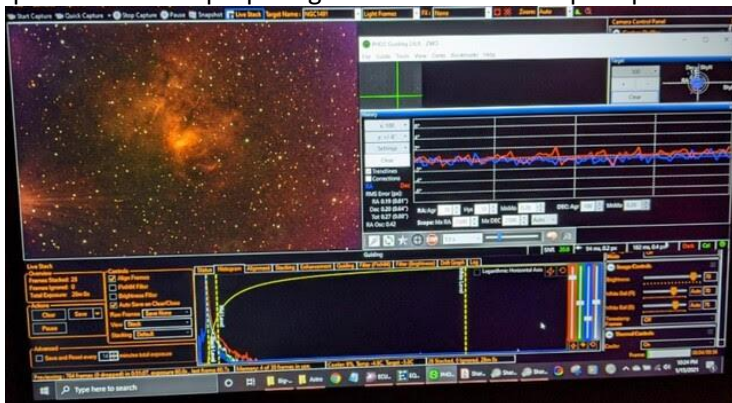
**Date:** Sat, 16 Jan 2021

hi all,

Friday, 1/15/2021, started off with a sunny morning, but by noon that had given way to cloudy skies followed by an afternoon of drizzly rain. I didn't think we would have any clear skies so I settled in for an evening of movies. around 9:30pm, while taking a break from the TV, I looked out a window and was gobsmacked to see beautifully clear skies!

I quickly changed into cold-weather clothes and headed-out to the observatory. By then the temp had fallen below 32 and the telescope tarp over the Atlas mount was crunchy from the rain that had frozen on it. As I wasn't sure how long the unexpected clearing was going to last, I was in a hurry and forgot to plug-in the allsky dome heater, and by the time I realized that, it was too late. But I did remember to turn on the telescope heaters and after seeing what happened to the domecam, cranked the scope heaters to high!

As it was looking a little misty along the horizon, I decided to stick with imaging objects that were high overhead, so I slewed the 8" SCT on the Atlas mount up to Perseus which had just passed thru the meridian and was high in the NW sky. I continued with my Sharpless Catalog observing project and started off with SH2-206 (NGC1491). One of the nice features of the SharpCap imaging software is it's "Livestack", which does all the imaging stacking upfront and lets you tweak the camera settings and histogram on the fly, minimizing the next day's post processing. (I spent more time preparing this email than I did post-processing the images)



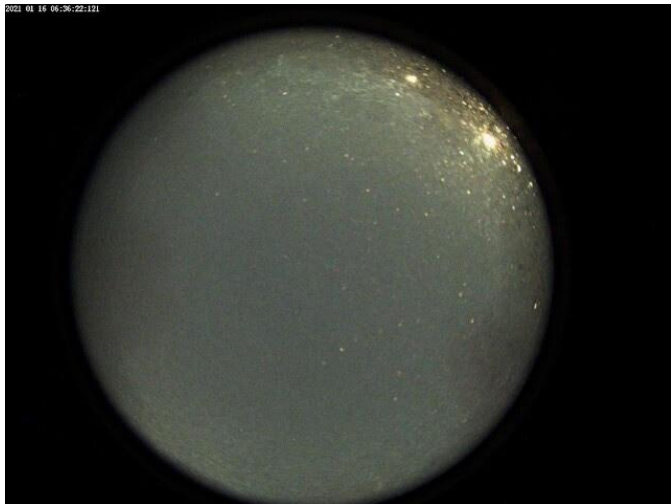
The graph in the upper right is actually the guider-program PHD running in a small window. I like to keep an eye on that while imaging. If you see a big spike pop-up, (meaning the wind grabbed the dew-shield or an owl landed on the scope), I can quickly pause and save the image before it gets ruined by the movement.

It's fun watching the object slowly build after each sub image gets processed.

Here's the final pic of SH2-206: a 60 second exposure stacked for 30 minutes, using the ASI294MC camera and L-enhance filter on the 8" SCT f6.3 optical tube. I then went on to video-observe/image SH2-202 (NGC1624).



After awhile I noticed that the allsky cam video was looking a little more obscured than earlier. So I walked out of the observatory to take a look, It had now frosted-over!



I quickly took a look at the telescope, but other than a frosty coating on the outside, the dew-heaters were keeping the optics warm and clear.



With fog beginning to form, (as seen in the above picture) I went for one last object, SH2-248, (IC443 - the "Jellyfish Nebula"), up in Gemini now overhead. Here's it's final image using the same specs as above:

By 2am, the fog was quickly turning into pea soup, so I called it a night. From the forecast, it didn't look like there would be any precipitation on Saturday until later in the afternoon, so I left the domecam uncovered for the frost to clear. Thought about leaving the telescope uncovered, but decided not to. I woke-up later in the morning to 4" of snow!



So Glad I covered it up!! Larry

----- Original Message -----

**Subject:**[ORAS] A Windy Evening

**Date:** Sat, 23 Jan 2021

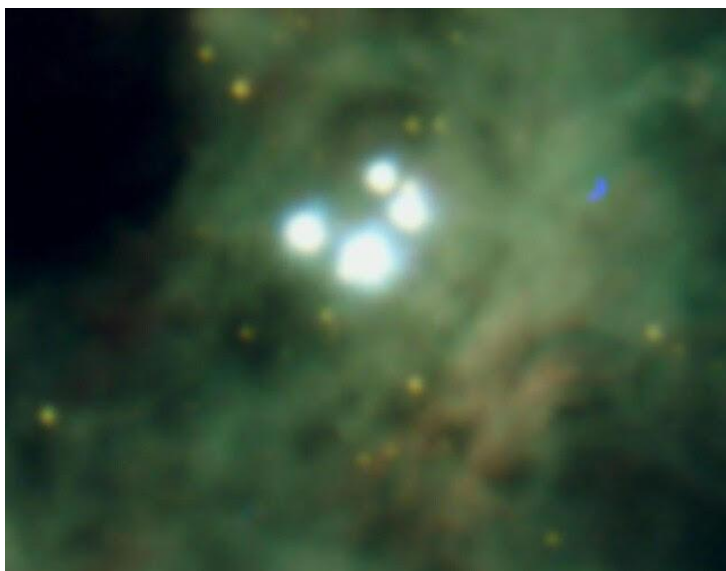
hi all,

One of the things I enjoy about "Sky & Telescope" magazine are the great observing oriented articles that they print. Just about every issue has something in it that I want to try.

In the February 2021 issue, there's an interesting article on page 57 titled - "The Newborn Nursery of Orion" on identifying "proplyds" (protoplanetary disks) within the Trapezium 'heart' of the Orion Nebula. I kept the article handy, wanting to see how many I could pull in with my imaging rig.

With the unpredictable weather we have this time of year, clear evenings, (even when marginal), are few and far between. This past Wednesday and Thursday evenings were two such borderline nights. Wednesday was the better of the two evenings, but I was persuaded by the cold temps (low twenties) to skip that evening. Thursday afternoon was sunny and much warmer so I decided to head out that evening around 7:30pm to try the Trapezium project. It wasn't a very good evening for an attempt, Bright 1st Quarter Moon was high overhead, there was a persistent breeze with occasional gusts, and the sky transparency was soft with a few scattered clouds around. With the windy conditions, I had to leave the dew shields off the scopes, as they make for a nice sail. Fortunately the breeze kept the dew from forming, but I still cranked the dew heaters up to high just to be sure. The main drawback to not having the dew shields on was that the mount was now out of balance and between that and the breeze, the guiding software was very unhappy, to the point that I had to go without guiding.

As I was going after star-like objects, I switched over to using just a regular IR filter with the ASI294 camera. Started off with taking a wide-field image of the entire Orion Nebula that included both M42 and M43. Here's the image using the 8" SCT optical tube @f6.3 on the Atlas GEM. I then experimented imaging the Trapezium using smaller ROI and short 2 to 5 second exposures stacked for several minutes each. While I'm not really happy with any of the results, here's the best one:



(M42: ROI=4144x2822, 2 second exposure, 150 subs stacked for 5 minutes) (Trapezium: ROI=320x240, 5 second exposure, 24 subs stacked for 2 minutes)

Using the Sky& Tel article, I 'think' I may (or not) have captured two proplyds. Here's the annotated image:

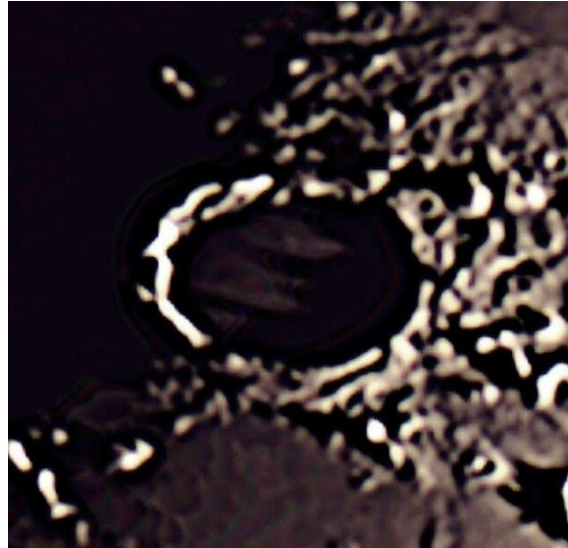


So not quite a successful observation, too many environmental factors out of my control. I'll have to attempt this project again when we get into the February dark of the moon period, and hopefully a calmer night!

Since the deep-sky spoiler was well placed, here's a few images of olde Luna:



It was lunar sunrise in the Plato region, which made for some interesting shadow effects. Particularly in Plato itself, with the peaks and clefts in its crater rim projecting serrated shadows along the crater floor.



(various ROI's used, 20-25 millisecond exposures, 60 second avi captures processed using Registax)

Oh, and with the breeze dying-down, I was finally able to get guiding to work, so I couldn't resist imaging at least one Sharpless object while I was out, SH2-274, (Abell-21), a planetary in Gemini known as the "Medusa Nebula"



(with the L-eNhance narrowband filter, ROI=4144x2822, 60 second exposure, for 30 minutes)

Around 11:30pm, the clouds overtook the sky, so I called it a night.  
Larry